

PROSPECTUS

May 1, 2019 TIAA-CREF INVESTMENT HORIZON ANNUITY

Individual Flexible Premium Modified Guaranteed Annuity Contract

Issued by TIAA-CREF Life Insurance Company ("TIAA Life") and offered through TIAA-CREF Individual & Institutional Services, LLC ("TC Services").

This prospectus describes information you should know before investing in the TIAA-CREF Investment Horizon Annuity, an individual flexible premium modified guaranteed annuity contract (the "Contract") issued by TIAA Life. Before you invest, please read this prospectus carefully and keep it for future reference. Some of the terms and phrases that we use in this prospectus have a particular meaning, and, in the "Definitions" section of this prospectus, we define them so you will know how we are using those terms and phrases.

The Contract is designed for individual investors who desire to accumulate funds on a tax-deferred basis for retirement or other long-term investment purposes and to receive future payment of those funds as lifetime income or through other payment options. Whether the Contract is available to you is subject to approval by regulatory authorities in your state. You may purchase the Contract only as a Non-Qualified Contract. We do not currently offer Qualified Contracts, which are Contracts intended to qualify for special Federal income tax treatment under the IRC Section 408 or 408A.

To purchase a Contract, you must allocate your initial Premium among one or more Fixed Term Deposit options (each an "FTD"), each of which will grow at a specified guaranteed rate of interest for the stated period. The minimum allocation to an FTD is \$5,000. We reserve the right to increase the minimum allocation to an FTD in the future. We currently offer six FTDs, ranging from five year to ten years in duration. **We will make the determination as to the interest rates we will declare for each FTD. We cannot predict nor do we guarantee what future interest rates we will declare, but your Contract will have minimum guaranteed interest rates that we will determine when we issue the Contract to you.**

Purchasing this Contract involves certain risks. If you surrender your Contract more than 30 days before the end of an FTD's term, make a withdrawal more than 30 days before the end of an FTD's term, or apply your Contract Accumulation to an Income Option more than one year before the end of an FTD's term, we generally will apply a Market Value Adjustment ("MVA") to the amount being surrendered, withdrawn, or applied to an Income Option. The MVA may be either positive or negative. Accordingly, the amount that you receive could either increase or decrease and you could lose a substantial portion of the Premium(s) you originally invested. You should carefully consider your income needs before purchasing a Contract. State laws and regulations may differ as to when we apply the MVA. If you were a New York resident at the time you purchased your Contract, we will not assess an MVA if you apply your Contract Accumulation to an Income Option, even if you do so more than one year before the end of an FTD's term.

Also, when you surrender your Contract or take withdrawals from an FTD, federal income tax is based on the entire gain in your Contract, not just the gain for that FTD. Withdrawals before age 59 1/2 may also incur a 10% IRS tax penalty on earnings. **You should carefully discuss your personal tax situation with your qualified tax advisers before you purchase a Contract.**

Additional information about these risks appears under "The Contract"—"Charges," under "Fixed Term Deposit ("FTD")"—"Market Value Adjustment," and under "Federal Income Taxes."

We offer the Contract through TC Services, which is the principal underwriter. TC Services is not required to sell any specific number or dollar amount of Contracts. There are no arrangements to place funds in an escrow, trust, or similar account. This will be a continuous offering.

Neither the Securities and Exchange Commission ("SEC") nor any state securities commission has approved or disapproved these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

An investment in the Contract is not a deposit or obligation of, or guaranteed by, any bank or financial institution, and is not insured or guaranteed by the Federal Deposit Insurance Corporation ("FDIC") or any other government agency. It is subject to investment risk, including the possible loss of investment principal.



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This prospectus outlines the terms of the TIAA-CREF Investment Horizon Annuity issued by TIAA Life. It does not constitute an offering in any jurisdiction where such an offering cannot lawfully be made. No dealer, salesman, or anyone else is authorized to give any information or to make any representation about this offering other than what is contained in this prospectus. If anyone does so, you should not rely on it.

DEFINITIONS

Throughout the prospectus, “TIAA Life,” “we,” and “our” refer to TIAA-CREF Life Insurance Company. “You” and “your” mean any Contract owner or any prospective Contract owner. The terms and phrases below are defined so you will know precisely how we are using them. To understand some definitions, you may have to refer to other terms that we have defined.

Administrative Office. The office you must contact to exercise any of your rights under the Contract. Unless otherwise specified in this prospectus, you should send your completed application and your initial Premium to: New Business Dept., TIAA-CREF Life Insurance Company, P.O. Box 1291, Charlotte, NC, 28201-9908; Telephone: 877-694-0305; you should send all subsequent Premiums and any other requests to: TIAA-CREF Investment Horizon Annuity, P.O. Box 933898, Atlanta, GA 31193-3898.

Annuitant. The natural person whose life is used in determining the annuity payments to be received. The Annuitant may be the Contract owner or another person.

Annuity Starting Date. The date on which you begin to receive income benefits under an Income Option.

Beneficiary. Any person or institution named to receive benefits if you die when you have Contract Accumulation remaining or while any annuity income or death benefit payments remain due.

Business Day. Any day that the New York Stock Exchange is open for trading. A Business Day ends at 4:00 pm Eastern Time, or an earlier time if we so notify you or when trading closes on the New York Stock Exchange, if earlier.

Calendar Day. Any day of the year. Non-Business Day Calendar Days end at 4:00 pm Eastern Time, or an earlier time if we so notify you.

Contract. The individual flexible premium modified guaranteed annuity contract described in this prospectus.

Contract Accumulation. The sum of your Fixed Term Deposit accumulations, plus the sum of your Short Term Holding Account accumulations.

Contract owner. The person (or persons) who controls all the rights and benefits under a Contract. If there are two Contract owners, one must be designated as the primary Contract owner on the completed application, and the joint Contract owner must be the spouse of the primary Contract owner.

Fixed Term Deposit (“FTD”). One of the options available for allocation of your Premium(s) or Contract Accumulation under the Contract. Each FTD option varies in length (from one year to ten years) and guarantees a specified rate of interest for the specified term.

FTD Value. The portion of the Contract Accumulation allocated to an FTD.

General Account. All of our assets and liabilities other than those allocated to any segregated TIAA-CREF Life Separate Account. The Short Term Holding Account and Contract Accumulations in FTDs are part of our General Account.

Good Order. This means the actual receipt by us, at our Administrative Office, of the instructions relating to a transaction in writing—or when appropriate by telephone or via the Internet—along with all completed forms, documents, information and supporting legal documentation (including any required consents) we require to effect the transaction. Such instructions include, but would not be limited to, a withdrawal request, a request to surrender your Contract, a death benefit claim, and any other administrative request or election you make pursuant to the terms of the Contract or as otherwise noted in the Prospectus. To be “in Good Order,” instructions must be sufficiently clear so that we do not need to exercise any discretion to follow such instructions. With respect to purchase requests, Good Order also generally includes receipt by us of sufficient funds to effect the transaction. We reserve the right to change our requirements for what constitutes Good Order and which documents and forms are required for us to complete a transaction request.

Income Option. Any of the ways you can receive annuity income.

IRC. The Internal Revenue Code of 1986, as amended.

IRS. The Internal Revenue Service.

Market Value Adjustment (“MVA”). An adjustment that either increases or decreases the amount we will pay you if you surrender your Contract more than 30 days before the end of an FTD’s term, make a withdrawal more than 30 days before the end of an FTD’s term, apply the Contract Accumulation to an Income Option more than one year before the end of the FTD’s term, subject to certain exceptions.

Non-Qualified Contract. A Contract issued in connection with a retirement arrangement other than a Qualified Contract.

Premium. Any amount you invest (i.e., pay) into the Contract.

Qualified Contract. A Contract that is intended to qualify for special Federal income tax treatment under the IRC Section 408 or 408A. We do not currently offer Qualified Contracts.

Second Annuitant. The natural person whose life is used together with the life of the Annuitant in determining the annuity payments to be received under an Income Option under a two-life annuity option. Under a two-life annuity option, the primary Annuitant's life and the life of the Second Annuitant are used in determining the annuity payments. Under a two-life annuity option, the Second Annuitant will receive annuity payments if the primary Annuitant dies.

Short Term Holding Account. An account that is part of our General Account and that will contain all Contract Accumulation of your Contract that has not been allocated to an available FTD.

Survivor Income Option. An option that continues lifetime annuity payments as long as either the Annuitant or the Second Annuitant is alive.

TIAA Life. TIAA-CREF Life Insurance Company. TIAA Life is a wholly-owned subsidiary of TIAA.

TIAA. Teachers Insurance and Annuity Association of America.

SUMMARY

You should read this summary together with the detailed information you will find in the rest of the prospectus.

WHAT IS THE TIAA-CREF INVESTMENT HORIZON ANNUITY?

The TIAA-CREF Investment Horizon Annuity is an individual flexible premium modified guaranteed annuity contract that allows you to accumulate funds on a tax-deferred basis for retirement or other long-term investment purposes and to receive future payment of those funds as lifetime income or through other payment options. You generally are not taxed on any earnings or appreciation on the assets in the Contract until money is taken out of the Contract.

Currently, Premiums can be allocated to any of six FTDs ranging from five years to ten years in duration which can be chosen by you. Each FTD guarantees a specified rate of interest.

The Contract is available to you provided that it has been approved by the insurance department of your state of issuance.

WHAT FEES AND EXPENSES MAY BE DEDUCTED FROM MY CONTRACT?

There are certain fees and expenses that may be deducted from your Contract.

- Premium taxes—We may deduct premium taxes from your Contract Accumulation when it is applied to an Income Option or, or from Premiums or Contract Accumulation when allocated to an FTD account. State premium taxes currently range from 1.0% to 3.5% of payments and are determined by state insurance laws.
- Annual maintenance fee—When you have Contract Accumulation remaining in the Contract, we will deduct an annual maintenance fee of \$25 from your Contract Accumulation (if your Contract Accumulation is less than \$25,000) on each anniversary and upon surrender of your Contract.
- Charge when systematic interest withdrawals are paid by check—We may impose a fee of up to \$5 per payment for systematic interest withdrawals paid by check.
- Surrender charge—We will assess a surrender charge for surrenders or withdrawals taken from an FTD more than 30 days before the end of its term. The surrender charge rate equals one half the total interest rate applicable to the fixed term deposit. The surrender charge equals the surrender charge rate multiplied by the amount of the withdrawal. We will not assess a surrender charge:
 - 1) upon cancellation of your Contract during the “free look” period
 - 2) to surrenders or withdrawals within 30 days from a FTD maturity
 - 3) to surrenders or withdrawals from the Short-Term Holding Account
 - 4) to systematic interest withdrawals
 - 5) to Contract Accumulation applied to an Income Option, or
 - 6) to death benefit payments.Contracts issued to Connecticut residents use the term “Disintermediation Risk Charge” as opposed to “Surrender Charge.”
- Market value adjustment—we will generally apply an MVA on: any surrender taken from an FTD more than 30 days before the end of its term; any withdrawal taken from an FTD more than 30 days before the end of its term; Contract Accumulation applied to an Income Option more than one year prior to the maturity of the FTD’s term. We will not apply an MVA upon cancellation of the Contract during the “free look” period, on systematic interest withdrawals, upon surrender or

withdrawal from an FTD within the last 30 days of an FTD's term, upon application of the Contract Accumulation to an Income Option during the last year of an FTD's term, or upon payment of the death benefit. An MVA may be positive or negative, which means an MVA may increase or decrease the amount you receive as a surrender, withdrawal, or annuity payment.

For more details, see "Fixed Term Deposit ("FTD")"—"Market Value Adjustment."

WHEN DOES A MARKET VALUE ADJUSTMENT APPLY?

We will generally apply an MVA on: any surrender taken from an FTD more than 30 days before the end of its term; any withdrawal taken from an FTD more than 30 days before the end of its term; Contract Accumulation applied to an Income Option more than one year prior to the maturity of the FTD's term. An MVA may be positive or negative, which means an MVA may increase or decrease the amount you receive as a surrender, withdrawal, or annuity payment. Accordingly, you could lose a substantial portion of the Premium(s) you originally invested. You should carefully consider your income needs before purchasing a Contract. There are certain circumstances where we will not apply an MVA. State laws and regulations may differ as to when we apply the MVA. If you were a New York resident at the time you purchased your Contract, we will not assess an MVA if you apply your Contract Accumulation to an Income Option, even if you do so more than one year before the end of an FTD's term. See "Fixed Term Deposit ("FTD")"—"Market Value Adjustment."

HOW DO I PURCHASE A CONTRACT?

To purchase a Contract, you must complete an application and make an initial Premium of at least \$5,000 for FTDs. We reserve the right to lower the premium amount to \$100. Additional Premiums must be at least \$5,000 for FTDs and will be allocated to a new FTD. For details, see "The Contract"—"Purchasing a Contract and Remitting Premiums."

CAN I CANCEL MY CONTRACT?

You can examine the Contract and return it to us for a full refund of all Premiums paid to the FTDs until the end of the "free look" period specified in your Contract (which is a minimum of 30 days, but varies by state). We will consider the Contract returned on the date it is postmarked and properly addressed with postage pre-paid or, if it is not postmarked, on the day we receive it at our Administrative Office. We will send you the refund after we get written notice of cancellation and the returned Contract. We will not deduct a surrender charge or apply an MVA if you cancel the Contract during the "free look" period. For details, see "The Contract"—"Purchasing a Contract and Remitting Premiums."

CAN I MAKE CASH WITHDRAWALS FROM THE CONTRACT?

You may surrender your Contract or take cash withdrawals from an FTD at any time that you have Contract Accumulation remaining. All cash withdrawals must be for at least \$1,000 from an FTD, unless the withdrawal would reduce the FTD Value below \$5,000, in which case you must withdraw the entire FTD Value. **We may limit cash withdrawals from your Contract to one per calendar quarter.** If you invest in an FTD, a systematic interest withdrawal program is also available at Contract application. For details, see "The Contract"—"Cash Withdrawals." Surrenders and withdrawals made more than 30 days before the end of an FTD's term will be subject to an MVA, except that we will not apply an MVA to that portion of an FTD withdrawal taken to satisfy an IRC minimum distribution requirement. See "Fixed Term Deposit ("FTD")"—"Market Value Adjustment."

Cash withdrawals may be taxed. You may have to pay an IRS tax penalty on earnings if you take a cash withdrawal before age 59 1/2.

WHAT ARE MY OPTIONS AT THE END OF AN FTD'S TERM?

When an FTD nears maturity at the end of the specified term, you have several options. You may receive all or part of your ending FTD Value without a surrender charge or MVA; you may apply all or part of your ending

FTD Value to one or more new FTDs that are available to you at that time; or you may do nothing and allow a new FTD to automatically begin. See “Fixed Term Deposit (FTD)”—“Maturity of a Fixed Term Deposit.”

WHAT ARE MY OPTIONS FOR RECEIVING ANNUITY PAYMENTS UNDER THE CONTRACT?

Guaranteed fixed annuity payments are available under the Contract and are payable from our General Account. The Contract offers a variety of Income Options, including: *One-Life Annuities*, which pay income as long as the Annuitant lives or until the end of a specified guaranteed period, whichever is longer; *Fixed-Period Annuities*, which pay income for a period of between two and 30 years; and *Two-Life Annuities*, which pay income as long as the Annuitant lives (or both Annuitants are alive), then continues at either the same or a reduced level for the life of the surviving Annuitant or until the end of a specified guaranteed period, whichever is greater. The Fixed-Period Annuities Income Option is not available if you were a New York resident at the time you purchased your Contract. For details, see “The Contract”—“Receiving Annuity Payments.”

SUMMARY OF CONTRACT ALLOCATION OPTIONS

| | PURPOSE | BENEFIT | DRAWBACKS |
|--|---|--|--|
| Short-Term Holding Account (STHA) | Temporary guaranteed interest account until value is reallocated to a FTD. This is a default account when contract value cannot be allocated to a FTD; you cannot allocate to this account. | <ul style="list-style-type: none"> – Up to 45 day flexibility to reallocate assets in this account as you like to any FTD or withdraw value without a Contract charge. – After 45 days, we automatically reallocate to the shortest available FTD. | <ul style="list-style-type: none"> – You cannot leave value in the STHA longer than 45 days. – If we reallocate automatically, you cannot reallocate again until the shortest FTD matures. – Generally, pays lower interest rate than FTDs. |
| FTD | Provide guaranteed interest rate for terms of 1-10 years, with longer terms usually providing the highest interest rate. | <ul style="list-style-type: none"> – Lock in a guaranteed rate for the FTD term. – Multiple FTD term options to diversify your interest credit risk. | <ul style="list-style-type: none"> – FTD account value is less liquid than STHA value. Early withdrawals are subject to a market value adjustment. |
| Income Options | Provide several other annuity income options. | <ul style="list-style-type: none"> – Locks in annuity income in the payout option you choose. – Payments are taxed as annuity payments. | <ul style="list-style-type: none"> – No liquidity. Payments must be made as scheduled. |

WHAT DEATH BENEFITS ARE AVAILABLE UNDER THE CONTRACT?

For FTDs, if any Contract owner or Annuitant dies when there is Contract Accumulation remaining, the death benefit will become available to the death benefit payees. The amount of the death benefit is the Contract Accumulation on the first death benefit payable date.

TIAA LIFE AND TIAA

The Contracts are issued by TIAA-CREF Life Insurance Company, a stock life insurance company organized under the laws of the State of New York on November 20, 1996. All of the stock of TIAA Life is held by TIAA. TIAA Life’s headquarters are at 730 Third Avenue, New York, New York 10017-3206. TIAA Life is solely responsible for its contractual obligations.

TIAA is a stock life insurance company, organized under the laws of the State of New York. It was founded on March 4, 1918, by the Carnegie Foundation for the Advancement of Teaching. TIAA is the companion

organization of the College Retirement Equities Fund (CREF), the first company in the United States to issue a variable annuity. CREF is a nonprofit membership corporation established in the State of New York in 1952. Together, TIAA and CREF, form the principal retirement system for the nation's education and research communities and form one of the largest retirement systems in the U.S., based on assets under management. CREF does not stand behind TIAA's guarantees and TIAA does not guarantee CREF products.

THE CONTRACT

The Contract is an individual flexible premium modified guaranteed annuity that accepts after-tax dollars for Non-Qualified Contracts. The material rights, obligations, and benefits of the Contract are described in this prospectus. We offer the Contract in all 50 states and the District of Columbia except Illinois, Indiana, North Dakota, Oregon, and Washington. Contract terms and features may differ due to state laws and regulations. These differences may include, among other things, free look rights, application and calculation of the MVA availability of certain Income Options, and calculation of the surrender charge. You should review your Contract along with this prospectus to understand the product features and charges under your Contract.

You may purchase the Contract only as a Non-Qualified Contract. We do not currently offer Qualified Contracts.

IMPORTANT INFORMATION ABOUT PROCEDURES FOR OPENING A NEW ACCOUNT

To help the U.S. government fight the funding of terrorism and money laundering activities, federal law requires all financial institutions, including us, to obtain, verify and record information that identifies each person who opens an account.

What this means for you: When you open an account, we will ask for your name, residential address, date of birth, Social Security number, and other information that will allow us to identify you, such as your home telephone number. Until you provide us with the information that we need, we may not be able to issue a Contract to you or effect any transactions for you.

If we are unable to verify your identity, or that of another person authorized to act on your behalf, or if we believe that we have identified potentially criminal activity, we reserve the right to take such action as we deem appropriate, which may include canceling your Contract.

THE GENERAL ACCOUNT

All Contract value, including Contract value in the Short Term Holding Account or Fixed Term Deposits ("FTDs") is part of our General Account. We own the assets in the General Account, and we use these assets to support our insurance and annuity obligations. These assets are subject to our general liabilities from business operations. Subject to applicable law, we have sole discretion over investment of the General Account's assets. Amounts invested in the Contract do not share in the investment performance of our General Account. Our General Account bears the full investment risk for all Contract obligations. Amounts payable under the Contract are payable from our General Account and are subject to our financial strength and claims-paying ability.

The Contract provides minimum guaranteed interest rates. We anticipate also crediting and changing, from time to time and at our sole discretion, excess current interest rates to be credited under the FTDs and the Short Term Holding Account. You assume the risk that interest credited under the Contract may not exceed minimum guaranteed amounts.

PURCHASING A CONTRACT AND REMITTING PREMIUMS

Minimum Initial Premiums. We will issue you a Contract as soon as we receive in Good Order at our Administrative Office your complete and accurate application, Premium and all other information necessary to

process your application. (See “The Contract”—“Purchasing a Contract and Remitting Premiums.”) Your initial Premium will be allocated to the FTD(s) you select within two Business Days of the Business Day on which it is received by us in Good Order. Initial Premiums must be for at least \$5,000 per FTD.

For your initial Premium, please send your check, payable to TIAA-CREF Life Insurance Company, along with your completed application to:

New Business Dept.
TIAA-CREF Life Insurance Company
P.O. Box 1291
Charlotte, NC 28201-9908

Note that we cannot accept money orders, traveler’s checks, or cash. In addition, we will not accept a third-party check where the relationship of the payor to the Contract owner cannot be identified from the face of the check.

Right to Cancel. You can examine the Contract and return it to us for a full refund of all Premiums paid to the FTDs (less systematic interest withdrawals) until the end of the “free look” period specified in your Contract (which is a minimum of 30 days, but varies by state). We will consider the Contract returned on the date it is postmarked and properly addressed with postage pre-paid or, if it is not postmarked, on the day we receive it at our Administrative Office. We will send you the refund after we receive, in Good Order, written notice of cancellation and the returned Contract. We will not deduct a surrender charge or apply an MVA if you cancel the Contract during the “free look” period. During the “free look” period, you may not make a withdrawal under your Contract.

Additional Premiums. Subsequent Premiums must be for at least \$5,000 per FTD and will be allocated to a new FTD. Subsequent Premiums of \$25,000 or more may be allocated to a new FTD. We reserve the right to limit Premiums to no more than \$500,000 a year. For additional Premiums, please send your check, payable to TIAA-CREF Life Insurance Company, including your Contract number and FTD allocation choice, to:

TIAA-CREF Investment Horizon Annuity
P.O. Box 933898
Atlanta, GA 31193-3898

We will allocate each subsequent Premium to a new FTD, based on your instructions, as of the Business Day we receive it in Good Order. Currently, we will accept Premiums at any time both the Contract owner and the Annuitant is living and there is remaining Contract Accumulation. We reserve the right to not accept additional Premiums under this Contract after you have been given three months’ notice.

If we exercise our right to reject and/or place limitations on the acceptance and/or allocation of additional Premiums, you may be unable to, or limited in your ability to, increase your Contract Accumulation through additional Premiums. Before you purchase the Contract and determine the amount of your initial Premium, you should consider the fact that we may suspend, reject or limit additional Premiums at some point in the future. You should consult with your registered representative before purchase.

Electronic Payment. You may make initial or additional Premium payments by electronic payment. A federal wire transfer is usually received on a “same” day basis and an Automated Clearing House (“ACH”) transfer is usually received by the second day after transmission. Be aware that your bank may charge you a fee to wire funds, although ACH transfers are usually less expensive than a federal wire. This is what you need to do:

- (1) If you are sending in an initial Premium, send your completed application to us at our Administrative Office;

(2) Instruct your bank to wire or transfer money to:

Wells Fargo
ABA Number 121000248
San Francisco, CA
Account of: TIAA-CREF Life Insurance Company
Account Number: 2000035305820

(3) Specify on the wire or transfer:

- Your name, address and Social Security Number(s) or Taxpayer Identification Number(s)
- Indicate if the Premium is for a new application or for an existing Contract (provide Contract number and FTD allocation choice, if existing)

Certain Restrictions. You may only open one Contract in any calendar year. Also, your Contract may not contain more than 120 FTDs at any one time.

If mandated under applicable law, including federal laws designed to counter terrorism and prevent money laundering, we may be required to reject a Premium payment. We may also be required to block a Contract owner's account and refuse to pay any request for surrenders, withdrawals, or death benefits, until instructions are received from the appropriate regulator. We may also be required to provide additional information about you and your Contract to government regulators.

We may deduct any charges for premium taxes from your initial or subsequent Premium before we allocate it under the Contract. (See "The Contract"—"Charges"—"Premium Taxes.")

More About Remitting Premiums. We will not be deemed to have received any Premiums sent to the addresses designated in this prospectus for remitting Premiums until the third party service that administers the receipt of mail through those addresses has processed the payment on our behalf.

SHORT TERM HOLDING ACCOUNT ("STHA")

The Short Term Holding Account ("STHA") is a part of our General Account. You cannot elect to allocate Contract value to the STHA. Premiums are generally allocated to FTDs. However, premiums paid less than one year before your scheduled Annuity Starting Date may only be allocated to the STHA. When a FTD matures, proceeds from that FTD are placed in the STHA unless you have already reallocated such proceeds to another FTD or there are no new FTDs available to you at that time. If FTDs become available to you while you have a Contract Accumulation in the Short-Term Holding Account, we will mail you a notice after which you will have at least 15 days, but not more than 45 days, to allocate your Short Term Holding Account accumulation among the available FTDs. If we do not receive valid instructions from you in that time frame, your entire Contract Accumulation in the Short Term Holding Account will be applied to a new FTD with the shortest term then available.

Contract Accumulations in the STHA earn interest credited at a rate guaranteed to never be less than the minimum guaranteed interest rate stated in your Contract, which will never be less than 1%. We cannot predict nor do we guarantee what future interest rates we will declare.

FIXED TERM DEPOSIT ("FTD")

Fixed Terms. An FTD is an investment option for a period of years during which we will credit a specified interest rate. Currently, you can choose from FTDs of five years to ten years (whole years only). If the crediting rate for an FTD is lower than your Contract's minimum guaranteed interest rate, that FTD will be temporarily unavailable. Only FTDs ending before the calendar month in which the Annuitant or any Contract owner turns age 90 will be available to you. We reserve the right to stop offering any FTD at any time. If you allocate any part of a Premium to an unavailable FTD, we will not consider your allocation instructions to be in Good Order and will not process your allocation instructions.

Crediting Interest. Each FTD to which you allocate any portion of a Premium or your Contract Accumulation earns interest at the specified interest rate in effect for that FTD from the date the Premium or Contract Accumulation is credited to the FTD through the end of the term of the FTD, or until the FTD Value is surrendered, if earlier. We will credit interest to each FTD on a daily basis. We will also credit interest on a daily basis on any amounts held in the Short Term Holding Account at an interest rate determined by us, but not less than your Contract's minimum guaranteed interest rate. Credited interest rates for each FTD will vary by term and purchase date.

We have no specific formula for setting the interest rates. Rates will be influenced by, but not necessarily coincide with, interest rates available on fixed income investments that we may acquire with the amounts we receive as Premiums. You have no direct or indirect interest in the investments we make with the Premiums. We will invest these amounts primarily in investment-grade fixed income securities. We will also consider other factors in determining the interest rates, including regulatory and tax requirements, administrative and sales expenses incurred by us, general economic trends, and competitive factors. Interest rates will not vary by purchase amount. We will make the determination as to the interest rate we will declare for each FTD. FTDs earn interest credited at a rate guaranteed to never be less than the minimum guaranteed interest rate stated in your Contract, which will never be less than 1%. We cannot predict nor do we guarantee what future interest rates we will declare.

Allocations to an FTD are subject to several crediting risks. When an FTD period ends, you may not be able to reinvest FTD proceeds at as favorable an interest rate. This risk is greater for shorter FTD periods. Similarly, allocations in an FTD are locked into that FTD's interest rate for the term of the FTD, even when interest rates on comparable products may be increasing. This risk is greater for longer FTD periods. Generally, although not always, longer FTD periods will credit higher interest rates.

Maturity of a Fixed Term Deposit. An FTD matures at the end of the specified term, and the proceeds then become available to the Contract owner(s). Prior to the end of an FTD's term, you may select from the following options:

- (1) Receive all or part of your ending FTD Value without a surrender charge or MVA;
- (2) Instruct us to apply all or part of your ending FTD Value to one or more new FTDs that you select from the FTDs that we are then offering and are available to you; or
- (3) Apply all or part of your ending FTD Value to an Income Option
- (4) Do nothing and allow a new FTD to automatically begin.

If any FTD matures after a notice of death is received but before the death benefit is paid, the Contract Accumulation in that FTD will be transferred to the Short Term Holding Account.

We will mail you a notice at least 45 days, but not more than 75 days, prior to maturity of each FTD. Prior to maturity, you must instruct us to either apply the proceeds to one or more new FTDs then available or transfer the proceeds out of the Contract. Only FTDs ending before the calendar month in which the Annuitant or any Contract owner turns age 90 will be available. At least \$5,000 must be allocated to any subsequent FTD. If no FTDs are then available, you may apply the proceeds to the Short Term Holding Account.

If we have not received valid instructions from you before maturity, the proceeds will be applied to a new FTD with the shortest term then available. If no FTDs are then available, the proceeds will be applied to the Short Term Holding Account.

Surrenders at the end of an FTD

To surrender your ending Contract Accumulation in an FTD, you must request the surrender in writing prior to the end of the expiring FTD. Surrenders and withdrawals made more than 30 days before the end of an FTD's term will generally be subject to an MVA. (See "Fixed Term Deposit ("FTD")—"Market Value Adjustment.") Any surrendered or withdrawn amount may be subject to income taxes, and a 10% IRS tax penalty on earnings may apply if you are not yet 59 1/2 years old. (See "Federal Income Taxes.")

Automatic subsequent FTDs

Unless you instruct otherwise, the Contract Accumulation at the end of an expiring FTD will be allocated to a subsequent FTD. The subsequent FTD will be the shortest duration FTD that we currently offer. The new FTD will earn interest at the interest rate in effect for that subsequent FTD when your Contract Accumulation is allocated to it. If the shortest duration FTD extends beyond the calendar month in which the Annuitant or any Contract owner turns age 90, then we will allocate the Contract Accumulation to the Short Term Holding Account.

Cash Withdrawals. At any time that there is Contract Accumulation, you can withdraw some or all of your Contract Accumulation from the FTD(s) and/or from any amounts you have in the Short Term Holding Account. A full withdrawal of your Contract Accumulation is called a surrender. Cash withdrawals must be for at least \$1,000, unless the withdrawal would reduce the FTD Value below \$5,000, in which case you must withdraw the entire FTD Value. We may also impose the following restrictions:

- Withdrawals from your Contract can be limited to no more than one per calendar quarter.
- We may change the cut-off time establishing when a transaction request must be received in order to be effective at the end of that Business Day.

All withdrawal requests must be in accordance with procedures established by us. A withdrawal will be effective, and all values determined, as of the end of the Business Day in which we receive your written request in Good Order, unless you choose to defer the withdrawal's effective date to a future date acceptable to us. You may not revoke a request for a withdrawal after its effective date.

If you request a withdrawal of less than the entire Contract Accumulation, you must designate the FTD(s) and/or the Short Term Holding Account from which we should take the withdrawal. If you have not provided these instructions in Good Order, we will reject your withdrawal request unless we receive your request within the last 30 days of an FTD's term. If we receive your withdrawal request within the last 30 days of an FTD's term, we will make the withdrawal from the expiring FTD. However, if the amount of your withdrawal request exceeds the Contract Accumulation in the expiring FTD, we will reject the portion of the withdrawal request that exceeds the Contract Accumulation in the expiring FTD.

If you withdraw your entire Contract Accumulation, we will cancel your Contract and all of our obligations to you under the Contract will end. We will deduct the annual maintenance fee from any surrender proceeds, if your Contract Accumulation is less than \$25,000 at the time of surrender.

Surrenders and withdrawals made more than 30 days before the maturity of an FTD's term may be subject to an MVA. (See "Fixed Term Deposit ("FTD")—"Market Value Adjustment.") Withdrawals and surrenders are subject to federal income tax, and a 10% IRS tax penalty on earnings may apply if you are under age 59 1/2. (See "Federal Income Taxes.")

Systematic Interest Withdrawals. If your initial Premium is at least \$25,000, you may request systematic withdrawals of the interest that we have credited to your FTD Values. Systematic interest withdrawals must be made from all FTDs in which you are invested. Systematic interest withdrawals can be established for monthly, quarterly, semi-annual or annual withdrawals from the first to the twenty-eighth day of the month. If the scheduled date of a systematic interest withdrawal is not a Business Day, the withdrawal will be paid on the next Business Day.

We do not assess a surrender charge or apply an MVA on systematic interest withdrawals; however, systematic interest withdrawals are subject to federal income tax, and a 10% IRS tax penalty on earnings may apply if you are under age 59 1/2. (See "Federal Income Taxes.")

Systematic interest withdrawals can only be initiated when the Contract is issued and can be cancelled only by surrendering the Contract. Systematic interest withdrawals will continue until the earliest of the following:

- the annuity start date, or,

- the date we are notified of your death, or
- the first death benefit payable date.

We may impose a fee of up to \$5 per payment for systematic interest withdrawals paid by check.

Market Value Adjustment. We will generally apply an MVA on: any surrender taken from an FTD more than 30 days before the end of its term, except that we will not apply an MVA to that portion of an FTD withdrawal taken to satisfy an IRC minimum distribution requirement; any withdrawal taken from an FTD more than 30 days before the end of its term; and Contract Accumulation applied to an Income Option more than one year prior to the maturity of the FTD's term. An MVA may be positive or negative, which means an MVA may increase or decrease the amount you receive as a surrender, withdrawal, or annuity payment.

To determine the MVA for an FTD at the time of a premature withdrawal, surrender, or selection of an Income Option from that FTD, we first calculate an MVA ratio (as described below, under "FTD Market Value Adjustment Formula"). We then multiply this ratio by the amount you have withdrawn, surrendered, or applied to an Income Option to calculate the amount of the MVA.

Note: An MVA will either increase or decrease the amount you receive and you could lose a substantial portion of the Premium(s) you originally invested. You should carefully consider your income needs before purchasing a Contract. You directly bear any investment risk associated with an MVA.

Purpose of an MVA

An MVA generally reflects the relationship on any given day between the interest rate you would earn if your Contract Accumulation remained in the existing FTD until its maturity, and the interest rate you would earn if your Contract Accumulation were transferred to a new FTD with a comparable remaining term on that day.

The difference between these values roughly corresponds with gain or loss we would incur in selling the assets we purchased to support our obligations under the existing FTD in order to pay for an early withdrawal from an FTD. A MVA imposes this gain or loss on you. The greater the difference in interest rates, the greater the effect that an MVA will have on your Contract Accumulation. The amount of time remaining until maturity for a particular FTD also will affect the determination of an MVA; the greater the length of time remaining until maturity, the greater the effect an MVA will have on your Contract Accumulation.

As a general rule, if interest rates have increased since your FTD was issued, the MVA will be negative and will decrease the amount that you receive; if interest rates have decreased during that period by more than 0.25%, the MVA will be positive and will increase the amount that you receive. The MVA formula (as set forth below) contains a 0.25% factor that is designed to compensate us for certain expenses and losses that we may incur, either directly or indirectly, as a result of a premature surrender, withdrawal, or selection of an Income Option. Thus, even if interest rates remain the same during the period, or decrease by less than 0.25%, the MVA will be negative due to the 0.25% factor. The length of the remaining term on the FTD affects the impact of the 0.25% factor. (For example, if you have 5 years remaining in the FTD, the 0.25% factor will decrease the withdrawal amount by 1.25%.)

Exceptions

Any surrender, withdrawal, or selection of an Income Option from an FTD before the end of its term is considered premature and is subject to an MVA except for:

- 1) a surrender to cancel the Contract during the "free look" period;
- 2) systematic interest withdrawals;
- 3) a surrender or withdrawal made by you within the last 30 days of an FTD's term;

- 4) Income Options that begin during the last year of an FTD's term; and
- 5) amounts withdrawn to pay the death benefit.

Application of MVA.

We calculate a separate MVA for each FTD by multiplying the amount that you surrender, withdraw, or from which you apply your Contract Accumulation to an Income Option prematurely by the ratio calculated in accordance with the MVA formula set forth below. If multiple FTDs are affected by your premature surrender, withdrawal, or selection of an Income Option, we will apply multiple MVAs, some of which may be positive and some of which may be negative.

We will apply an MVA to each amount prematurely surrendered, withdrawn, or applied to an Income Option from an FTD. We will calculate the MVA as of the date we receive your written request for surrender or withdrawal or on the Annuity Starting Date before we calculate any annuity payments. If an MVA is positive, we will credit the additional amount to the surrender, withdrawal, or annuity payment; if an MVA is negative, we will deduct the amount from the surrender, withdrawal, or annuity payment. We will also deduct any applicable premium taxes that we have not previously deducted from Premiums or Contract Accumulation before paying any surrender, withdrawal, or annuity payment. We will calculate any MVA and/or premium taxes independently of one another, each calculated based on your Contract Accumulation that you are withdrawing or annuitizing before any of the other adjustments. State laws and regulations may differ as to when we apply the MVA. If you were a New York resident at the time you purchased your Contract, we will not assess a MVA if you apply your Contract Accumulation to an Income Option, even if you do so more than one year before the end of an FTD's term.

FTD Market Value Adjustment Formula

As described above, the Market Value Adjustment applied to an early withdrawal of an FTD reflects the relationship between the interest rate you would earn if you held an existing FTD to its maturity and the interest rate you would earn if you transferred those same assets to a new current FTD with a comparable remaining term. The difference between these two values roughly corresponds with gain or loss we would incur in selling the assets we purchased to support our obligations under the existing FTD in order to pay for the early withdrawal. To compensate us for certain expenses and losses we may incur when you take an early withdrawal from an FTD, either directly or indirectly, we also deduct 0.25% when comparing the interest rates in the MVA formula. Generally, when the interest rate for the 'current FTD' would be higher than the rate for the 'existing FTD' minus 0.25%, the MVA will result in a loss, and when the interest rate for the 'current FTD' would be lower than the rate for the 'existing FTD' minus 0.25%, the MVA will result in a gain. The MVA imposes this gain or loss on you.

In calculating the MVA, we account for:

- (1) the amount of time remaining until the FTD's originally scheduled maturity date;
- (2) the FTD's original interest rate; and
- (3) the corresponding interest rate for a similar new investment with a term equal to the time remaining until the FTD's original maturity date.

For item (3) in this calculation, we use the rate for a current FTD we may offer (in any contract) of the appropriate term length. If we do not offer such a FTD at the time of the early withdrawal date of the FTD being withdrawn, then we will use the yields for U.S. Treasury STRIPS of appropriate term lengths for the interest rate of both item (2), the FTD's original interest rate, and item (3).

The formula to calculate the MVA applicable to an FTD withdrawal is the amount of the withdrawal multiplied by N multiplied by R. The formula is multiplying the amount of the withdrawal by the number of

years remaining to maturity of the FTD, “N,” and by a factor representing the effect of the change in interest rates, “R.” These factors are calculated as follows:

N = the number of years remaining until maturity of the FTD. This number is calculated by multiplying the number of days remaining until maturity by 12 and dividing by 365, rounding the result up to the next whole number, and then dividing this result by 12.

The formula for “N” takes the remaining time to maturity in days and converts it to an equivalent figure in years after first calculating an equivalent period in months and rounding up to the next whole number of months.

We then calculate a value “M” which is equal to “N” rounded up to the next whole number. “M” is the time remaining to maturity rounded up to the next whole number of years. This whole number of years is the term we will use to determine the appropriate current rate of interest used in the MVA formula.

R = “I” reduced by “J” and further reduced by 0.25%, where “I” and “J” are calculated as follows:

“I” is the FTD’s original interest rate. “J” is the corresponding current rate for an investment from the time of the early withdrawal until the FTD’s original maturity date.

The transaction date equals the applicable Annuity Starting Date or the effective date of the withdrawal or surrender.

If a new FTD with a term of “M” years is available to you on the transaction date, then

I = the interest rate applicable to the original FTD

J = the interest rate applicable to a new FTD with a term of “M” years being offered on the transaction date

If a new FTD with a term of “M” years is not available to you on the transaction date, then

I = the yield, as of the effective date of the FTD, of the STRIPS for which the time then remaining until maturity is closest, within six months, to the term of the FTD. If no STRIPS within six months is available, then “I” equals the interpolation of the yields, as of the effective date of the FTD, of the closest STRIPS maturity prior to and the closest STRIPS maturity following the term of the FTD; and

J = the yield, as of the transaction date, of the STRIPS for which the time then remaining until maturity is closest, within six months, to “M” years. If no STRIPS within six months is available, then “J” equals the interpolation of the yields, as of the transaction date, of the closest STRIPS maturity prior to and the closest STRIPS maturity following “M” years.

STRIPS refers to U.S. Treasury STRIPS. The STRIPS yield is the U.S. Treasury STRIPS asked yield reported by *The Wall Street Journal*, or any successor thereto. If the U.S. Treasury STRIPS asked yield is no longer reported by *The Wall Street Journal* or its successor, we will choose a substantially similar yield, subject to any requisite approval of the insurance supervisory official of the jurisdiction in which the Contract is issued.

Demonstration of an FTD MVA

All assumptions, including interest rates, are hypothetical for illustration purposes only.

Example 1:

If a Contract owner invested \$10,000 in a 10-year FTD and then made a full withdrawal from the FTD three years after purchase, the following MVA would be calculated if the interest rate on a new FTD with a seven-year term was 1% less than the interest rate on the original FTD.

| | <u>At Purchase</u> | <u>At Withdrawal</u> |
|--|------------------------|--------------------------|
| Premium | \$10,000 | |
| Amount of FTD withdrawn (total accumulation balance in this example) | | \$10,927 |
| Original/Remaining Time (years) | 10 | 7 |
| Original FTD Rate | 3.00% | |
| New FTD Rate (offered on 7-year FTD at the time of the withdrawal) | | 2.00% |
| MVA | | \$ 574 |
| Total amount of FTD withdrawal | | \$11,501 |

In the MVA formula $N \times R = N \times (I - J - 0.25\%)$, “N”= 7, “I”= 3.00%, and “J”= 2.00%. This factor is then applied to the Contract Accumulation at withdrawal to arrive at the total MVA.

$$\text{MVA} = \$10,927 \times (7 \times (3.00\% - 2.00\% - 0.25\%)) = \$574$$

So, the MVA results in a FTD withdrawal of the amount withdrawn of \$10,927, plus a positive MVA of \$574, for a total FTD withdrawal payout of \$11,501.

Example 2:

If a Contract owner invested \$10,000 in a 10-year FTD and then made a full withdrawal from the FTD three years after purchase, the following MVA would be calculated if the interest rate on a new FTD with a seven-year term was 1% greater than the interest rate on the original FTD.

| | <u>At Purchase</u> | <u>At Withdrawal</u> |
|--|------------------------|--------------------------|
| Premium | \$10,000 | |
| Amount of FTD withdrawn (total accumulation balance in this example) | | \$10,927 |
| Original/Remaining Time (years) | 10 | 7 |
| Original FTD Rate | 3.00% | |
| New FTD Rate (offered on 7 year FTD at the time of the withdrawal) | | 4.00% |
| MVA | | \$ (956) |
| Total amount of FTD withdrawal | | \$ 9,971 |

In the MVA formula $N \times R = N \times (I - J - 0.25\%)$, “N”= 7, “I”= 3.00%, and “J”= 4.00%. This factor is then applied to the Contract Accumulation at withdrawal to arrive at the total MVA.

$$\text{MVA} = \$10,927 \times (7 \times (3.00\% - 4.00\% - 0.25\%)) = -\$956$$

So, the MVA results in a FTD withdrawal of the amount withdrawn of \$10,927, minus a negative MVA of \$956, for a total FTD withdrawal payout of \$9,971.

Example 3:

If a Contract owner invested \$10,000 in a 10-year FTD and then made a full withdrawal from the FTD three years after purchase, the following MVA would be calculated if the interest rate on a new FTD with a seven-year term was the same as the interest rate on the original FTD.

| | <u>At</u> <u>Purchase</u> | <u>At</u> <u>Withdrawal</u> |
|--|------------------------------|--------------------------------|
| Premium | \$10,000 | |
| Amount of FTD withdrawn (total accumulation balance in this example) | | \$10,927 |
| Original/Remaining Time (years) | 10 | 7 |
| Original FTD Rate | 3.00% | |
| New FTD Rate (offered on 7 year FTD at the time of the withdrawal) | | 3.00% |
| MVA | | \$ (191) |
| Total amount of FTD withdrawal | | \$10,736 |

In the MVA formula $N \times R = N \times (I - J - 0.25\%)$, “N”= 7, “I”= 3.00%, and “J”= 3.00%. This factor is then applied to the Contract Accumulation at withdrawal to arrive at the total MVA.

$$\text{MVA} = \$10,927 \times (7 \times (3.00\% - 3.00\% - 0.25\%)) = -\$191$$

So, even though interest rates have remained the same, the MVA results in a FTD withdrawal of the amount withdrawn of \$10,927, minus a negative MVA of \$191, for a total FTD withdrawal payout of \$10,736.

CHARGES

No Deductions from Premiums. The Contract does not provide for any front-end charges (except for premium taxes as may be required in certain jurisdictions—and as described below).

Premium Taxes. Currently, residents of several states may be subject to premium taxes on their Contracts. We normally will deduct any charges for premium taxes from your Contract Accumulation when it is applied to an Income Option or from Premiums or Contract Accumulation when allocated to an FTD account. State premium taxes currently range from 1.0% to 3.5% of Premium payments and are determined by state insurance laws.

Annual Maintenance Fee. Your Contract will be subject to an annual maintenance fee of \$25 while there is Contract Accumulation remaining in your Contract to compensate us for the expenses associated with administering your Contract. We will assess this fee annually, on every anniversary of the date of issue of your Contract, and if you surrender your Contract. We will waive the maintenance fee if your Contract Accumulation equals or exceeds \$25,000 on an anniversary of your Contract or the day you surrender your Contract. We will deduct this charge first from any amounts you have in the Short Term Holding Account and then from the FTD with the most recent effective date. If more than one FTD became effective on the same most recent date, we will deduct the charge from the FTD with the shortest term on the date when we deduct the charge.

Charge When Systematic Interest Withdrawals are Paid By Check. We may impose a fee of up to \$5 per payment for systematic interest withdrawals paid by check.

Market Value Adjustment. If you surrender your Contract more than 30 days before the end of the FTD’s term, make a withdrawal from an FTD more than 30 days before the end of the FTD’s term, apply Contract

Accumulation to an Income Option more than one year prior to the maturity of the FTD's term, we generally will apply an MVA to the amount being surrendered, withdrawn, or applied to an Income Option. An MVA may be positive or negative, which means an MVA may increase or decrease the amount you receive as a surrender, withdrawal, or annuity payment. Accordingly, you could lose a substantial portion of the Premium(s) you originally invested. You should carefully consider your income needs before purchasing a Contract. We will not apply an MVA upon cancellation of the Contract during the "free look" period, on systematic interest withdrawals, upon surrender or withdrawal from an FTD within the last 30 days of an FTD's term, upon application of the Contract Accumulation to an Income Option during the last year of an FTD's term, or upon payment of the death benefit. State laws and regulations may differ as to when we apply the MVA. If you were a New York resident at the time you purchased your Contract, we will not assess an MVA if you apply your Contract Accumulation to an Income Option, even if you do so more than one year before the end of an FTD's term.

Surrender Charge. We will assess a surrender charge for surrenders or withdrawals taken from an FTD more than 30 days before the end of its term. The surrender charge rate equals one half the total interest rate applicable to the fixed term deposit. The surrender charge equals the surrender charge rate multiplied by the amount of the withdrawal. We will not assess a surrender charge:

- 1) upon cancellation of your Contract during the "free look" period
- 2) to surrenders or withdrawals within 30 days from a FTD maturity
- 3) to surrenders or withdrawals from the Short-Term Holding Account
- 4) to systematic interest withdrawals
- 5) to Contract Accumulation applied to an Income Option, or
- 6) to death benefit payments.

Contracts issued to Connecticut residents use the term "Disintermediation Risk Charge" as opposed to "Surrender Charge."

RECEIVING ANNUITY PAYMENTS

You can elect to receive guaranteed annuity payments under your Contract. The determination of your annuity payment amounts will be based, among other things, on your choice of an Income Option and the amount applied to the Income Option. You may only apply Contract Accumulation to an Income Option. You may choose to receive monthly, quarterly, semi-annual or annual payments. If your annuity payments would be less than \$100 a month, we may decide to change to less frequent payments, and, if we do, we will inform you of that decision. The total value of annuity payments that are eventually made to you may be more or less than the total Premium(s) you paid under the Contract.

If you choose to receive annuity payments that begin more than one year before the end of an FTD's term, we will apply an MVA to the Contract Accumulation withdrawn from that FTD before we calculate your annuity payments. (See "Fixed Term Deposit ("FTD")—"Market Value Adjustment.") State laws and regulations may differ as to when we apply the MVA. If you were a New York resident at the time you purchased your Contract, we will not assess an MVA if you apply your Contract Accumulation to an Income Option, even if you do so more than one year before the end of an FTD's term. We also may deduct any charges for premium taxes from your Contract Accumulation before we apply it to an Income Option. (See "The Contract"—"Charges"—"Premium Taxes.")

WHEN ANNUITY PAYMENTS BEGIN

Generally, you pick the date when you want annuity payments to begin when you complete your application for a Contract. The date you choose cannot be later than any Annuitant's or any Contract owner's 90th

birthday. You can choose or change the Annuity Starting Date at any time before annuity payments actually begin. In any case, the Annuity Starting Date cannot be earlier than fourteen months after the day your Contract is issued (twelve months for Contracts issued in Florida). Your first annuity check may be delayed while we process your choice of Income Option and calculate the amount of your initial payment.

For payments to begin on the Annuity Starting Date that you chose, we must receive, in Good Order at our Administrative Office, all information and documentation necessary for the Income Option you have picked. If you have Contract Accumulation for which we have not received all the necessary information in Good Order, we will defer the Annuity Starting Date for that Contract Accumulation until the first day of the month after the information has reached us in Good Order, but not beyond the Annuitant's or any Contract owner's 90th birthday. If you have not picked an Income Option, or if we have not otherwise received all the necessary information by the latest Annuity Starting Date, we will begin payments under a One-Life Annuity with a 10 year guaranteed period, or a shorter guaranteed period, if required under federal tax law.

We will send your annuity payments by mail to your home address or (if you request) by mail or electronic fund transfer to your bank. If you want to change the address or bank where you want your annuity payments sent, it is your responsibility to notify us. We can send payments to your residence or most banks abroad.

ANNUITY PAYMENTS

Your annuity payments are based on your Contract Accumulation applied to provide the annuity payments on the Annuity Starting Date. At the Annuity Starting Date, the dollar amount of each annuity payment resulting from your Contract Accumulation will become fixed, based upon:

- the Income Option you choose,
- the length of the guaranteed period you choose, if applicable,
- the frequency of payment you choose,
- the ages of the Annuitant and any Second Annuitant,
- our then-current annuity rates, which will not be less than those specified in your Contract's rate schedule and
- any premium taxes and/or MVAs applied to your Contract Accumulation on the Annuity Starting Date, if applicable.

INCOME OPTIONS

You have a number of different Income Options.

- **One-Life Annuity with or without a Guaranteed Period.** This Income Option provides for annuity payments as long as the Annuitant lives. If you choose a guaranteed period (i.e., 10, 15 or 20 years) and your Annuitant dies before the guaranteed period is over, annuity payments will continue to you or your Beneficiary until the end of the guaranteed period you selected. If you do not choose a guaranteed period, all annuity payments end at the Annuitant's death – so it is possible for the Annuitant to receive only one payment if the Annuitant dies less than a month after annuity payments start.
- **Fixed-Period Annuities.** This Income Option provides for annuity payments for a stipulated period of not less than two years or more than 30 years. At the end of the period you've chosen, annuity payments will stop. If you and your joint owner, if any, die before the period is up, your Beneficiary becomes the Contract owner.
- **Two-Life Annuities with or without a Guaranteed Period.** This Income Option provides for annuity payments as long as the Annuitant or Second Annuitant lives, then continues at either the same or a reduced level for the life of the survivor, or until the end of the specified guaranteed

period, if you choose one, whichever period is longer. There are three types of Two-Life Income Options, all available with or without a guaranteed period – Full Benefit While Either the Annuitant or the Second Annuitant is Alive, Two-Thirds Benefit After the Death of Either the Annuitant or the Second Annuitant, and a Half-Benefit After the Death of the Annuitant.

We may offer different Income Options in the future.

The commuted value of any annuity payments remaining to be paid after the death of a Beneficiary and during a guaranteed period may be paid in a lump sum, unless the Contract owner(s) direct(s) us otherwise. The commuted value is the present value of the remaining annuity payments that will be paid in a lump sum, and such present value is equal to the sum of the scheduled annuity payments less the interest that would have been earned on those payments, from the effective date of the commuted value calculation to the dates when each of the scheduled annuity payments would have been made.

The Fixed-Period Annuities Income Option is not available if you were a New York resident at the time you purchased your Contract.

Annuity payments are subject to federal income tax.

DEATH BENEFITS

AVAILABILITY AND CHOOSING BENEFICIARIES

Unless the “Definition of Spouse Under Federal Law” (which is described immediately below) applies, the death benefit will be paid to the death benefit payee(s) if any Contract owner or Annuitant dies while there is a Contract Accumulation remaining. We will pay the death benefit on the date that we receive due proof of your death. When you complete your application for a Contract, you will name one or more Beneficiaries to receive the death benefit if any Contract owner or Annuitant dies. You can change your Beneficiaries at any time that there is Contract Accumulation remaining. For more information on designating Beneficiaries, you should contact us, and you may also want to consult your qualified legal adviser.

SPECIAL OPTION FOR SPOUSES

If the surviving spouse is the sole Beneficiary when the Owner dies, the surviving spouse can choose to become the Contract owner and continue the Contract, or receive the death benefit. If the surviving spouse does not make a choice within 60 days after we receive (in Good Order) proof of death, the surviving spouse will automatically become Contract owner and Annuitant, and no death benefit will be paid.

DEFINITION OF SPOUSE UNDER FEDERAL LAW

A person who meets the definition of “spouse” under federal law may avail themselves of certain contractual rights and benefits. Any right of a spouse that is made available to continue the Policy and all Policy provisions relating to spouses and spousal continuation are available only to a person who meets the definition of “Spouse” under federal law. IRS guidance provides that civil unions and domestic partnerships that may be recognized under state law are not marriages unless denominated as such. **Consult a qualified tax adviser for more information on this subject.**

AMOUNT OF DEATH BENEFIT

The amount of the death benefit is your Contract Accumulation, if any. Each payee’s death benefit payable date is the date when we have received due proof of death of either the Contract owner or the Annuitant, and all information that we require for payment of the payee’s portion of the death benefit has been received by us at our Administrative Office in Good Order. We will not deduct a surrender charge or apply an MVA to the death benefit payment.

When a death benefit becomes payable, all FTDs will be terminated, and all FTD Values will be applied to the Short Term Holding Account for payment as a death benefit.

METHODS OF PAYMENT OF DEATH BENEFITS

Except as provided below, if a Death Benefit is payable, a Beneficiary may elect a lump sum payment, or, subject to the terms of the contract and State specific provisions, elect to have his or her interest distributed over his or her life, or over a period not extending beyond his or her life expectancy.

Death benefit payments in the form of a period certain or life annuity must have the first payment made within one year of date of death, and must also meet the timing requirements for making an election. Otherwise, the lump sum death benefit must be paid within five years of date of death. Upon payment of the death benefit, the Contract will terminate. Because Beneficiaries may provide the required information to us on different days, Beneficiaries may receive differing amounts, even where all Beneficiaries have been designated so as to share equally in the death benefit proceeds.

In all events, the death benefit and the termination provisions of the Contract will be administered in accordance with the requirements of Section 72(s) of the IRC, as applicable to your Contract.

FEDERAL INCOME TAXES

The following discussion is based on our understanding of current federal income tax law, and is subject to change. For complete information on your personal tax situation, check with a qualified tax adviser.

TAXATION OF ANNUITIES

Contract Eligibility: The Contract can only be purchased as an individual, Non-Qualified contract. All tax information in this prospectus is limited to Non-Qualified Contracts. We do not currently offer Qualified Contracts.

Non-Natural Persons: When the Owner of any Contract is not a natural person (such as a trust), the Owner must generally include in income any increases in the value of the Contract during the taxable year. There are significant exceptions to this rule, such as grantor trusts and certain trusts for the benefit of individuals and a prospective Contract owner which is not a natural person should discuss these potential exceptions with a qualified tax adviser.

The following discussion applies generally to Contracts owned by a natural person that qualify as annuity Contracts for federal income tax purposes.

In General: Internal Revenue Code (IRC) Section 72 governs annuity taxation generally. We believe an Owner who is a natural person usually won't be taxed on increases in the value of a Contract until there is a distribution (i.e., the Owner withdraws all or part of the Accumulation Value or takes annuity payments). Since transfers among Investment Accounts under the Contract aren't considered distributions, they won't be taxed. Assigning, pledging, or agreeing to assign or pledge any part of the Accumulation Value usually will be considered a distribution.

Withdrawals of accumulated investment earnings are taxable as ordinary income. The IRC generally requires withdrawals to be first allocated to investment earnings.

Withdrawals: If you make a withdrawal, the IRC generally treats such a withdrawal as first coming from earnings and then from your Premiums. Such withdrawn earnings are includible in income.

Required Distributions. In order to be treated as an annuity contract for federal income tax purposes, Section 72(s) of the IRC requires any Contract to contain certain provisions specifying how your interest in the

Contract will be distributed in the event of the death of an Owner of the Contract. Specifically, Section 72(s) requires that (a) if any Owner dies on or after the annuity starting date, but prior to the time the entire interest in the Contract has been distributed, the entire interest in the Contract will be distributed at least as rapidly as under the method of distribution being used as of the date of such Owner's death; and (b) if any Owner dies prior to the annuity starting date, the entire interest in the Contract will be distributed within five years after the date of such Owner's death. However, if the designated Beneficiary is the surviving spouse of the deceased Owner (as defined under federal law), the Contract may be continued with the surviving spouse as the new Owner (See "Death Benefits"—"Definition of Spouse Under Federal Law").

Contract endorsements contain provisions that are intended to comply with these IRC requirements, although no regulations interpreting these requirements have yet been issued. We intend to review such provisions and modify them if necessary to assure that they comply with the applicable requirements when such requirements are clarified by regulation or otherwise.

Penalty Tax on Certain Withdrawals. The IRC also provides that any amount you receive from your Contract that is included in income may be subject to an IRS tax penalty. The amount of the IRS tax penalty is equal to 10% of the amount that is includable in income. Some withdrawals will be exempt from the penalty. They include any amounts:

- (1) paid on or after the taxpayer reaches age 59 1/2;
- (2) paid after you die;
- (3) paid if the taxpayer becomes totally disabled (as that term is defined in the IRC);
- (4) paid in a series of substantially equal payments made annually (or more frequently) for life or a period not exceeding life expectancy;
- (5) paid under an immediate annuity; or
- (6) that come from purchase payments made prior to August 14, 1982.

With respect to (4) above, if the series of substantially equal periodic payments is modified (unless under permitted exceptions) before the later of your attaining age 59 1/2 or 5 years from the date of the first periodic payment, then the tax for the year of the modification is increased by an amount equal to the tax which would have been imposed (the 10% penalty tax) but for the exception plus interest for the tax years in which the exception was used. Other exceptions may apply to Qualified Contracts.

Taxation of Death Benefit Proceeds. Amounts may be distributed from a Contract because of your death or the death of the Annuitant. Generally, these amounts are taxed to the recipient if distributed in a lump sum, in the same manner as a surrender of the Contract.

Partial 1035 Exchanges. Section 1035 of the IRC provides that a Contract may be exchanged in a tax-free transaction for another annuity contract. The IRS has also ruled that a partial exchange of an annuity contract, whereby a portion of an annuity contract is directly transferred into another annuity contract, would also qualify as a non-taxable exchange. IRS guidance provides that if a distribution occurs from either of the contracts involved within 180 days of a partial exchange that the IRS may apply general tax principles to determine the substance and hence, the treatment of the transfer. This could result, for example, in the subsequent distribution being treated as money received in the exchange. This 180 day rule does not apply to subsequent distributions taken to effect another 1035 exchange. The IRS guidance also provides that Partial 1035 exchanges are disregarded for purposes of determining whether 2 or more deferred annuity contracts have been purchased from an insurer and its affiliates in a 12 month period. Contract owners should consult their own qualified tax advisers prior to entering into a partial exchange of an annuity contract.

Medicare Tax. Distributions from Contracts are considered "investment income" for purposes of the Medicare tax on investment income. Thus, in certain circumstances, a 3.8% tax may be applied to some or all of the taxable portion of distributions (e.g. earnings) to individuals whose income exceeds certain threshold amounts (\$200,000 for filing single, \$250,000 for married filing jointly and \$125,000 for married filing separately.) Please consult a tax advisor for more information.

Transfers, Assignments or Exchanges of a Contract. Transferring or assigning Contract ownership, pledging the Contract as security for a loan, designating an Annuitant, payee or other Beneficiary who is not also the Owner, selecting certain annuity start dates, or exchanging a Contract can have other tax consequences that we don't discuss here. We will not record a transfer of ownership unless you tell us the transfer is a gift or, if not, the amount the new owner paid for the Contract. This information is required for tax reporting purposes. If you're thinking about any of those transactions, contact a qualified tax adviser.

Annuity Payments. Although the tax consequences may vary depending on the annuity payment option you select, in general, only a portion of the annuity payments you receive will be includable in your gross income. In general, the excludable portion of each annuity payment you receive will be determined as follows: by dividing the "investment in the contract" on the annuity commencement date by the total expected return of the annuity payments for the term of the payments. This is the percentage of each annuity payment that is excludable.

The remainder of each annuity payment is includable in gross income. Once the "investment in the contract" has been fully recovered, the full amount of any additional annuity payments is includable in gross income and taxed as ordinary income.

If, after the annuity commencement date, annuity payments stop because an Annuitant died, the excess (if any) of the "investment in the contract" as of the annuity commencement date over the aggregate amount of annuity payments received that was excluded from gross income may possibly be allowable as a deduction in your tax return. You should consult a tax adviser before electing the Initial Payment Guarantee or a feature with stabilized payments.

Partial Annuitization. If part of an annuity contract's value is applied to an annuity that provides payments for one or more lives or for a period of at least ten years, those payments will be taxed as annuity payments instead of withdrawals. While the Contract does not offer partial annuitization, this treatment may be obtained through a Partial 1035 Exchange (as described above) to an immediate annuity contract. Please note that if you choose to apply part of your Accumulation Value to a Fixed Period Annuity for less than ten years, those payments will be taxed less favorably, as withdrawals, rather than as annuity payments. Consult your tax advisor. See "The Contract—the Annuity Period."

WITHHOLDING

Annuity distributions are usually subject to withholding for the recipient's federal income tax liability at rates that vary according to the type of distribution and the recipient's tax status. However, recipients can usually choose not to have tax withheld from distributions.

MULTIPLE CONTRACTS

In determining gross income, IRC Section 72(e) will generally treat as one contract all TIAA Life and TIAA Non-Qualified deferred annuity Contracts issued to the same Owner during any calendar year. This could affect when income is taxable and how much might be subject to the 10 percent penalty tax (see above). Consult a qualified tax adviser before buying more than one annuity Contract for the purpose of gaining a tax advantage.

Annuity Purchases by Residents of Puerto Rico. The IRS has announced that income received by residents of Puerto Rico under life insurance or annuity contracts issued by a Puerto Rico branch of a United States life insurance company is U.S.- source income that is generally subject to United States federal income tax.

Annuity Purchases by Nonresident Aliens and Foreign Corporations. The discussion above provides general information regarding U.S. federal income tax consequences to annuity purchasers that are U.S. citizens or residents. Purchasers that are not U.S. citizens or residents will generally be subject to U.S. federal withholding tax on taxable distributions from annuity contracts at a 30% rate, unless a lower treaty rate applies.

In addition, such purchasers may be subject to state and/or municipal taxes and taxes that may be imposed by the purchaser's country of citizenship or residence. Additional withholding may occur with respect to entity purchasers (including foreign corporations, partnerships and trusts) that are not U.S. residents. This contract may not be available to certain foreign entity purchasers.

Prospective purchasers are advised to consult with a qualified tax adviser regarding U.S., state, and foreign taxation with respect to an annuity Contract purchase.

OTHER TAX ISSUES

Possible Charge for TIAA Life's Taxes. Currently, we do not charge the Contracts for any federal, state, or local taxes on it other than premium taxes (See "The Contract"—"Charges"—"Premium Taxes"), but we reserve the right to charge the Contracts for any tax or other cost resulting from tax laws that we believe should be attributed to the Contracts.

Foreign Tax Credits. We may benefit from any foreign tax credits attributable to taxes paid by certain funds to foreign jurisdictions to the extent permitted under federal tax law.

Federal Estate Taxes, Generation-Skipping Transfer Taxes. While no attempt is being made to discuss in detail the federal estate tax implications of the Contract, a purchaser should keep in mind that the value of an annuity Contract owned by a decedent and payable to a Beneficiary by virtue of surviving the decedent is included in the decedent's gross estate. Depending on the terms of the annuity Contract, the value of the annuity included in the gross estate may be the value of the lump sum payment payable to the designated Beneficiary or the actuarial value of the payments to be received by the Beneficiary. Consult an estate planning adviser for more information.

Under certain circumstances, the IRC may impose a "generation skipping transfer tax" ("GST") when all or part of an annuity Contract is transferred to, or a death benefit is paid to, an individual two or more generations younger than the Owner. Regulations issued under the IRC may require us to deduct the tax from your Contract, or from any applicable payment, and pay it directly to the IRS.

For 2019, the federal estate tax, gift tax and GST tax exemptions and maximum rates are \$11.4 million and 40%, respectively. The potential application of these taxes underscores the importance of seeking guidance from a qualified adviser to help ensure that your estate plan adequately addresses your needs and those of your beneficiaries under all possible scenarios.

Premium Taxes. Some states, the District of Columbia, and Puerto Rico assess premium taxes on the premiums paid under the Contract. We will deduct the total amount of premium taxes, if any, from your accumulation based on current state insurance laws, subject to the provisions of your contract, and our status in the state. Generally, the premium taxes range from 0% to 3.5% depending on the state.

Possible Tax Law Changes. Although the likelihood of legislative changes is uncertain, there is always the possibility that the tax treatment of the Contract could change by legislation or otherwise. Consult a tax adviser with respect to legislative developments and their effect on the Contract. We have the right to modify the Contract in response to legislative changes that could otherwise diminish the favorable tax treatment that annuity contract owners currently receive. We make no guarantee regarding the tax status of any Contract and do not intend the above discussion as tax advice.

TAX ADVICE

What we tell you here about federal and other taxes isn't comprehensive and is for general information only. It doesn't cover every situation and cannot be used to avoid any tax. Taxation varies depending on the

circumstances, and state and local taxes may also be involved. For complete information on your personal tax situation, check with a qualified tax adviser.

TIAA-CREF LIFE INSURANCE COMPANY

Business Overview

We are a stock life insurance company and were organized under the laws of the state of New York on December 18, 1996. We commenced operations under our former name, TIAA Life Insurance Company and changed our name on May 1, 1998. Our headquarters are located at 730 Third Avenue, New York, NY 10017-3206. We are a wholly-owned subsidiary of TIAA. We are subject to regulation by the New York State Department of Financial Services as well as by the insurance regulatory authorities of all the states and certain other jurisdictions. We are licensed to issue life insurance and annuity products in all 50 states and the District of Columbia.

Our primary products are annuities, life insurance, funding agreements and separate account guaranteed interest contracts (“SAGIC”). The annuities and life insurance products are marketed directly to individuals or to individuals through an insurance group trust while the funding agreements are issued directly to states and to institutions. The SAGIC product is an unallocated, non-participating deposit type contract in the separate account and is designed as an investment vehicle offered to trustees and/or plan sponsors of stable value funds. Our individual products are available to the general public. We market primarily to the individuals who own retirement annuities or insurance policies issued by our parent, TIAA, and beginning May, 2012, TIAA Life expanded its marketing reach beyond its historic TIAA customer base to target general public prospects that may not have any affiliation with TIAA or TIAA Life, using independent third party insurance distributors. TIAA provides retirement annuities and insurance coverage to educational, research, and cultural institutions, other nonprofit organizations and certain governmental entities across the United States.

We operate four primary business segments, which are defined as our major products: Individual Annuities, Life Insurance, Funding Agreements and SAGIC. Additional information concerning our business segments may be found in “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” included herein.

Individual Annuities

The Individual Annuities business segment issues (and provides customer service for) a number of individual after-tax annuity products. We distribute our annuity products through non-commissioned agents appointed by us. Those agents selling variable annuities and/or modified guaranteed annuities are also registered representatives of our affiliated broker-dealers. We offer both flexible premium deferred annuities and single premium immediate annuities.

Our variable annuities offer contract owners the opportunity to invest in various investment subaccounts of the separate accounts, based on the contract owners’ investment allocation decisions, while some of the variable annuities also offer a fixed account option through our general account, which guarantees principal and a minimum interest rate. The separate accounts that support our variable annuities are registered with the United States Securities and Exchange Commission (“SEC”) as unit investment trusts, and their assets are invested in corresponding portfolios of the TIAA-CREF Life Funds, a Delaware statutory trust registered with the SEC under the Investment Company Act of 1940 (File No. 811-08961) as an open-end management investment company, or in other, non-proprietary funds.

At December 31, 2018, the general account reserves associated with our outstanding individual annuities were approximately \$1,410.6 million, and total separate account liabilities associated with outstanding individual annuities were approximately \$2,509.6 million.

Life Insurance

The Life Insurance business segment distributes term life insurance, universal life insurance and variable universal life insurance. We sell our life insurance products through non-commissioned agents appointed by us and through commissioned agents appointed by us but who operate under distribution agreements between us and the independent distribution agencies with which they are affiliated. Those non-commissioned agents selling variable insurance products are also registered representatives of our affiliated broker-dealers. Those commissioned independent agents selling variable insurance products are also registered representatives of independent broker-dealers who enter into selling agreements with our affiliated principal underwriting broker-dealer. Our primary marketing efforts for term life insurance products involve direct mail and an Internet web site to direct potential policyholders to apply online, or contact a call center staffed by licensed agents.

The term life insurance product line includes annually renewable term and level premium term life insurance policies, both of which offer level death benefit coverage until the policies' expiration dates. Universal life insurance policies include single life and last survivor individual non-participating flexible premium adjustable life insurance contracts. Variable universal life insurance policies include single life and last survivor individual non-participating flexible premium variable life insurance contracts. Assets associated with variable universal life insurance policies are held in various investment subaccounts of separate accounts, based on policyholders' investment allocation decisions. Those separate accounts are registered with the SEC as unit investment trusts, and their assets are invested in the corresponding portfolios of the TIAA-CREF Life Funds or in other, non-proprietary funds.

Underwriting. We establish underwriting policies for risk selection and classification. The information that we use to perform our underwriting includes information from the insurance application, inspection reports, attending physician statements, medical examinations or other pertinent information. This information is then used to determine whether we will issue the policy as applied for or other than applied for (i.e., with modifications that are acceptable to us), or whether we will reject the insurance application. The various requirements for the information that we use in our underwriting vary by the age of the applicant and by the amount of coverage being requested. For certain risks, we may also use reinsurers to assist us in the evaluation of the risk.

Reinsurance. We use reinsurance to manage risk by ceding (i.e., transferring) some of our insurance reserve liabilities to other insurance and reinsurance companies. Even when we enter into a reinsurance contract with another insurance or reinsurance company, we will retain liability with respect to ceded insurance should the reinsurer fail to meet its obligations. Our maximum retention is \$1.5 million for one insured life and \$2.5 million for two insured lives for contracts issued prior to June 27, 2006, and \$5.0 million for one insured life and \$9.0 million for two insured lives for contracts issued on or after June 27, 2006. For contracts issued after May 1, 2012, our maximum retention is \$15 million on one insured life and \$20 million for two insured lives. Our maximum retention is less for certain issue ages and underwriting classifications.

At December 31, 2018, we had total life insurance in force of approximately \$59.3 billion, of which approximately \$39.0 billion was ceded through reinsurance. At December 31, 2018, total policy reserves held in our general account associated with life insurance policies in force on that date were approximately \$2,220.5 million, and separate account liabilities associated with outstanding variable universal life policies were approximately \$360.9 million.

Funding Agreements

Our Funding Agreements business segment currently focuses on providing non-participating flexible premium funding agreements, which are issued from our general account, to support education-related investment and/or savings programs sponsored by various states. Several states sponsor a 529 college savings plan (named after section 529 of the Internal Revenue Code ("IRC")), and each plan is a tax-advantaged investment and savings program designed to encourage account owners to save for the future higher education expenses of a designated beneficiary. Some states offer a guaranteed option to those investing in the state's college savings

plan, and we provide funding agreements to certain states to support their guaranteed option, which guarantees a return of account owners' principal, with interest. We can also make available a funding agreement to any state that provides a state scholarship program for those seeking higher education.

We currently have funding agreements with eleven states including California, Connecticut, Georgia, Kentucky, Michigan, Minnesota, Mississippi, Oklahoma, Oregon, Vermont, and Wisconsin. There are 24 funding agreements in 11 states that have current state 529 plans. At December 31, 2018, the general account reserves associated with our Funding Agreements were approximately \$3,993.1 million.

Separate Account Guaranteed Interest Contracts

TIAA Life issued its first SAGIC contract in 2012. The contracts will generally be issued to the trustees of stable value funds (commingled and custom single client funds) and will represent one of the funding vehicles of such funds. The contracts may also be issued directly to defined contribution plan sponsors (or the trustee for the plan) in order to be used as a funding vehicle for the stable value option offered to the plan's participants.

There were no deposits into SAGIC contracts during 2018 and withdrawals of \$73.8 million in 2018. At December 31, 2018, the separate account reserves associated with the SAGIC product were approximately \$2,105.2 million.

Additional Business Considerations

In addition to the preceding description of the products that we distribute through our four primary business segments, there are other elements of our business operations that may affect our operating performance and our financial condition.

Investments

Our general account investment portfolio primarily consists of bonds, stocks, cash, short-term investments and other long-term investments. Our total assets were approximately \$13,267.2 million at December 31, 2018. Of this total amount, the assets in the separate accounts equaled approximately \$5,016.4 million, and those in the general account equaled approximately \$8,250.8 million. Our overall general account portfolio quality was very high with 99.4% of our total invested assets classified as investment grade with approximately 0.6% of our portfolio below investment grade.

The selection and management of our general account investment portfolio reflect the asset/liability analyses that we perform for our various business segments and the specific products that they issue. Our investment objective is to earn the highest possible rates of return within reasonable risk parameters while ensuring a prudently diversified portfolio.

The Notes to "TIAA-CREF Life Insurance Company's Statutory-Basis Financial Statements," included herein, contain additional information about our investment portfolio and explain how we value each asset class under the statutory accounting principles that we follow, in accordance with the insurance regulatory framework with which we must comply.

Policy Liabilities and Accruals

The applicable state insurance laws under which we operate require that we record policy liabilities to meet the future obligations associated with all of our outstanding policies. These liabilities are calculated in accordance with such applicable state insurance laws and are the amounts that allow us to make adequate provision for the anticipated future cash flows required by our contractual obligations on all outstanding policies. These state insurance laws specify the calculation method(s), mortality rates and interest rates that we are required to use, in order to determine the minimum required liabilities for the various policy types that we issued and have outstanding.

Federal Income Tax Consequences

Our earnings are subject to federal income tax rules similar to those applied to other corporations. However, the IRC contains specific provisions relevant to life insurance companies that impact the amount and timing of certain income and deductible amounts. Such items include, but are not limited to, the treatment of our policy and contract reserves and acquisition costs.

Employees

We do not currently have any employees. Our operational needs are provided by TIAA and certain of its direct and indirect wholly-owned subsidiaries, pursuant to various service, investment management, administrative, selling and distribution agreements, or by third party service providers under separate agreements. Under the agreements with TIAA and its subsidiaries, we reimburse TIAA (and TIAA reimburses its applicable subsidiaries) for certain costs associated with providing these services. We believe that such services are most efficiently performed in this manner to meet our operational needs and that we, thereby, avoid duplicate costs among us, TIAA, and its applicable subsidiaries.

Properties

The Company has no business offices. Our business activities are transacted in facilities owned or leased by TIAA in New York, North Carolina, and several other states pursuant to an inter-company service agreement between the two companies.

Summary Information and Risk Factors

The operating results of insurance and annuity companies have historically been subject to significant fluctuations. The potential risk factors that could affect our future results include, but are not limited to, general economic conditions and the trends and uncertainties that are discussed more fully below.

We operate in a mature, highly competitive industry and that could limit our ability to gain or maintain our competitive position in the industry, which could negatively affect our future profitability.

The life insurance and annuity industry in which we operate is a very mature industry and is highly competitive, with many companies of varying sizes offering products that are similar to ours and distributing them through a variety of marketing channels. We compete in the sale of our products with a large number of insurance companies, investment management firms, mutual fund companies, banks and other types of competitors. Many of the entities with whom we compete are larger, have been established for a longer period of time, have broader distribution channels and/or have more resources than we do. Furthermore, larger competitors may be better able than we are to lower their operating costs or have a better ability to absorb greater risk, while maintaining their financial strength ratings, which may allow them to price their products more competitively.

We offer life insurance protection products, cash value accumulation life insurance products and annuity products designed to meet the demands of an aging population with evolving retirement savings and wealth protection needs.

Competition in each of our businesses is based on a number of factors, which include investment performance, efficiency and ease of distribution, servicing capability, range of products, product quality, features and innovation, competitive fees, financial strength and organizational reputation. Our competitive strengths include our low expenses, historically high credited interest rates, good customer service and, for certain of our products, low liquidity demands, which permit us to invest the related assets in less liquid, longer-term, higher yielding investments, which in turn improves our ability to deliver strong long-term investment performance. We believe that we are well positioned to maintain and even increase our market position in the face of this competition; however, there are risks to our ability to meet that goal. Our continued ability to compete depends

upon many internal and external factors that may affect us. Some of the internal factors that may affect our future competitiveness include our ability to market to target customers, our ability to effectively market to fee-based financial advisors and to independent insurance agents, our ability to develop and maintain competitive products, our ability to maintain an appropriate cost structure and our ability to maintain strong financial strength ratings from the nationally recognized rating agencies. Some of the external factors that may affect our future competitiveness include potential changes in the tax treatment of the products that we offer, changes in the relative competitive strengths of the other entities in our marketplace, and the continuing evolution of financial products and services offered by our competitors.

Substantial regulation of the insurance and annuity industry may adversely affect our business.

We are licensed to transact our life insurance and annuity business in all 50 states and the District of Columbia, and we are subject to substantial government regulation in each of the jurisdictions in which we are licensed. Such regulation includes, among others, the authority to grant or revoke operating licenses and to regulate premium rates, benefits, marketing and sales practices, advertising, the form and content of policy forms, underwriting standards, deposits of securities, investments, accounting practices and the maintenance of specified reserves and capital adequacy. Such regulation is concerned primarily with the protection of contract owners rather than stockholders or general creditors.

Most jurisdictions also have laws requiring companies like us to participate as members of their life and health insurance guaranty associations. These associations levy assessments on all member insurers based on the proportionate share of the premiums written by each member in the lines of business in which an impaired or insolvent insurer is engaged. While the amount of future assessments cannot be accurately predicted, we may be required to allocate funds to satisfy unanticipated assessments in the future, and that could adversely affect our results of operations for the period when those assessments occur.

We are required to file detailed annual statutory-basis financial statements with supervisory agencies in each of the jurisdictions in which we are licensed. We are also subject to examination by such agencies at regular intervals.

As life insurers introduce new and often more complex products, regulators may refine capital requirements and introduce new reserving standards for the life insurance industry. Regulations recently adopted or currently under review can potentially impact the reserving/capital requirements and marketing/sales practices for certain products, particularly variable annuities and the optional guaranteed benefits offered with these products.

If an insurer's risk-based capital falls below specified levels, the insurer would be subject to different degrees of regulatory action, depending upon the level. Possible regulatory actions range from requiring the insurer to take actions to correct the risk-based capital deficiency to placing the insurer under regulatory control.

While the life insurance industry is primarily regulated at the state level, some products are also subject to federal regulation. Various federal and state securities regulators and self-regulatory organizations, such as the SEC and the Financial Industry Regulatory Authority ("FINRA"), continue to review and, in many cases, adopt changes to their established rules and policies in areas such as corporate governance, mutual fund trading, mutual fund and variable annuity distribution practices, disclosure practices and auditor independence that can impact the insurance industry.

In recent years, various legislative proposals have also been introduced in Congress that called for the federal government to assume some role in the regulation of the insurance industry. To date, none of the Congressional proposals has been enacted. We cannot predict what form any such future proposals might take or what effect, if any, such proposals might have on us if enacted into law. Any legislation that increases government regulation of the industry may have an adverse effect on our operations. Compliance with applicable laws and regulations is time consuming and personnel-intensive, and changes in these laws and regulations may materially increase both our direct and indirect compliance-related costs and other expenses of doing business, thus potentially having a material adverse effect on our financial results.

Future changes in laws and regulation, including the tax treatment of the products we sell, may adversely affect our business.

Federal legislation, administrative policies and court decisions can significantly and adversely affect our business in relation to product tax issues and taxation generally. For example, the following events could adversely affect our business:

- Changes in tax laws that would reduce or eliminate the tax-deferred accumulation of earnings on the premiums paid by the holders of annuities and life insurance products;
- Reductions in income tax rates which reduce the value of tax-deferral; or
- Repeal of the federal estate tax

Existing federal laws and regulations affect the taxation and, as a result, the relative attractiveness of the products that we issue. Income tax on investment earnings during the accumulation period of certain life insurance and annuity products is generally deferred for contract owners. This favorable tax treatment may give certain of our products a competitive advantage over other, non-insurance products. To the extent that the IRC may be revised in the future to reduce or eliminate the tax-deferred advantage of life insurance and/or annuity products, or may be revised to create or increase the tax-deferred treatment of competing products, all life insurance companies could be adversely affected with respect to their ability to sell life insurance and/or annuity products. Also, depending upon any grandfathering provisions that may be created if the IRC were revised to reduce or eliminate the tax-deferred advantage of life insurance and/or annuity products, we could be adversely affected by the surrenders of existing annuity contracts and/or life insurance policies.

Additionally, if enacted, currently proposed changes in the federal tax law that would establish new tax-advantaged retirement and life savings plans could reduce the relative benefits of investing in life insurance and/or annuity products. Such proposals include changes that may create new non-insurance vehicles for tax-exempt savings.

The individual provisions of the Act may impact contract owners' personal tax situations, including the benefit of tax-deferral. However, we have not identified any provisions of the Act that would diminish the favorable tax treatment that annuity contract owners currently receive. Contract owners should discuss the possibility of such impacts with their tax advisers.

We cannot predict what additional changes, if any, to existing tax law, or the relevant interpretations of such tax law, may ultimately be enacted or adopted, and, as a result, we cannot predict whether any such changes will adversely affect the future taxation of our operations.

A downgrade in our ratings from the nationally recognized rating agencies could materially and adversely affect many aspects of our business.

Ratings from the nationally recognized rating agencies are an important factor in the competitive positioning of life insurance and annuity companies. A downgrade in our ratings could have a material adverse effect on our business, financial condition and operating results. In addition, a downgrade in our ratings could adversely affect (i) our ability to sell certain of our products and (ii) the returns on the insurance and annuity products we issue and, ultimately, (iii) the results of our operations. Rating agencies regularly review the operating performance and financial condition of insurers, including us. Rating agencies assign ratings based upon several factors. While most of the factors relate to the rated company, some of the factors relate to the views of the rating agency about the rated company's industry, general economic conditions and circumstances outside the rated company's control. In addition, rating agencies use various models and formulas to assess the strength of a rated company, and may, from time to time, alter their models. Changes to the rating agencies' models could impact the rating agencies' judgment of the rating to be assigned to the rated company. We cannot predict what actions the rating agencies may take in the future or how those actions could affect us.

A downgrade in TIAA's ratings from the nationally recognized rating agencies could materially and adversely affect many aspects of our business.

We have a financial support agreement with TIAA. Under this agreement, TIAA will provide support so that we will have the greater of (a) capital and surplus of \$250.0 million, (b) the amount of capital and surplus necessary to maintain our capital and surplus at a level not less than 150% of the National Association of Insurance Commissioners ("NAIC") Risk Based Capital model or (c) such other amount as necessary to maintain our financial strength ratings from the nationally recognized rating agencies at least the same as TIAA's ratings at all times. This agreement is not an evidence of indebtedness or an obligation or liability of TIAA and does not provide any of our contract owners with recourse to TIAA.

The risks noted above about a downgrade in our ratings from the nationally recognized rating agencies are also applicable to TIAA, and a downgrade in TIAA's ratings could have a material adverse effect on us because of the terms of the financial support agreement that we have with TIAA. Under one of the provisions of that financial support agreement, TIAA will provide financial support to us as necessary to maintain our financial strength rating at least the same as TIAA's rating at all times. TIAA's Statutory-Basis Financial Statements are included in our Form S-1 Registration Statement filed with the SEC.

Our operating results may be negatively affected in the future if actual experience differs from the assumptions and estimates that management used in underwriting and distributing our products.

Our product pricing includes long-term assumptions regarding investment returns, mortality, morbidity, persistency, operating costs and other expenses of our business. We establish target returns for each product based upon these factors and the average amount of capital that we must hold to support in-force contracts, to satisfy rating agencies' expectations and to meet regulatory requirements. We monitor and manage our pricing and overall sales mix to achieve target returns on a portfolio basis. Profitability from new business emerges over a period of years depending on the nature and life of the product and is subject to variability as actual results may differ from pricing assumptions.

Our profitability depends on the adequacy of investment margins, the management of market and credit risks associated with our investments, the sufficiency of premiums and contract charges to cover mortality and morbidity benefits, the persistency of policies to ensure recovery of acquisition expenses and the management of operating costs and expenses within anticipated pricing allowances. Legislation and regulation of the insurance marketplace and products could also affect our profitability.

Our ability to maintain our competitive cost structure is dependent upon us generating a sufficient level of new sales and achieving our projected persistency of existing business.

Our ability to maintain our competitive cost structure is dependent upon a number of factors, such as us generating a sufficient level of new sales, achieving our projected persistency (i.e., continuation or renewal) of existing business and achieving successful expense management. A decrease in sales or persistency without a corresponding reduction in expenses may result in higher unit costs, which could adversely affect our results of operations.

Interest rate fluctuations and market volatility may affect sales of our products and the profitability of our businesses.

Fluctuations in interest rates, volatility in the securities markets and other economic factors may adversely affect the sales of our products. For example, a decline in market interest rates may result in lower crediting rates on our products, which may adversely affect the desirability of these products to potential customers. Additionally, a protracted period of strong performance of the equity markets could adversely impact the popularity and sales of our fixed annuity products. The level of volatility in the investment markets in which we invest and our overall investment returns also impact our profitability. The profitability of many of our products, and, in particular our annuity products, depend in large part on our ability to manage the spread between the interest rates that we earn on our investments and the interest rates that we credit to holders of our annuity and life insurance products. As markets become more volatile, it can become increasingly difficult to

maintain our anticipated spreads. There can be no assurance that we will be able to successfully manage our spread risk in the future. If we are unable to achieve the interest rate spreads that we projected in pricing our products, our operating performance will be adversely affected.

Additionally, our asset/liability management programs and procedures incorporate assumptions about the relationship between short-term and long-term interest rates (i.e., the slope of the yield curve). In general terms, our results are improved when the yield curve is positively sloped (i.e., when long-term interest rates are higher than short-term interest rates), and will be adversely affected by a flat or negatively sloped yield curve. Our asset/liability management programs and procedures also incorporate assumptions about the relationships between risk-adjusted and risk-free interest rates, market liquidity and other factors. The effectiveness of our asset/liability management programs and procedures may be negatively affected whenever actual results differ from the assumptions that we used.

Equity market volatility and downturns in the equity markets could negatively impact our business.

Significant downturns and volatility in the equity markets could have an adverse effect on our financial condition and results of operations in three principal ways. First, equity market downturns and volatility may discourage purchases of separate account products, such as variable annuities and variable life insurance, because these products have investment returns linked to the performance of the equity markets. Significant downturns and volatility in the equity markets may also cause some of our existing customers to withdraw their cash values or reduce additional investments in those products.

Second, downturns and volatility in the equity markets can have an adverse effect on the revenues that we receive from our separate account products. Because these products generate fees generally from the value of the assets under management, a decline in the equity markets could reduce the value of the investment assets that we manage, thereby reducing our revenues.

Finally, all of our variable annuity products include provisions for guaranteed minimum death benefits that are dependent on or are tied to the investment performance of the assets held within the variable annuity. A significant equity market decline could result in declines in customer account values which could increase our obligation to make payments under guaranteed minimum death benefits in connection with variable annuities. An unexpected increase in such payments could have an adverse effect on our financial condition and results of operations.

Our investments are subject to market and credit risks.

Our invested assets and derivative financial instruments are subject to the risks of credit defaults and changes in market values. Additionally the value of our commercial mortgage loan portfolio depends, in part, on the financial condition of the tenants occupying the properties that we have financed and the strength of the commercial real estate market, both generally and in the specific markets where the financed properties are located. Factors that may affect the overall default rate on and market value of our invested assets, derivative financial instruments and mortgage loans include market interest rate levels, financial market performance and general economic conditions, as well as particular circumstances affecting the businesses of individual borrowers and tenants.

We could be forced to sell investments at a loss to pay contract benefits, cover contract owner withdrawals, or fund maturities.

Many of the products that we offer allow contract owners to withdraw their funds under defined circumstances, often without penalties. We manage our liability structure and configure our investment portfolio to maintain sufficient liquidity to support anticipated withdrawal demands, to pay contract benefits and to fund contract maturities. While we own a significant amount of liquid assets, a certain portion of our assets are relatively illiquid. If we experience unanticipated withdrawal, benefit payment or surrender activity, we could exhaust the liquid assets and be forced to liquidate other assets, perhaps on unfavorable terms and incur losses. If we are forced to dispose of assets on unfavorable terms and incur losses, it could have an adverse effect on our financial condition.

We are dependent on the performance of others.

In addition to our reliance on the financial and administrative performance of our reinsurers, which we describe in the next section, our business and operating results may be affected by the performance of others because we have entered into various arrangements involving services provided by other parties. For example, we distribute life insurance products through independent distributors where we do not control their activity as we do with our captive employee agents. Also, a substantial portion of our business is administered by third parties on our behalf. Because certain of these other parties may act on our behalf or represent us in various capacities, we may be held responsible for obligations that arise from the acts or omissions of these other parties. Additionally, our business operations are dependent on various technologies, some of which are provided and/or maintained by other parties.

As with all financial services companies, our ability to conduct business is dependent upon consumer confidence in the industry and in our products. The future actions of our competitors and the potential financial difficulties of other companies in the industry could undermine consumer confidence and adversely affect our retention of existing business and the future sales of our life insurance and annuity products.

Our reinsurers could fail to meet assumed obligations, significantly increase their reinsurance rates, or be subject to adverse developments that could adversely affect our business, our operating results or our organizational reputation.

We cede (i.e., transfer) material amounts of life insurance coverage sold by us to other insurance companies through reinsurance and transfer the related assets to our reinsurers. Notwithstanding the transfer of the related assets, we remain liable with respect to the ceded insurance coverage should any reinsurer fail to meet the obligations assumed by it. Therefore, the financial failure of one or more of our reinsurers could negatively impact our earnings and financial position.

Our ability to compete in the insurance industry is dependent on the availability of reinsurance or other substitute capital market solutions. Our premium rates are based, in part, on the assumption that reinsurance will be available to us at a certain cost. Under certain reinsurance agreements, the reinsurer may prospectively increase the rate it charges us for the reinsurance that we have ceded to the reinsurer. Therefore, if the cost of reinsurance were to increase, or if reinsurance were to become unavailable and if alternatives to reinsurance were not available to us, our profitability could be adversely affected.

In recent years, the number of life reinsurers has decreased as the reinsurance industry has continued to consolidate. Access to reinsurance has become more costly for us as well as for the insurance industry in general. This could have a negative effect on our ability to compete successfully in the future. The decreased number of participants in the life reinsurance market also results in an increased concentration risk for insurers, including us. If the reinsurance market further contracts, our ability to continue to offer our products on favorable terms could be adversely impacted.

Financial service companies are frequently the targets of litigation, including class action litigation, which could result in substantial judgments. Although we are not currently involved in any significant litigation, there can be no assurance that material litigation will not arise in the future.

We may become subject to class action and individual lawsuits alleging, among other things, issues relating to sales or underwriting practices, claims payments and procedures, product design, product disclosure, administration, denial or delay of benefits, charging excessive or impermissible fees on products, recommending unsuitable products to customers and breaching fiduciary or other duties to customers. Plaintiffs in class action and other lawsuits may seek very large or indeterminate amounts, including punitive and treble damages, which may remain unknown for substantial periods of time. While we are not a party to any current litigation that could have a material adverse effect on us, litigation may arise in the future that may result in material financial losses or require significant management resources.

We are also subject to various regulatory inquiries, such as information requests, subpoenas and examinations of our books and records, by state and federal regulators and other authorities. A substantial legal liability or a

significant regulatory action against us could have an adverse effect on our business, financial condition and results of operations. Moreover, even if we ultimately prevail in the litigation, regulatory action, or investigation, we could suffer significant reputational harm, which could also have an adverse effect on our business, financial condition and results of operations.

Our computer systems (or those of our service providers) may fail or their security may be compromised, which could damage our business and adversely affect our financial condition and results of operation.

Our business is highly dependent upon the effective operation of our computer systems and those of our affiliated and unaffiliated service providers. We rely on these systems throughout our business for a variety of functions, including processing applications and claims, providing information to customers, regulatory bodies and distributors, performing actuarial analyses and maintaining our financial records. Despite our implementation of what we consider to be prudent security and back-up measures, our computer systems and those of our business partners may be vulnerable to physical or electronic intrusions, computer viruses or other attacks, programming errors and similar disruptive problems. The failure of these systems for any reason could cause significant interruptions to our operations, which could result in a material adverse effect on our business, financial condition or results of operation.

We retain confidential information in our computer systems and those of our service providers, and we rely on sophisticated commercial technologies to maintain the security of those systems. Anyone who is able to circumvent our security measures and/or penetrate our computer systems and/or those of our service providers could access, view, misappropriate, alter, or delete any information in the systems, including personally identifiable customer information and proprietary business information. An increasing number of states require that customers be notified if a security breach results in the disclosure of personally identifiable customer information. Any compromise of the security of our computer systems and those of our service providers that results in inappropriate disclosure of personally identifiable customer information could damage our reputation in the marketplace, deter people from purchasing our products, subject us to significant civil and criminal liability and require us to incur significant technical, legal and other expenses.

We are exposed to unanticipated risks, such as natural disasters, pandemics and malicious or terrorist acts, which could adversely affect our operations.

While we have implemented what we believe are prudent risk management and contingency plans and have taken other preventive measures and precautions, we could still be affected by scenarios that could have an adverse effect on us. In addition, our policies and procedures to identify, monitor and manage risks may not be fully effective. Many of our methods of managing risk and exposures are based upon historical market behavior or statistics based on historical models. As a result, these methods may not predict future exposures, which could be significantly greater than historical measures would indicate. Other risk management methods depend on the evaluation of information regarding markets, clients, catastrophe occurrence or other matters that is publicly available or otherwise accessible to us; however, this information may not always be accurate, complete, up-to-date or properly evaluated.

A natural disaster (such as hurricanes, floods, earthquakes and tornadoes), a pandemic, or an outbreak of an easily communicable disease could adversely affect our mortality or morbidity experience or that of our reinsurers. Such events could also have an adverse effect on lapses and surrenders of existing policies, as well as a reduction in the sales of new policies. In addition, we are exposed to various risks arising from man-made disasters, including acts of terrorism, malicious acts and military action. All of these types of risks may adversely affect our results of operations and financial condition. For example, the possible macroeconomic effects of such events could also adversely affect our investment portfolio. Additionally, the disruption of our normal business operations due to catastrophic property damage, loss of life, or disruption of public and private infrastructure, including communications and financial services, could have a negative effect on us. While we have a business continuation and crisis management plan, there is no assurance that our plan and insurance coverages would be completely effective in mitigating any negative effects on our operations or profitability in the event of such a disaster.

We may be exposed to risks in the future that we have not yet identified or that we do not currently consider to be material risks.

The preceding risks may not be the only risks facing us in the future. Additional risks and uncertainties not currently known to us, or that we currently deem to be immaterial, may adversely affect our business, financial condition and/or operating results in the future.

Market Price of and Dividends on the Registrant's Common Equity and Related Stockholder Matters.

There is no established public trading market for our common stock. All of our outstanding shares are owned by TIAA. As of March 22, 2019, we had issued and outstanding 2,500 shares of common stock, \$1,000 par value per share.

Insurers are subject to various state statutory and regulatory restrictions on the insurers' ability to pay dividends. Under the New York Insurance Law, we are permitted without prior insurance regulatory clearance to pay a stockholder dividend as long as the aggregated amount of all such dividends in any calendar year does not exceed the lesser of (i) 10% of its surplus to policyholders as of the immediately preceding calendar year and (ii) its net gain from operations for the immediately preceding calendar year (excluding realized investment gains).

GENERAL MATTERS

TELEPHONE AND INTERNET

To speak with a customer service representative to make requests related to your Contract or to obtain more information, you can call the Administrative Office toll-free at 877-694-0305.

You can also use the TIAA Web Center's account access feature to check your Contract Accumulation. To use the Web Center's account access feature, access the TIAA Internet home page at www.tiaa.org.

CONTACTING TIAA LIFE

We will not consider any notice, form, request, or payment to have been received by us until it reaches our Administrative Office. We will not be deemed to have received any Premiums sent to the addresses designated in this prospectus for remitting Premiums until the third party service that administers the receipt of mail through those addresses has processed the payment on our behalf. You can ask questions by calling toll-free 877-694-0305.

ELECTRONIC PROSPECTUSES

If you received this prospectus electronically and would like a paper copy, please call toll-free at 877-694-0305, and we will send it to you.

DELAYS IN PAYMENTS

We have the right to defer withdrawals from the Short Term Holding Account for up to six months. If we defer such withdrawals for 10 or more Business Days, we will credit interest to such amounts at the rate we are currently crediting to the Short Term Holding Account, but not less than your Contract's minimum guaranteed interest rate. If, at any time, applicable state law requires the crediting of a higher rate of interest, we will credit such higher rate.

HOUSEHOLDING

To cut costs and eliminate duplicate documents sent to your home, we may begin mailing only one copy of the prospectus, prospectus supplements, or any other required documents, to your household, even if more than one Contract owner lives there. If you would prefer to continue receiving your own copy of any of these documents, you may write us or call us toll-free at 877-694-0305.

SIGNATURE REQUIREMENTS

For some transactions, we may require your signature to be notarized or guaranteed by a commercial bank or a member of a national securities exchange.

ERRORS OR OMISSIONS

We reserve the right to correct any errors or omissions on any form, report or statement that we send to you.

LOANS

Loans are not available under your Contract.

OTHER ADMINISTRATIVE MATTERS

The Contract and the completed application are the entire contractual agreement between you and TIAA Life. We will issue the Contract in return for your completed application and the first Premium. Any endorsement to or amendment of the Contract or waiver of any of its provisions will be valid only if in writing and signed by an executive officer or a registrar of TIAA Life. All benefits are payable at our home office at 730 Third Avenue, New York, NY 10017-3206 or at our Administrative Office.

ASSIGNMENT OF CONTRACTS

You may not assign the entire Contract. Subject to our prior approval of your written notice and request to us, you may assign available Contract Accumulation (which is Contract Accumulation not already subject to an assignment). We assume no responsibility for the validity of any assignment of Contract Accumulation, nor will notice to us of any assignment be effective unless it is in writing and has been received in Good Order and approved by us. The rights of the Contract owners, Annuitant, any Second Annuitant, any Beneficiaries and any other person to receive benefits under your Contract will be subject to the terms of any assignment. You should consult a qualified tax adviser before making any assignment of your Contract. We reserve the right to restrict any such assignment of Contracts in our sole discretion on a non-discriminatory basis, except where any such restriction would be prohibited by state law. You may not assign annuity payments.

PAYMENT TO AN ESTATE, GUARDIAN, TRUSTEE, ETC.

We reserve the right to pay in one sum the commuted value of any benefits due an estate, corporation, partnership, trustee or other entity that is not a natural person. TIAA Life will not be responsible for the conduct of any executor, trustee, guardian, or other third party to whom payment is made.

BENEFITS BASED ON INCORRECT INFORMATION

If the amounts of benefits provided under a Contract were based on information that is incorrect, benefits will be recalculated on the basis of the correct data. If any overpayments or underpayments have been made by us, appropriate adjustments will be made.

PROOF OF SURVIVAL

We reserve the right to require satisfactory proof that the Annuitant, Second Annuitant, or anyone named to receive benefits under a Contract is living on the date payment is due. If this proof is not received in Good Order after a request in writing, we will have the right to make reduced payments or to withhold payments entirely until such proof is received. If under a Two-Life Annuity we have overpaid benefits because we were not notified of a death, we will reduce or withhold subsequent payments until the amount of the overpayment has been recovered by us with appropriate adjustments.

PROTECTION AGAINST CLAIMS OF CREDITORS

The benefits and rights accruing to you or any other persons under the Contract are exempt from the claims of creditors or legal process to the fullest extent permitted by law.

PROCEDURES FOR ELECTIONS AND CHANGE

You have to make any changes or elections under the Contract in a form acceptable to us at our home office at 730 Third Avenue, New York, NY 10017-3206 or at our Administrative Office. If you send us a notice changing your Beneficiaries or other persons named to receive payments, it will take effect as of the date it was signed by you, even if you then die before the notice actually reaches us. Any other notice will take effect as of the date we receive it. If we take any action in good faith before we receive a valid notice, we will not be subject to liability even if our acts were contrary to what you told us in the notice. If a joint owner has been named and both owners are living, authorization from both owners is required for changes and transactions other than the allocation of Premiums.

REPORTS

At least once each year, we will send you a report showing your current Contract Accumulation, FTD Values, interest credited, surrender charges deducted and MVAs applied, if any, during the period covered by the report, and any other information required by law.

RELIANCE ON EXEMPTION FROM 1934 ACT REPORTING

We are relying on Rule 12h-7 under the Securities Exchange Act of 1934 (the “1934 Act”), which provides an exemption from the reporting requirements of Sections 13 and 15(d) of the 1934 Act.

OTHER INFORMATION

Every state has some form of unclaimed property laws that impose varying legal and practical obligations on insurers and, indirectly, on Contract owners, Insureds, Beneficiaries and other payees of proceeds. Unclaimed property laws generally provide for escheatment to the state of unclaimed proceeds under various circumstances.

Contract owners are urged to keep their own, as well as their Insureds’, Beneficiaries’ and other payees’, information up to date, including full names, postal and electronic media addresses, telephone numbers, dates of birth, and social security numbers. Such updates should be communicated in writing to TIAA-CREF Life Insurance Company, Administrative Office, P.O. Box 724508, Atlanta, Georgia 31139, by calling us between the hours of 8:00 a.m. and 6:00 p.m. ET, Monday-Friday, toll-free at 877 694-0305, or 24 hours a day via our website www.tiaa.org.

DISTRIBUTION OF THE CONTRACTS

We offer the Contracts to the public on a continuous basis. We anticipate continuing to offer the Contracts but reserve the right to discontinue the offering.

The Contracts are offered by TIAA-CREF Individual & Institutional Services, LLC, (“TC Services”) a wholly-owned subsidiary of TIAA. TC Services is registered with the SEC as a broker-dealer, and is a member of FINRA. TC Services may also enter into selling agreements with affiliated entities or with third parties to distribute the Contracts. TC Services may be considered the “principal underwriter” for interests in the Contract. Anyone distributing the Contracts must be a registered representative of TC Services or have entered into a selling agreement with TC Services. The main offices of TC Services are at 730 Third Avenue, New York, NY 10017-3206. No commissions are paid in connection with the distribution of the Contracts, although

we will reimburse TC Services from our General Account assets for all reasonable costs and expenses incurred by TC Services in connection with distributing the Contracts. (We will make the cost and expense reimbursements to TIAA, and TIAA will remit the cost and expense reimbursements to TC Services.) We intend to recoup the cost and expense reimbursements that we make to TC Services through a portion of the investment spread that we expect to earn between the investment of Premiums and the interest that we will credit to the Contracts.

LEGAL PROCEEDINGS

There are no material pending legal proceedings, other than ordinary routine litigation incidental to our business, to which we or any of our subsidiaries are a party or of which any of our properties are the subject.

EXPERTS

PricewaterhouseCoopers LLP is the independent auditor of TIAA-CREF Life Insurance Company and Teachers Insurance and Annuity Association of America.

TIAA-CREF Life Insurance Company Statutory Basis Financial Statements

The statutory basis financial statements as of December 31, 2018 and 2017 and for each of the three years in the period ended December 31, 2018 included in this Registration Statement have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent auditor, located at 300 Madison Avenue, New York, New York 10017, given on the authority of said firm as experts in auditing and accounting.

Teachers Insurance and Annuity Association of America Statutory Basis Financial Statements

The statutory basis financial statements as of December 31, 2018 and 2017 and for each of the three years in the period ended December 31, 2018 included in this Registration Statement have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent auditor, located at 300 Madison Avenue, New York, New York 10017, given on the authority of said firm as experts in auditing and accounting.

TIAA-CREF Life Insurance Company Statutory Basis Financial Statements

Teachers Insurance and Annuity Association of America Statutory Basis Financial Statements

LEGAL MATTERS

Ken Reitz, Esq., has provided advice on certain matters relating to the laws of New York regarding the Contracts and our issuance of the Contracts, and has provided advice on certain legal matters relating to the Contracts under the federal securities laws.

TIAA-CREF LIFE INSURANCE COMPANY MANAGEMENT'S DISCUSSION AND ANALYSIS

The following discussion highlights significant factors influencing the financial position and results of operations of TIAA-CREF Life Insurance Company (referred to in this document as "TIAA Life"). It should be read in conjunction with the audited statutory-basis financial statements and related notes included herein and summary information and risk factors included elsewhere in this report.

Forward Looking Statements

This discussion reviews TIAA Life's financial condition and results of operations, including liquidity and capital resources, for the periods covered by the audited statutory-basis financial statements included in this report. Historical information is presented and discussed, and factors that may affect future financial performance are also identified and discussed, where appropriate. Certain statements included in this section may be "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934, and the Private Securities Litigation Reform Act of 1995.

Forward-looking statements include statements about management's expectations, beliefs, intentions or strategies for the future, include the assumptions underlying these forward-looking statements, and are based on the current expectations, estimates and projections made by management. Forward-looking statements include any statement that may predict, forecast, indicate or imply future results, performance or achievements instead of historical facts and may contain words like "believe," "expect," "estimate," "project," "budget," "forecast," "anticipate," "plan," "will," "shall," "may," and other words, phrases or expressions with similar meaning. While management believes the assumptions underlying any of its forward-looking statements to be reasonable, such information may be subject to risks and uncertainties which may be difficult to predict or may be beyond management's control, and TIAA Life cannot give assurance that such statements will prove to be correct. Refer to "Summary Information and Risk Factors" included in TIAA-CREF Life Insurance Company Business Overview of this report for more information about the risks that could affect TIAA Life's future results. A copy of this report and TIAA Life's registration statement, including exhibits, is available on the Internet site of the SEC at <http://www.sec.gov>.

Given these risks and uncertainties, undue reliance should not be placed on management's forward-looking statements as a prediction of actual results. Additionally, management's forward-looking statements represent management's views only as of the date of this report, and management does not undertake any obligation to update, publicly or otherwise, any forward-looking statement, whether as a result of new information, changed assumptions, future events or otherwise.

Overview

TIAA Life is a stock life insurance company that commenced operations as a legal reserve life insurance company under the laws of the State of New York on December 18, 1996, under the former name, TIAA Life Insurance Company. It changed its name to TIAA-CREF Life Insurance Company on May 1, 1998, and it is currently doing business as TIAA Life. It is a wholly-owned subsidiary of TIAA. It is subject to regulation by the New York State Department of Financial Services as well as by the insurance regulatory authorities of all the states and certain other jurisdictions. It is licensed to issue life insurance and annuity products in all 50 states and the District of Columbia.

TIAA Life's primary products are individual annuities, life insurance, funding agreements, and separate account guaranteed interest contracts ("SAGIC"). The individual annuities and life insurance products are marketed directly to individuals while the funding agreements are issued directly to states in support of state sponsored 529 college savings and scholarship plans. The SAGIC product is an unallocated, non-participating deposit type contract in the separate account and is designed as an investment vehicle offered to trustees and/or plan sponsors of stable value funds. TIAA Life's individual products are available to the general public; however, it markets primarily to individuals who own retirement annuities or insurance policies issued by TIAA Life's parent, TIAA. TIAA Life also distributes life insurance and annuity products through third party channels including M Financial Group ("M Financial") and registered investment advisors.

TIAA Life and M Financial have an exclusive agreement to offer TIAA Life's life insurance products to M Financial's member firms and their clients. M Financial is owned by more than 150 member firms located in 40 states, the United Kingdom, and the United Arab Emirates, and is comprised of several entities, including the parent company, which serves as a general insurance marketing entity, a securities broker-dealer, a registered investment advisor, a reinsurance company, and four proprietary mutual funds.

TIAA Life also distributes life insurance and annuity products within an external registered investment advisor channel. These are supported external advisors that use TIAA Life for life insurance and annuity solutions.

The majority of the services required for TIAA Life's business operations are provided at cost by TIAA and certain of its direct and indirect wholly-owned subsidiaries pursuant to various service, administrative, and distribution agreements. Under these agreements, TIAA Life reimburses TIAA (and TIAA reimburses its applicable subsidiaries) for certain costs associated with providing these services. TIAA Life believes such services meet operational needs and minimize the duplication of costs among TIAA and its subsidiaries. TIAA Life does not currently have any employees.

TIAA Life also pays TIAA for investment advisory services and other administrative services for TIAA Life's insurance general account (the "General Account") in accordance with an Investment Management Agreement. Further, TIAA entered into Investment Management Agreements with Teachers Advisors, LLC ("TAL") and Nuveen Alternatives Advisors, LLC, each an indirect wholly-owned subsidiary of TIAA, appointing such affiliated advisors with authority to manage investments held within TIAA Life's General Account.

TAL also provides investment advisory services and other administrative services for all of TIAA Life's insurance separate accounts, including guaranteed investment contract (GIC) separate accounts, in accordance with an Investment Management Agreement.

During 2018, TIAA Life's sole operating subsidiary, TIAA-CREF Life Insurance Agency, LLC was transferred to a subsidiary of TIAA.

Business Segments

TIAA Life provides financial services through the production, sale, distribution, and administration of individual annuities, life insurance, funding agreements, and SAGIC. TIAA Life utilizes both its general account and separate accounts to record and account for assets and liabilities for particular lines of business and/or transactions. As of December 31, 2018, the Company reported separate account assets and liabilities for the following products: variable life, variable annuity, fixed annuity, group life and group annuity. TIAA Life's separate accounts include the following:

TIAA Life's Separate Account VLI-1 ("VLI-1") was established under New York law on May 23, 2001, for the purpose of issuing and funding flexible premium variable universal life insurance policies and is registered with the Securities and Exchange Commission ("Commission") as a unit investment trust under the Investment Company Act of 1940, as amended ("1940 Act").

TIAA Life's Separate Account VLI-2 ("VLI-2") was established under New York law on February 15, 2012, for the purpose of issuing and funding group and individual variable life insurance policies and is registered with the Commission as a unit investment trust under the 1940 Act.

TIAA Life's Separate Account VA-1 ("VA-1") was established under New York law on July 27, 1998, for the purpose of funding individual non-qualified variable annuities and is registered with the Commission as a unit investment trust under the 1940 Act.

TIAA Life's Separate Account MVA-1 ("MVA-1") was established on July 23, 2008, as a non-unitized Separate Account that supports flexible premium deferred fixed annuity contracts subject to withdrawal charges and a market value adjustment feature.

Stable Value Separate Account-1 ("SVSA-1") and Stable Value Separate Account-3 ("SVSA-3"), were established on May 14, 2012 and November 13, 2013, respectively, as non-unitized guaranteed separate accounts that support book value separate account agreement contracts issued to certain externally managed stable value funds.

TIAA Life operates its primary business segments, distinguished by broad product categories with each having a strategic focus. Premiums and deposits by segment for 2018, 2017 and 2016 are set forth in the following table (in thousands):

| Segment | For the years ended December 31, | | |
|--------------------------------|----------------------------------|--------------------|------------------|
| | 2018 | 2017 | 2016 |
| Individual Annuities | \$ 347,184 | \$ 354,887 | \$315,572 |
| Life Insurance | 345,251 | 381,525 | 380,011 |
| Total premiums | \$ 692,435 | \$ 736,412 | \$695,583 |
| Funding Agreements* | 1,231,637 | 1,560,299 | 871,733 |
| SAGIC* | — | — | — |
| Total deposits received | \$1,231,637 | \$1,560,299 | \$871,733 |

* The deposits received on funding agreements and SAGIC are recorded as liabilities and are not treated as premiums or as revenue under statutory accounting principles. These liabilities are included in Reserves for Life and Health, Annuities, and Deposit-type Contracts.

Individual Annuities: TIAA Life markets a variety of individual after-tax annuity products. Its annuity products are distributed through captive agents appointed by TIAA Life. Those agents are also registered representatives of TIAA Life’s affiliated broker-dealers. TIAA Life’s strategy is to include distribution to our participant base, and through fee-based advisors, third party channels, and other strategic relationships. TIAA Life offers both flexible premium deferred annuities and single premium immediate annuities.

TIAA Life’s variable annuities offer contract owners the opportunity to invest in various investment subaccounts of TIAA Life’s separate accounts, based on the contract owners’ investment allocation decisions. The separate accounts that support TIAA Life’s variable annuities are registered with the Securities and Exchange Commission (“SEC”) as unit investment trusts, and their assets are invested in corresponding portfolios of the TIAA-CREF Life Funds or in other non-proprietary funds. The variable annuities do not offer any living benefit riders, so TIAA Life is not exposed to the liabilities associated with such living benefit riders.

TIAA Life offers the Intelligent Variable Annuity (IVA) through VA-1, which facilitates an individual’s overall portfolio asset diversification offering investment choices that include both proprietary TIAA-CREF Life funds and non-proprietary funds. The IVA experienced 3% increase in business which resulted in premiums of \$315,654 thousand during 2018 compared to \$305,324 thousand in 2017. TIAA Life believes increased favorable equity market returns are the primary contributors to the growth in the product.

TIAA Life previously offered the Personal Annuity Select (“PAS”) through both its general account and VA-1, as an individual flexible premium deferred variable product. Although no longer available for new sales, investors who own PAS products continued to contribute premiums in 2018; however, they declined 30% to \$22,655 thousand when compared to \$32,290 thousand in 2017. The main drivers of this decline are aging policyholders and a continued low interest rate environment.

TIAA Life markets a single premium immediate annuity (“SPIA”) through both its general account and VA-1, which complements the deferred annuities and provides immediate income benefits. In 2018, TIAA Life earned premiums of approximately \$4,357 thousand on this product. The investment choices include a fixed account as well as TIAA-CREF Life funds.

TIAA Life offers the Lifetime Variable Select (“LVS”) through VA-1, as an individual flexible premium deferred variable annuity contract. In 2018, TIAA Life earned premiums of approximately \$1,720 thousand on this product.

TIAA Life offers the Investment Horizon Annuity (“IHA”) through MVA-1 and is designed to offer guaranteed periods from 1 to 10 years and guarantees principal and a stated interest rate if not withdrawn before the maturity date. The interest rate for each guaranteed period is based upon current interest rates. It

allows investors to use a “laddered” approach for fixed investing. Since November 1, 2012, the 1 through 5 year durations of the IHA have not been available for investment due to the continued low interest rate environment. However, some rise in interest rates allowed for the reopening of the 5 year duration in August 2013, but there has been little interest on the part of investors to lock in interest rates at the offered rate for 5 years or more. In 2018, TIAA Life earned premiums of approximately \$1,582 thousand on this product.

Life Insurance: TIAA Life offers term life insurance, fixed universal life insurance, and variable universal life insurance through its general account and VLI-1 and VLI-2. TIAA Life distributes and sells these products through captive agents appointed by TIAA Life, and for certain products, through third party agents. Those captive agents selling variable insurance products are also registered representatives of TIAA Life’s affiliated broker-dealers. The primary marketing efforts for term life insurance products involve direct mail, direct email, and an Internet web site which is designed to direct potential policyholders to a call center staffed by licensed agents, or offers the ability to apply online. Assets associated with variable universal life insurance policies are held in various investment subaccounts of VLI-1, based on policyholders’ investment allocation decisions. VLI-1 assets are invested in the corresponding portfolios of the TIAA-CREF Life Funds or in other non-proprietary funds.

Life insurance premiums decreased \$36,274 to \$345,251 in 2018. This was primarily due to less than expected growth in our captive agency channel and M Financial Group channels resulting in a decrease in the fixed universal life and M Financial Group products, partially offset by an increase in variable universal life and traditional term life products.

Funding Agreements: TIAA Life’s Funding Agreements segment focuses primarily on providing non-participating flexible premium funding agreements issued from the general account to support education-related investment and/or savings programs sponsored by various states. State sponsored 529 college savings plans (named after Section 529 of the Internal Revenue Code) are tax-advantaged investment and savings programs designed to encourage account owners to save for the future higher education expenses of a designated beneficiary. Some states offer a guaranteed option to those investing in the state’s college savings plan. TIAA Life provides funding agreements to certain states to support their guaranteed option, which guarantees a return of account owners’ principal, with interest. TIAA Life also makes available a funding agreement to any state that provides a state scholarship program for those seeking higher education.

TIAA Life currently has funding agreements with California, Connecticut, Georgia, Kentucky, Michigan, Minnesota, Mississippi, Oklahoma, Oregon, Vermont, and Wisconsin, each of which have current state 529 college savings plans. TIAA Life also has a funding agreement for the California scholarship program, which does not receive new funds but is covered under a separate management agreement that runs through 2020.

Separate Account Guaranteed Interest Contracts (“SAGIC”): SAGIC includes the SVSA accounts which support contracts issued as one of several vehicles for stable value funds. SVSA contracts utilize an interest crediting formula that includes a guaranteed crediting rate adjusted for the market value of the separate account assets over a period reflecting the duration of such assets.

During 2018, there were no deposits and there were \$73,776 thousand in withdrawals from SAGIC within the contract backed by the SVSA-3.

Quantitative and Qualitative Disclosure About Market Risk

TIAA Life’s financial position and earnings are indirectly subject to various market risks, including changes in interest rates, changes in the yield curve, changes in spreads between risk-adjusted and risk-free interest rates, and equity price risks. These market risks may impact prospective earnings on future investments, which may, in turn, affect the interest that will be prospectively credited on the general account products. TIAA Life is primarily exposed to market risk through investment and insurance activities; however, the majority of investments are

carried at amortized cost and not at fair value. Because investment balances do not generally reflect current fair values, the market risk factors discussed below do not generally have a significant direct impact on the financial position or results of operations unless investment positions are determined to have OTTI.

At December 31, 2018, \$7,913,172 thousand of the general account's invested assets was invested in bonds. TIAA Life's bond portfolio consists primarily of high quality publicly-traded corporate debt securities and government securities to maintain and manage liquidity and to reduce the risk of credit default in the portfolio. TIAA Life also makes investments in private placement bonds to increase portfolio diversification and to obtain higher yields than can be earned by investing in comparable quality, publicly-traded securities. While these private placement securities tend to be less liquid than publicly-traded securities, they offer relatively higher yields, broader access to management information, stronger protective covenants, call protection features, and a higher level of collateralization than can customarily be achieved in the public market. Collectively, these benefits outweigh the liquidity concerns, especially in a portfolio where liquidity is managed appropriately.

In addition to market rate and interest rate risk, mortgage-backed securities, which are included in bonds in TIAA Life's portfolio, are subject to prepayment risk or extension risk (i.e., the risk that borrowers will repay the loans earlier or later than anticipated). Included in these mortgage-backed securities are some interest-only securities. If the underlying mortgage assets experience faster than anticipated repayments of principal, TIAA Life could fail to recoup some or all of the initial investment in these securities, since the original price paid was based in part on assumptions regarding the receipt of interest payments. Note that the potential for appreciation, which could otherwise be expected to result from a decline in interest rates, may be limited by any increased prepayments. If the underlying mortgage assets are repaid later than anticipated, TIAA Life could lose the opportunity to reinvest the anticipated cash flows at a time when interest rates might be rising. The rate of prepayment depends on a variety of geographic, social, and other functions, including prevailing market interest rates and general economic factors. The fair value of these securities is also highly sensitive to changes in interest rates. These securities may also be harder to sell than other securities.

The selection and management of the general account investment portfolio reflect the asset/liability analysis TIAA Life performs for the various business segments and the specific products that are issued. TIAA Life's investment objective is to earn attractive rates of return within reasonable risk parameters while maintaining a prudently diversified portfolio. As a result of the kinds of investments TIAA Life makes, the investment portfolio is primarily exposed to credit risk and interest rate risk. To manage risks, TIAA Life's Board of Directors establishes investment limits and guidelines in constructing the investment portfolio; some of these limits identify maximum investment amounts by individual investment and by issuer, based on the credit quality of the issuers. TIAA Life also utilizes a risk management department that is independent of the investment management function to monitor the risk exposures represented in the investment portfolio. TIAA Life utilizes a formal investment impairment review process that is performed for the entire portfolio at least once each quarter. The investment impairment review process is co-led by the finance and valuation departments, which are also both independent of the investment management function.

TIAA Life analyzes and manages the risks arising from market exposures of financial instruments, as well as other risks, through an integrated asset/liability management ("ALM") process. The ALM process involves the monitoring of asset and liability interest rate sensitivities for various product lines; cash flow testing under various interest rate scenarios; and the rebalancing of assets and liabilities with respect to yield, risk, and cash flow characteristics.

The primary focus of the ALM program is manage the interest rate sensitivity of the assets and liability values to interest rate changes to be within limits set by TIAA Life's internal policies. TIAA Life's products are reviewed individually to examine how the assets backing those products and their associated liabilities are impacted by various interest rate movements.

TIAA Life's ALM programs and procedures and certain product features provide protection against the effects of changes in interest rates under various scenarios. Additionally, the ALM programs and procedures provide

sufficient liquidity to enable TIAA Life to fulfill its obligation to pay benefits under its various insurance and deposit contracts. However, the ALM programs and procedures incorporate assumptions about the relationship between short-term and long-term interest rates (i.e., the slope of the yield curve), relationships between risk-adjusted and risk-free interest rates, market liquidity, and other factors and the effectiveness of TIAA Life's asset/liability management programs and procedures may be negatively affected whenever actual results differ from those assumptions.

Results of Operations

Year Ended December 31, 2018, Compared to Year Ended December 31, 2017

The following table sets forth TIAA Life's statutory-basis statements of operations for the year ended December 31, 2018, compared to year ended December 31, 2017 (in thousands):

| | For the Years Ended December 31, | | | |
|--|----------------------------------|--------------------|---------------------|---------------|
| | 2018 | 2017 | Increase/(decrease) | |
| | | | \$ | % |
| REVENUES | | | | |
| Insurance and annuity premiums and other considerations | \$ 692,435 | \$ 736,413 | \$(43,978) | (6)% |
| Net investment income | 270,010 | 240,395 | 29,615 | 12% |
| Commissions and expense allowances on reinsurance ceded | 18,777 | 24,169 | (5,392) | (22)% |
| Reserve adjustments on reinsurance ceded | 16,144 | 32,733 | (16,589) | (51)% |
| Separate account fees and other revenues | 26,613 | 25,936 | 677 | 3% |
| TOTAL REVENUES | \$1,023,979 | \$1,059,646 | \$(35,667) | (3)% |
| EXPENSES | | | | |
| Policy and contract benefits | \$ 340,270 | \$ 246,649 | \$ 93,621 | 38% |
| Increase in policy and contract reserves | 244,207 | 327,489 | (83,282) | (25)% |
| Insurance expenses and taxes (excluding federal income taxes) | 148,568 | 129,053 | 19,515 | 15% |
| Commissions on premiums | 24,437 | 27,375 | (2,938) | (11)% |
| Interest on deposit-type contracts | 65,250 | 49,155 | 16,095 | 33% |
| Net transfers to separate accounts | 214,334 | 241,681 | (27,347) | (11)% |
| TOTAL EXPENSES | \$1,037,066 | \$1,021,402 | \$ 15,664 | 2% |
| Income (loss) before federal income tax and net realized capital gains (losses) | \$ (13,087) | \$ 38,244 | \$(51,331) | (134)% |
| Federal income tax expense | 2,364 | 10,907 | (8,543) | (78)% |
| Net realized capital gains (losses) less capital gains taxes, after transfers to the interest maintenance reserve | 819 | 1,900 | (1,081) | 57% |
| NET INCOME (LOSS) | \$ (14,632) | \$ 29,237 | \$(43,869) | (150)% |

Insurance and Annuity Premiums and Other Considerations

Insurance and annuity premiums and other considerations decreased \$43,978 thousand to \$692,435 thousand for the year ended December 31, 2018. The decrease was primarily driven by lower premiums from life insurance products, including M Financial products, and annuities within the PAS and SPIA products, partially offset by an increase in premiums within the IVA product.

Net Investment Income

Net investment income includes gross earnings on investments, investment expenses, and amortization of capital gains and losses from the interest maintenance reserve. The \$29,615 thousand increase in net investment income was primarily driven by growth in the bond portfolio.

The individual components of net investment income are presented in the table below (in thousands):

| | Years Ended December 31, | | | |
|---|--------------------------|------------------|---------------------|------------|
| | 2018 | 2017 | Increase/(decrease) | |
| | | | \$ | % |
| Bonds | \$281,016 | \$244,244 | \$36,772 | 15% |
| Other long-term investments | 555 | 388 | 167 | 43% |
| Cash, cash equivalents and short-term investments | 879 | 446 | 433 | 97% |
| Contract loans | 1,327 | 1,103 | 224 | 20% |
| Total gross investment income | \$283,777 | \$246,181 | \$37,596 | 15% |
| Investment expenses | \$ (14,906) | \$ (5,750) | \$ (9,156) | 159% |
| Net investment income before amortization/(accretion) of IMR | 268,871 | 240,431 | 28,440 | 12% |
| Amortization/(accretion) of IMR | 1,139 | (36) | 1,175 | (3,264)% |
| Net investment income | \$270,010 | \$240,395 | \$29,615 | 12% |

Commissions and Expense Allowances on Reinsurance Ceded

The decrease in commissions and expense allowances on reinsurance ceded of \$5,392 thousand to \$18,777 thousand for the year ended December 31, 2018 was driven by a decline in commissions due to lower premiums from M Financial products.

Reserve Adjustments on Reinsurance Ceded

The reserve adjustment on reinsurance ceded relates to the modified coinsurance with M Financial and represents the change in the statutory reserves and the related interest credited on the portion of the policies reinsured. The reserve change generally moves in tandem with premiums. The decrease in the reserve adjustment of \$16,589 thousand was primarily driven by decreased reserves due to lower premiums and higher surrenders.

Separate account fees and other revenues

The increase in separate account fees and other revenues of \$677 thousand to \$26,613 thousand was primarily driven by an increase in net gain from operations from separate accounts due to the release of \$600 thousand of AG43 reserves on the IHA product.

Policy and Contract Benefits

The increase in policy and contract benefits of \$93,621 thousand to \$340,270 thousand was driven by an increase in surrenders and transfers on deposit type contracts as well as an increase in annuity and death benefits.

Increase in Policy and Contract Reserves

The increase in policy and contract reserves for 2018 of \$244,207 thousand was \$83,282 thousand lower than 2017, primarily driven by lower increases in reserves for annuity products of \$43,264 thousand and life products of \$40,500 thousand. Lower increases in reserves for annuity products was primarily driven by an increase in surrenders, benefits and transfers to deposit type contracts as well as lower premiums, partially offset by a decrease in transfers to separate accounts and a larger increase in AG43 reserves. Lower increases in reserves for life products was primarily driven by lower premiums and higher surrenders and transfers to separate accounts, partially offset by the release of asset adequacy reserves of \$30,000 thousand from the traditional term life reserves in 2017 due to a significant and sustainable reduction in TIAA Life's maintenance expenses.

Insurance Expenses and Taxes (Excluding Federal Income Taxes)

The increase in insurance expenses and taxes of \$19,515 thousand to \$148,568 thousand for the year ended December 31, 2018 was primarily driven by higher salaries and wages, EDP & software depreciation, consultant fees, distribution expenses for funding agreements and various other expenses.

Commissions on Premiums

Commissions on premiums represent agents' compensation on direct policies issued under the joint venture with M Financial. The decrease in commissions on premiums of \$2,938 thousand to \$24,437 thousand for the year ended December 31, 2018 was primarily driven by lower premiums in the M Financial business.

Interest on Deposit-type Contracts

Interest on deposit-type contracts increase of \$16,095 thousand to \$65,250 thousand for the year ended December 31, 2018 was due to a higher asset value of deposit type contracts, primarily on the funding agreements with the various 529 college savings plans.

Net Transfers to Separate Accounts

Net transfers to the separate accounts decreased \$27,347 thousand to \$214,334 thousand for the year ended December 31, 2018 as a result of lower participant net deposits in VA-1, partially offset by higher participant net deposit in VLI-1 and VLI-2.

Federal Income Tax Expense

Federal income tax expenses decrease of \$8,543 thousand to \$2,364 thousand for the year ended December 31, 2018 was primarily driven by net losses for the year ended December 31, 2018 compared to net income during 2017 and the decrease in tax rate from 35% to 21%.

Net Realized Capital Gains (Losses)

The net realized capital gains of \$819 thousand for 2018 was driven by tax benefits, including benefits from capital losses within SAGIC. Net realized capital gains of \$819 thousand was \$1,081 thousand lower than 2017 primarily due to higher tax benefits in 2017, which were driven by a higher tax rate of 35% compared to 21% in 2018.

Year Ended December 31, 2017, Compared to Year Ended December 31, 2016

The following table sets forth TIAA Life's statutory-basis statements of operations for the year ended December 31, 2017, compared to year ended December 31, 2016 (in thousands):

| | For the Years Ended December 31, | | | |
|---|---|------------------|----------------------------|---------------|
| | 2017 | 2016 | Increase/(decrease) | |
| | | | \$ | % |
| REVENUES | | | | |
| Insurance and annuity premiums and other considerations | \$ 736,413 | \$695,583 | \$ 40,830 | 6% |
| Net investment income | 240,395 | 209,258 | 31,137 | 15% |
| Commissions and expense allowances on reinsurance ceded | 24,169 | 26,492 | (2,323) | (9)% |
| Reserve adjustments on reinsurance ceded | 32,733 | 33,400 | (667) | (2)% |
| Separate account fees and other revenues | 25,936 | 24,821 | 1,115 | 4% |
| TOTAL REVENUES | \$1,059,646 | \$989,554 | \$ 70,092 | 7% |
| EXPENSES | | | | |
| Policy and contract benefits | \$ 246,649 | \$227,194 | \$ 19,455 | 9% |
| Increase in policy and contract reserves | 327,489 | 348,093 | (20,604) | (6)% |
| Insurance expenses and taxes (excluding federal income taxes) | 129,053 | 141,101 | (12,048) | (9)% |
| Commissions on premiums | 27,375 | 31,056 | (3,681) | (12)% |
| Interest on deposit-type contracts | 49,155 | 37,274 | 11,881 | 32% |
| Net transfers to separate accounts | 241,681 | 189,656 | 52,025 | 27% |
| TOTAL EXPENSES | \$1,021,402 | \$974,374 | \$ 47,028 | 5% |
| Income (loss) before federal income tax and net realized capital gains (losses) | \$ 38,244 | \$ 15,180 | \$ 23,064 | 152% |
| Federal income tax expense | 10,907 | 12,303 | (1,396) | (11)% |
| Net realized capital gains (losses) less capital gains taxes, after transfers to the interest maintenance reserve | 1,900 | (325) | 2,225 | 685% |
| NET INCOME (LOSS) | \$ 29,237 | \$ 2,552 | \$ 26,685 | 1,046% |

Insurance and Annuity Premiums and Other Considerations

Insurance and annuity premiums and other considerations increased \$40,830 thousand to \$736,413 thousand for the year ended December 31, 2017. The increase was primarily driven by the Intelligent Variable Annuity (IVA) product.

Net Investment Income

Net investment income includes gross earnings on investments, investment expenses, and amortization of capital gains and losses from the interest maintenance reserve. The \$31,137 thousand increase in net investment income was primarily driven by growth in the bond portfolio.

The individual components of net investment income are presented in the table below (in thousands).

| | Years Ended December 31, | | | |
|---|--------------------------|------------------|---------------------|------------|
| | 2017 | 2016 | Increase/(decrease) | |
| | | | \$ | % |
| Bonds | \$244,244 | \$211,291 | \$32,953 | 16% |
| Other long-term investments | 388 | 666 | (278) | (42)% |
| Cash, cash equivalents and short-term investments | 446 | 152 | 294 | 193% |
| Contract loans | 1,103 | 957 | 146 | 15% |
| Total gross investment income | 246,181 | 213,066 | 33,115 | 16% |
| Investment expenses | (5,750) | (3,946) | 1,804 | (46)% |
| Net investment income before amortization of IMR | 240,431 | 209,120 | 31,311 | 15% |
| Amortization of IMR | (36) | 138 | (174) | (126)% |
| Net investment income | \$240,395 | \$209,258 | \$31,137 | 15% |

Commission & expense allowance on reinsurance ceded

The decrease in commissions and expense allowances on reinsurance ceded of \$2,323 thousand to \$24,169 thousand for the year ended December 31, 2017 was driven by a decline in the average commissions rate due to a change in the premium mix.

Reserve Adjustments on Reinsurance Ceded

The reserve adjustment on reinsurance ceded relates to the modified coinsurance with M Financial and reflects the charge in the amount equal to the gross statutory reserves on the portion of the policies reinsured, net of interest credited on the modified coinsurance reserve to M financial. The reserve change generally moves in tandem with premiums. The slight decrease in the reserve adjustment was driven by higher interest credited to the reinsurance partially offset by increased reserves due to increased premiums.

Separate account fees and other revenues

The increase in separate account fees was driven by growth in the VA-1 and VLI-2 separate accounts.

Policy and Contract Benefits

The increase in policy and contract benefits was driven by an increase in death benefits and surrenders.

Increase in Policy and Contract Reserves

The increase in policy and contract reserves for 2017 of \$327,489 thousand was \$20,604 thousand lower than 2016, primarily driven by the release of asset adequacy reserves of \$30,000 thousand from the traditional term life reserves in 2017 due to a significant and sustainable reduction in TIAA Life's maintenance expenses, partially offset by the release of AG43 reserves of approximately \$15,000 thousand from the annuity products in 2016 and an additional \$4,000 thousand of AG43 reserves added in the annuity products in 2017. Other changes include a decrease in TIAA Life's universal life reserves due to lower premiums and higher surrenders partially offset by an increase in the M group product reserves due to premium growth and lower surrenders.

Insurance Expenses and Taxes (Excluding Federal Income Taxes)

The decrease in insurance expenses and taxes of \$12,048 thousand to \$129,053 thousand for the year ended December 31, 2017 was primarily driven by lower IT costs, temporary help expenses, and advertising expenses, partially offset by an increase in salaries and wages.

Commissions on Premiums

Commissions on premiums represent agents' compensation on direct policies issued under the joint venture with M Financial. Despite premium growth in the M Financial business in 2017, the premium mix resulted in a decline in the average commissions rate.

Interest on Deposit-type Contracts

Interest on deposit-type contracts increase of \$11,881 thousand to \$49,155 thousand for the year ended December 31, 2017 was due to higher asset value of deposit type contracts, primarily on the guaranteed funding agreements with the various 529 college savings plans.

Net Transfers on Separate Accounts

Net transfers to the separate accounts increased \$52,025 thousand to \$241,681 for the year ended December 31, 2017 as a result of higher participant deposits received on after tax annuities (VA-1).

Federal Income Tax Expense

Federal income tax expenses decrease of \$1,396 thousand was driven by benefits from statutory-to-tax differences, primarily relating to larger adjustments for reserves and ordinary capital gains/losses, partially offset by higher net income before federal income tax and net realized capital gains (losses) of \$23,064 thousand.

Net Realized Capital Gains (Losses)

The net realized capital gains of \$1,900 thousand for 2017 was driven primarily by tax benefits, including benefits from sales of bonds which had been previously impaired, and a net realized gain on the sale of a common stock. The net realized capital gains of \$1,900 thousand in 2017 compared to the net realized capital losses of \$325 thousand for 2016 was driven primarily by the 2017 items noted above.

Financial Condition

The following table sets forth TIAA Life's statutory-basis statements of admitted assets, liabilities, and capital and surplus:

| (in thousands) | December 31, | | Increase/(decrease) | |
|---|---------------------|---------------------|---------------------|------------|
| | 2018 | 2017 | \$ | % |
| ADMITTED ASSETS | | | | |
| Bonds | \$ 7,913,172 | \$ 7,240,086 | \$673,086 | 9% |
| Preferred stocks | 183 | 183 | — | —% |
| Cash, cash equivalents and short-term investments | 171,753 | 102,646 | 69,107 | 67% |
| Contract loans | 33,771 | 27,016 | 6,755 | 25% |
| Other long-term investments | 4,707 | 5,124 | (417) | (8)% |
| Investment income due and accrued | 69,960 | 63,092 | 6,868 | 11% |
| Federal income tax recoverable from TIAA | 2,184 | — | 2,184 | 100% |
| Net deferred federal income tax asset | 16,773 | 17,006 | (233) | (1)% |
| Reinsurance amounts receivable | 14,227 | 28,176 | (13,949) | (50)% |
| Other assets | 23,997 | 20,834 | 3,163 | 15% |
| Separate account assets | 5,016,425 | 5,052,500 | (36,075) | (1)% |
| TOTAL ADMITTED ASSETS | \$13,267,152 | \$12,556,663 | \$710,489 | 6% |
| LIABILITIES | | | | |
| Reserves for life and health, annuities and deposit-type contracts | \$ 7,651,764 | \$ 6,996,890 | \$654,874 | 9% |
| Asset valuation reserve | 52,486 | 46,916 | 5,570 | 12% |
| Interest maintenance reserve | 11,169 | 13,796 | (2,627) | (19)% |
| Federal income tax payable to TIAA | — | 2,287 | (2,287) | (100)% |
| Other amounts payable on reinsurance | 16,071 | 18,347 | (2,276) | (12)% |
| Other liabilities | 33,231 | 28,106 | 5,125 | 18% |
| Separate account liabilities | 5,001,547 | 5,038,780 | (37,233) | (1)% |
| TOTAL LIABILITIES | \$12,766,268 | \$12,145,122 | \$621,146 | 5% |
| CAPITAL & SURPLUS | | | | |
| Capital (2,500 shares of \$1,000 par value common stock issued and outstanding) | \$ 2,500 | \$ 2,500 | \$ — | —% |
| Additional paid-in capital | 557,500 | 457,500 | 100,000 | 22% |
| Surplus (deficit) | (59,116) | (48,459) | (10,657) | (22)% |
| TOTAL CAPITAL AND SURPLUS | \$ 500,884 | \$ 411,541 | \$ 89,343 | 22% |
| TOTAL LIABILITIES, CAPITAL AND SURPLUS | \$13,267,152 | \$12,556,663 | \$710,489 | 6% |

Admitted Assets

Bonds

Bonds represented approximately 97% of TIAA Life's invested asset portfolio at December 31, 2018.

The following table sets forth TIAA Life's bond portfolio by industry:

| | <u>2018</u> | <u>2017</u> |
|--|---------------|---------------|
| Manufacturing | 19.5% | 20.2% |
| Finance and financial services | 18.1% | 17.0% |
| Public utilities | 12.2% | 12.2% |
| Residential mortgage-backed securities | 6.9% | 6.5% |
| Oil and gas | 6.3% | 6.8% |
| Transportation | 5.8% | 6.3% |
| Services | 5.3% | 4.9% |
| Real estate investment trusts | 5.1% | 4.8% |
| Asset-backed securities | 4.9% | 4.2% |
| Revenue and special obligations | 3.4% | 3.3% |
| Communications | 3.3% | 3.5% |
| Retail & wholesale trade | 2.8% | 3.0% |
| U.S. governments | 2.7% | 3.4% |
| Commercial mortgage-backed securities | 2.3% | 1.9% |
| Other governments | 0.8% | 1.1% |
| Mining | 0.6% | 0.9% |
| Total | 100.0% | 100.0% |

The following table presents the carrying value of the long-term bond portfolio by investment grade (in thousands):

| NAIC Classes | <u>December 31, 2018</u> | | <u>December 31, 2017</u> | |
|------------------|--------------------------|---------------|--------------------------|---------------|
| | Carrying Value | % of Total | Carrying Value | % of Total |
| NAIC 1 and 2 | \$7,865,511 | 99.4% | \$7,189,686 | 99.3% |
| NAIC 3 through 6 | 47,661 | 0.6% | 50,400 | 0.7% |
| Total | \$7,913,172 | 100.0% | \$7,240,086 | 100.0% |

The gross unrealized losses and estimated fair values for bonds by the length of time that individual securities had been in a continuous unrealized loss position are shown in the table below (in thousands):

| | <u>Less than twelve months</u> | | | <u>Twelve months or more</u> | | |
|------------------------------------|--------------------------------|-----------------------|----------------------|------------------------------|-----------------------|----------------------|
| | Amortized Cost | Gross Unrealized Loss | Estimated Fair Value | Amortized Cost | Gross Unrealized Loss | Estimated Fair Value |
| December 31, 2018 | | | | | | |
| All other bonds | \$3,515,896 | \$(129,968) | \$3,385,928 | \$1,257,377 | \$(70,039) | \$1,187,338 |
| Loaned-backed and structured bonds | 247,597 | (3,202) | 244,395 | 612,022 | (19,121) | 592,901 |
| Total | \$3,763,493 | \$(133,170) | \$3,630,323 | \$1,869,399 | \$(89,160) | \$1,780,239 |
| December 31, 2017 | | | | | | |
| All other bonds | \$ 873,008 | \$ (5,597) | \$ 867,411 | \$ 652,824 | \$(17,830) | \$ 634,994 |
| Loaned-backed and structured bonds | 308,803 | (3,066) | 305,737 | 359,804 | (10,268) | 349,536 |
| Total | \$1,181,811 | \$ (8,663) | \$1,173,148 | \$1,012,628 | \$(28,098) | \$ 984,530 |

Based upon TIAA Life's current evaluation of these securities in accordance with its impairment policy, TIAA Life has concluded that these securities are not other-than-temporarily impaired. Additionally, TIAA Life currently intends and has the ability to hold the securities with unrealized losses for a period of time sufficient for them to recover.

The carrying value and estimated fair value of bonds, categorized by contractual maturity, are shown below. Bonds not due at a single maturity date have been included in the following table based on the year of final maturity. Actual maturities may differ from contractual maturities because borrowers may prepay obligations with or without call or prepayment penalties. Mortgage-backed and asset-backed securities are shown separately in the table below, as they are not due at a single maturity date (in thousands):

| | Scheduled Maturity of Bonds | | | | | |
|--|------------------------------------|-------------------|-----------------------------|--------------------------|-------------------|-----------------------------|
| | December 31, 2018 | | | December 31, 2017 | | |
| | Carrying Value | % of Total | Estimated Fair Value | Carrying Value | % of Total | Estimated Fair Value |
| Due in one year or less | \$ 351,013 | 4% | \$ 349,183 | \$ 345,288 | 5% | \$ 345,733 |
| Due after one year through five years | 1,580,412 | 20% | 1,570,630 | 1,508,645 | 21% | 1,531,702 |
| Due after five years through ten years | 2,397,408 | 30% | 2,325,486 | 2,138,288 | 30% | 2,173,283 |
| Due after ten years | 2,466,088 | 31% | 2,438,623 | 2,336,513 | 32% | 2,554,350 |
| Subtotal | 6,794,921 | 86% | 6,683,922 | 6,328,734 | 87% | 6,605,068 |
| Residential mortgage-backed securities | 546,529 | 7% | 538,852 | 469,269 | 6% | 463,860 |
| Commercial mortgage-backed securities | 180,437 | 2% | 175,747 | 137,712 | 2% | 137,852 |
| Asset-backed securities | 391,285 | 5% | 388,002 | 304,371 | 4% | 304,296 |
| Subtotal | 1,118,251 | 14% | 1,102,601 | 911,352 | 13% | 906,008 |
| Total | \$7,913,172 | 100% | \$7,786,523 | \$7,240,086 | 100% | \$7,511,076 |

Cash, Cash Equivalents and Short-Term Investments

The increase in cash, cash equivalents and short term investments of \$69,107 thousand was primarily driven by a \$100,000 thousand capital contribution from TIAA as well as other timing of cash flows and investment activity mostly associated with funding agreements.

Contract Loans

Contract loans increase of \$6,755 thousand was primarily driven by loan issuances out pacing repayments.

Other Long Term Investments

Other long term investments decrease of \$417 thousand was primarily driven by a decrease in receivables for securities due to timing of investment activity.

Investment Income Due and Accrued

Investment income due and accrued increase of \$6,868 thousand was primarily due to growth in the bond portfolio.

Federal Income Tax Recoverable From TIAA

Federal income tax recoverable from TIAA of \$2,184 thousand as of December 31, 2018 compared to the federal income tax payable of \$2,287 thousand at December 31, 2017 was primarily driven by cash payments to TIAA during 2018, partially offset by federal income tax expense on the books of TIAA Life.

Net Deferred Federal Income Tax Asset

Net deferred federal income tax asset ("DTA") decreased \$233 thousand to \$16,773 thousand at December 31, 2018, which was primarily driven by a decrease in the liability for reinsurance in unauthorized companies partially offset by an increase in deferred acquisition costs.

The 2017 Tax Cuts and Jobs Act (the “Act”) reduces the U.S. corporate tax rate from 35% to 21%, includes several base broadening provisions, and reforms the US international tax system. With a few exceptions, key provisions were effective for tax years beginning January 1, 2018.

TIAA Life’s DTAs and deferred federal income tax liabilities (“DTLs”) as of December 31, 2018 and 2017 reflect the enacted tax rate of 21% which is expected to apply when the deferred tax assets and liabilities will be settled or realized. TIAA Life’s federal income tax incurred for the year ended December 31, 2018 is computed using the enacted tax rate of 21%.

Due to the Tax Cuts and Jobs Act, carryback of NOLs generated after December 31, 2017 are disallowed. Therefore, ordinary income tax paid in years 2017 and prior may not be recouped in the event of future net losses.

In February 2018, INT 18-01: Updated Tax Estimates under the Tax Cuts and Jobs Act was issued to address the application of statutory accounting principles when a reporting entity does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Act.

As of December 31, 2017, TIAA Life noted that the impact of the Act to DTA admissibility under SSAP 101 was under evaluation. Our net admitted DTA as of December 31, 2017 was computed based on reasonable estimates and guidance available as of the date of this filing.

Additionally, in evaluating the impact of reform to the US international tax system, TIAA Life had estimated that no material liability would be due for the repatriation transition tax provided in the Act.

As of the close of the measurement period allowed under INT 18-01 (one year from the date of the Act), no significant changes in reasonable estimates reported in December 31, 2017 have occurred.

Reinsurance amounts receivable

Reinsurance amounts receivable decrease of \$13,949 thousand was due to a decrease in reinsurance recoveries due from M group primarily from larger death claims as of December 31, 2017 as well as a decrease in MODCO reserve adjustment and the expense allowance on premiums ceded.

Other Assets

Other assets represent deferred and uncollected premiums as well as sundry receivables. Other assets increased \$3,163 thousand to \$23,997 thousand as of December 31, 2018, which was primarily driven by an increase in sundry receivables due to timing of settlements.

Separate Accounts

Separate account assets and liabilities decrease was driven by \$169,797 in net depreciation primarily on VA-1 and \$73,776 thousand in withdrawals from SAGIC in the contract backed by SVSA-3, partially offset by \$207,498 thousand in net inflows, excluding the SAGIC withdrawal.

Liabilities

Reserves for Life and Health, Annuities and Deposit-Type Contracts

Reserves for life and health, annuities and deposit-type contracts increase of \$654,874 thousand was primarily due to increases in liabilities for deposit-type contracts of \$404,250 thousand and policyholder reserves of \$250,624 thousand. The increase in liabilities for deposit-type contracts was driven by growth in the guaranteed funding agreements. The increase in policyholder reserves was due to continued growth on individual life insurance products and M Financial products, partially offset by a decrease in individual annuities.

Asset Valuation Reserve (“AVR”)

AVR increase of \$5,570 thousand was primarily driven by \$6,619 thousand in reserve contributions due to growth in the bond portfolio and formulaic adjustments, partially offset by unrealized and realized net capital losses of \$1,049 thousand.

Interest Maintenance Reserve (“IMR”)

IMR decrease of \$2,627 thousand was driven by the deferral of net realized capital losses from an other than temporary impairment (“OTTI”), partially offset by realized capital gains on the exchange and sale of various corporate bonds and amortization of IMR in the amount of \$1,139 thousand.

Federal Income Tax Payable to TIAA

See the Federal Income Tax Recoverable from TIAA section for additional commentary.

Other Amounts Payable on Reinsurance

The other amounts payable on reinsurance represent premiums payable to M Financial under a modified coinsurance agreement. The decrease of \$2,276 thousand was driven by a decrease in M Financial business during 2018.

Other Liabilities

Other liabilities represent intercompany payables, items in suspense, liability for reinsurance in unauthorized companies and other miscellaneous liabilities. The increase in other liabilities of \$5,125 thousand was primarily due to an increase in items in suspense related to funding agreement and an increase in intercompany payables, partially offset by a decrease in the liability for reinsurance in unauthorized companies, which was driven by a decrease in the reinsurance amounts receivable partially offset by a decrease in other amounts payable on reinsurance.

Capital and Surplus

Capital and surplus increase of \$89,343 thousand was primarily driven by a \$100,000 thousand capital contribution from TIAA and a decrease in the liability for reinsurance in unauthorized companies, partially offset by net losses from operations and an increase in AVR.

Liquidity and Capital Resources

TIAA Life has a financial support agreement with TIAA. Under this agreement, TIAA will provide support so TIAA Life will have the greater of (a) capital and surplus of \$250,000 thousand, (b) the amount of capital and surplus necessary to maintain TIAA Life’s capital and surplus at a level not less than 150% of the NAIC Risk Based Capital model or (c) such other amount as necessary to maintain TIAA Life’s financial strength ratings at least the same as TIAA’s rating. This agreement is not an evidence of indebtedness or an obligation or liability of TIAA and does not provide any creditor of TIAA Life with recourse to TIAA. During 2018, TIAA contributed \$100,000 thousand in capital to TIAA Life.

TIAA Life maintains a \$100,000 thousand unsecured 364-day revolving line of credit with TIAA. This line has an expiration date of July 8, 2019. As of December 31, 2018, \$30,000 thousand of this facility was maintained on a committed basis and there were no balances outstanding.

TIAA Life has no material off-balance sheet arrangements for financing or other purposes.

The following table presents TIAA Life’s total adjusted capital, as defined by the NAIC (in thousands):

| | December 31, | |
|----------------------------------|---------------------|-------------|
| | 2018 | 2017 |
| Total capital and surplus | \$500,884 | \$411,541 |
| Asset valuation reserve utilized | 1,511 | 46,916 |
| Total adjusted capital | \$502,395 | \$458,457 |

TIAA Life's total adjusted capital increase of \$43,938 thousand was primarily driven by a \$100,000 thousand capital contribution from TIAA and a decrease in the liability for reinsurance in unauthorized companies, partially offset by a reduction from using a portion of the asset valuation reserves to meet cash flow testing requirements and net losses from operations.

TIAA Life's financial strength (i.e., claims-paying ability) ratings are AA+ (Very Strong) from Standard and Poor's, A++ (Superior) from A.M. Best Company, AAA (Exceptionally Strong) from Fitch Ratings, and Aa1 (Excellent) from Moody's Investors Service. Each rating agency independently assigns a rating based on its own independent review and takes into account a variety of factors, which are subject to change, in making its decision. Accordingly, there can be no assurance of the ratings that will be afforded in the future. These ratings do not apply to the separate accounts because the underlying assets have been allocated to specific separate account liabilities and generally are not available to fund the needs of TIAA Life's general account.

A significant portion of TIAA Life's general account investments consist of investment grade publicly-traded bonds, which can be readily converted to cash. TIAA Life carefully reviews its liquidity position on an ongoing basis.

The following table illustrates TIAA Life's cash flows provided by or used in operating, investing, and financing activities for the following periods (in thousands):

| | For Year Ended December 31, | | | | | | | |
|---|-----------------------------|------------------|---------------------|-------------|------------------|---------------------|---------------|--|
| | 2018 | 2017 | Increase/(decrease) | | 2016 | Increase/(decrease) | | |
| | | | \$ | % | | \$ | % | |
| Net cash provided by operations | \$ 291,280 | \$ 381,094 | \$ (89,814) | (24)% | 380,800 | 294 | —% | |
| Net cash used in investments | (679,317) | (1,119,500) | 440,183 | (39)% | (860,387) | (259,113) | 30% | |
| Net cash provided by financing and other | 457,144 | 812,921 | (355,777) | (44)% | 341,687 | 471,234 | 138% | |
| Net change in cash, cash equivalents and short term investments | <u>\$ 69,107</u> | <u>\$ 74,515</u> | <u>\$ (5,408)</u> | <u>(7)%</u> | <u>(137,900)</u> | <u>212,415</u> | <u>(154)%</u> | |

Cash flow from operations is affected by the level of premiums from the sale of individual annuity and life insurance products, investment income received, benefits paid, expenses paid, and customer decisions to move funds in or out of separate accounts.

The \$89,814 thousand decrease in net cash provided by operations was primarily due to an decrease in premiums and an increase in benefits and commissions and expenses paid, partially offset by an increase in net investment income and a decrease in net transfers to separate accounts.

The \$440,183 thousand decrease in net cash used in investments was primarily driven by a decrease in investments acquired in long term bonds and an increase in proceeds from bonds sold, matured or repaid.

The \$355,777 thousand decrease in net cash provided by financing and other was driven by a decrease in net deposits on deposit type contracts funds.

Contractual Obligations

As of December 31, 2018, TIAA Life did not have any current or future contractual obligations related to long-term debt, capital leases, operating leases or purchase obligations.

Cash flows from the general account's investments are anticipated to fully fund the general account's obligations.

EXECUTIVE OFFICERS AND DIRECTORS

Directors

Rashmi Badwe, 1971, Director (since 2014). Senior Managing Director, Head, Individual Client Solutions, Branch Officer Manager, TIAA (since 2016). Senior Managing Director, TIAA (2013-2016). Manager, TIAA-CREF Individual & Institutional Services, LLC (since 2016).

Christine E. Dugan, 1963, Director (since 2018). Senior Vice President, Chief Actuary, TIAA (since 1/1/2019), Deputy Chief Actuary (9/2018 – 12/2018), Senior Director, Willis Towers Watson (2016-2018), Head of Closed Block Variable Annuity (2013-2015), Director, Towers Watson (2011-2013) Member, Society of Actuaries, American Academy of Actuaries.

Bradley Finkle, 1973, Director (since 2018). Senior Managing Director, Chief Operating Officer, Nuveen (since 2019), Co-Head Nuveen Equities and Fixed Income, Nuveen and President, TIAA-CREF Funds and TIAA Investments (2017-2019), Senior Managing Director, President, TIAA Public Investments, (2016-2017), Managing Director, Investment Product Management (2010-2015).

Derek Heaslip, 1969, Director (since 2018). Senior Vice President, Chief Financial Officer, R&I Financial Services (since 2019), Senior Managing Director, IR GM Strategic Market (since 2017-2019), TIAA, Senior Managing Director, Head Institutional Business Management (2015-2017), Senior Vice President, Business Finance Officer (2014-2015).

Eric T. Jones, 1961, Director (since 2008). Senior Managing Director, Advisory Solutions & Product Development, TIAA (since 2013). Senior Managing Director, Head of Advice & Product Solutions, TIAA (2012-2013). Senior Vice President, Individual Products, TIAA (2006-2012). Manager (since 2008), President and Chief Executive Officer (2010-2012), TIAA-CREF Individual & Institutional Services, LLC.

Meredith Kornreich, 1957, Director (since 2016). Senior Managing Director, Division General Counsel, Retail and Institutional, TIAA (since 2011). General Counsel, TIAA-CREF Life Insurance Company (2008-2015). Managing Director, ConsultEDUAlliance LLC (since 2015). Former Manager, Envisage Information Systems, LLC (2014).

Christopher Van Buren, 1962, Director (since 2016). Executive Vice President, Chief Risk Officer (since 2018), Executive Vice President, Deputy Chief Risk Officer (2017-2018); Senior Managing Director, TIAA (2014-2017); Senior Managing Director (since 2015) and Chief Risk Officer (since 2014), Nuveen Alternatives Services, LLC. Director, AGR Partners, LLC (2016-2017); Nuveen Real Estate Limited, Director (2015-2017). Director, Nuveen Investments, Inc. Chief Risk Officer, Churchill Asset Management, LLC (2015). Senior Managing Director (2015-2016) and Chief Risk Officer (2014-2016), Teachers Advisors, LLC. Senior Managing Director (2015-2016) and Chief Risk Officer (2014-2016), Nuveen Alternatives Advisors, LLC. Senior Managing Director (2015-2016) and Chief Risk Officer (2014-2016), TIAA-CREF Investment Management, LLC.

Christopher Weyrauch, 1969, Chairman of the Board (since 2016). Executive Vice President, Head of Individual Advisory Services (since 2017); Senior Managing Director, TIAA (2012-2017). President, Chief Executive Officer and Chairman of the Board, TIAA-CREF Life Insurance Company (since 2016). Chief Executive Officer and Chairman (since 2017), President (2016-2017), TIAA-CREF Individual & Institutional Services, LLC.

The Board has an Audit Committee that reviews the scope and results of the audit and other services provided by TIAA Life's independent registered public accounting firm, and reviews and approves matters pertaining to accounting, internal control procedures, and related policies. The Board has an Executive Committee that has the full powers of the Board during intervals between the meetings of the Board, subject to applicable law. The Board has an Investment Committee that determines the investment policies and supervises the investment of the funds of TIAA Life. The Board has a Nominating Committee that nominates directors and executive

officers and designates principal officers. The Board does not have a Compensation Committee because TIAA Life does not have any employees. The Board may, from time to time, establish certain other committees and subcommittees to facilitate the management of TIAA Life.

Executive Officers

Christopher Weyrauch, 1969, President, Chief Executive Officer (since 2016). For Mr. Weyrauch's business experience, principal occupation and employment history, see information under "Director."

Stacy Eisenhauer, 1978, Vice President and Chief Financial Officer (since 2017). Vice President and Chief Financial Officer (since 2017) TIAA-CREF Life Insurance Company; Vice President, Regulatory Reporting (since 2017), Director, Regulatory Reporting (2015-2017), Senior Manager, Securities Reporting (2013-2015) TIAA.

Jorge Gutierrez, 1961, Treasurer (since 2008). Vice President (since 2009) and Treasurer (since 2008). Vice President, Nuveen Alternatives Advisors, LLC (since 2014). Vice President, Nuveen Alternatives Services, LLC (since 2014). Vice President, Teachers Advisors, Inc. (since 2014).

Mary Catherine Benedetto, 1985, Secretary (since 2018). Counsel, Assistant Corporate Secretary (since 2018), TIAA. Secretary, TIAA-CREF Life Insurance Company (since 2018); Secretary, MyVest Corporation (since 2018); Teachers Personal Investors Services, Inc. Secretary (since 2018); TIAA-CREF Individual & Institutional Services, LLC, Secretary (since 2018); Compliance Officer, Bloomberg L.P. (February – March 2018); Assistant Corporate Secretary/Counsel, JP Morgan Chase & Co. (2016-2018); Compliance Officer (2015-2016); Attorney, Investigator, Casale Associate LLC (2011-2015).

Christopher Baraks, 1970, Vice President (since 2012). Vice President, Head of Tax (since 2018); Vice President, TIAA (2013-2018), TIAA. Vice President, Corporate Tax Controller, TIAA-CREF Fund Complex (since 2013). Vice President, Teachers Advisors, LLC (since 2015). Vice President, Teachers Personal Investors Services, Inc. (since 2014). Vice President, TIAA-CREF Insurance Agency, LLC (since 2015). Vice President, TIAA-CREF Individual & Institutional Services, LLC (since 2014).

Barbara Crabtree, 1971, Senior Director, Illustration Actuary (since 2018). Senior Director and Actuary, Product Actuarial (since 2018); Director and Actuary, Product Actuarial (2014-2018) TIAA.

Elizabeth S. DeBenedictis, 1968, Vice President (since 2012). Vice President, Third Party Insurance Wholesaling, TIAA (since 2011). Vice President, TIAA-CREF Life Insurance Company (since 2012). Member, Association for Advanced Life Underwriting.

Carol Fracasso, 1963, Vice President and Consumer Services Officer (since 2017). Vice President and Consumer Services Officer (since 2017); Vice President, Head, Business Management (2016-2017), Vice President, Underwriting & New Business Operations (since 2013) TIAA-CREF Life Insurance Company. Vice President, TIAA (since 2013). Vice President and other positions, AXA Equitable Life Insurance (1986-2012).

Kenneth Reitz, 1957, General Counsel (since 2015). Managing Director and Associate General Counsel (since 2019), Senior Director and Associate General Counsel (since 2013), Director and Associate General Counsel (2011-2013), Associate General Counsel (2008-2011), TIAA. General Counsel, TIAA-CREF Life Insurance Company (since 2015).

Todd Sagmoe, 1964, Vice President (since 2017). Vice President and Illustration Actuary TIAA-CREF Life Insurance Company (2014-2018); Vice President, Product Management (since 2014)

Wayne Smiley, 1962, Chief Compliance Officer (since 2016); Chief Compliance Officer (2006-2011). Director, Compliance Officer II, TIAA (2006-2018). Senior Director, Senior Compliance Officer, TIAA (since 2019). Chief Compliance Officer, TIAA-CREF Life Insurance Company (since 2016).

Tanya Thompson, 1972, Chief Underwriting Officer (since 2017). Vice President, Chief Underwriting Officer, (since 2018); Senior Director, Chief Underwriter (2013-2018) TIAA; Director, Clemson University, Corporate Learning (2011-2013); Chief Underwriter, RBC Insurance (2003-2011).

Audit Committee Financial Expert

The Board of Directors of TIAA Life has determined that Christopher Van Buren, Bradley Finkle, and Christine E. Dugan are qualified and would serve as the Audit Committee financial experts on TIAA Life's Audit Committee. These individuals are not independent of TIAA Life's management.

Code of Ethics

The Board of Trustees of TIAA has a code of ethics for senior financial officers, including its principal executive officer, principal financial officer, principal accounting officer, or controller, and persons performing similar functions, in conformity with rules promulgated under the Sarbanes-Oxley Act of 2002. As employees of TIAA, the Board of Directors and Executive Officers of TIAA Life must adhere to the code of ethics for Senior Financial Officers adopted by TIAA's Board of Trustees. In addition, TIAA Life has a code of ethics for senior financial officers, including its principal executive officers, principal financial officers, principal accounting officers or controllers, in conformity with rules promulgated under the Sarbanes-Oxley Act of 2002. The code of ethics for TIAA Life is filed as an exhibit to this report.

During the period, there were no implicit or explicit waivers granted by the Registrant from any provision of the code of ethics.

TRANSACTIONS WITH RELATED PERSONS

Certain Relationships and Related Transactions, and Director Independence.

Except for the agreements described below, there have been no transactions between TIAA Life and any related person since January 1, 2016, nor are any such related person transactions currently being contemplated, for which disclosure would be required.

TIAA is the sole stockholder of TIAA Life, and TIAA Life and TIAA are parties to the following agreements:

Investment Management Agreement

The Investment Management Agreement provides that TIAA serves as investment adviser with respect to our investment portfolio that we maintain in connection with our business as an insurer. Under the Agreement, TIAA provides investment management services as we may request or as we may determine is reasonably necessary for the proper administration of our investment portfolio, and TIAA agrees to maintain sufficient facilities and trained personnel to perform those services. In consideration for the services provided under the Agreement, we agree to pay TIAA each calendar quarter a fee, which will be the cost to TIAA of performing the investment management services under the Agreement and to reimburse TIAA for any expenses relating to the performance of those services.

Amended and Restated Service Agreement

The Amended and Restated Service Agreement provides that TIAA will perform certain administrative and special services for our business operations, including accounting and bookkeeping services, treasury tasks, tax related services, provide operations systems, telecommunications and mail services, data processing services, maintenance of records, files and other information, legal advisory services, corporate secretarial services, actuarial advisory services, personnel services, public relations services, and such other services as we may request from time to time. In addition, the Agreement allows us to use, in our day-to-day operations, certain property, equipment, and facilities of TIAA, including, without limitation, data processing equipment, business property (whether owned or leased), and communication equipment. In consideration for the services provided under the Agreement, we agree to reimburse TIAA each quarter for the cost to TIAA of performing the services under the Agreement, as reasonably and equitably determined to be attributable to us by TIAA, including all direct and directly-allocable expenses, plus a reasonable charge for direct overhead as agreed to by us and TIAA from time to time.

Financial Support Agreement

We have a financial support agreement with TIAA, and, under this agreement, TIAA will provide financial support so that we will have the greater of (a) capital and surplus of \$250.0 million, (b) the amount of capital and surplus necessary to maintain our capital and surplus at a level not less than 150% of the NAIC Risk Based Capital model or (c) such other amount as necessary to maintain our financial strength rating at least the same as TIAA's rating at all times. This agreement is not an evidence of indebtedness or an obligation or liability of TIAA and does not provide any contract owner with recourse to TIAA.

Tax Allocation Agreement

As a subsidiary of TIAA, we are included in TIAA's consolidated group for U.S. federal income tax purposes. With respect to tax returns for any taxable period in which we are included in TIAA's consolidated group, the amount of taxes to be paid by us is determined, subject to some adjustments, as if we filed our own separate tax return. Under the Tax Allocation Agreement, TIAA agrees to prepare, and TIAA Board of Overseers, the sole, collective owner of TIAA, will execute and file, all consolidated returns with respect to the consolidated group. We agree to pay to TIAA an amount equal to the federal income tax payments that we would be obligated to pay the federal government if we filed a separate return. TIAA agrees to pay each of its subsidiaries, including us, any reductions in the consolidated group's federal income tax liability that are attributable to the tax losses of the subsidiary, and any refund owed to the subsidiary.

Distribution Arrangements

Our affiliate, TIAA-CREF Individual & Institutional Services, LLC ("TC Services"), a subsidiary of TIAA, is authorized to distribute Contracts, issued through separate accounts for VA-1, VLI-1, and VLI-2 and distribute the IHA Contracts.

These services are provided via a direct agreement between us and TC Services. TC Services is compensated by us for all reasonable direct and directly allocable expenses it incurs in providing distribution services under the IHA Distribution Agreement, as reasonably and equitably determined to be attributable to TC Services.

SAGIC-related Arrangements

TPIS is authorized to distribute the SAGIC contracts pursuant to a distribution agreement with us. We reimburse TPIS at cost for all costs and expenses incurred by and directly or indirectly allocable to TPIS in providing distribution services.

Our subsidiary, Teachers Advisors, LLC ("TAL"), acts as investment manager with respect to the assets of the SVSA-1, SVSA-2, and SVSA-3 separate accounts pursuant to an investment management agreement. TAL has discretionary authority to invest the assets of the separate accounts, subject to certain investment guidelines. In consideration for the investment management services provided by TAL, we pay TAL a fee each calendar quarter based on the total market value of each separate account's assets and reimburse TAL for any expenses related to performing its services.

Note Purchase Agreement

The Company provides a \$100 million unsecured 364-day revolving line of credit arrangement with TIAA-CREF Life. This line has an expiration date of July 8, 2019. As of December 31, 2018, \$30 million of this facility was maintained on a committed basis, and there were no balances outstanding.

Service Agreement

Services for funding agreements used to fund certain qualified state tuition programs for which TIAA-CREF Tuition Financing, Inc. ("TFI"), a wholly-owned subsidiary of TIAA-CREF Asset Management LLC is the program manager, are provided to TIAA Life by TFI pursuant to a Service Agreement between the Company and TFI.

Related Person Fees

For the services provided in accordance with the agreements identified above, we incurred \$163 million in total fees to TIAA during the year ended December 31, 2018.

Transactions with Related Persons Prohibited

The Board of Directors and Executive Officers of TIAA Life, as employees of TIAA, must adhere to a Corporate Code of Conduct and a Code of Ethics for Senior Financial Officers adopted by TIAA's Board of Trustees. The policies proscribe activities and transactions where the director's or executive officer's private interests interfere with the interests of TIAA, its affiliates and subsidiaries. Under these rules, no director or officer would be permitted to engage in transactions with TIAA for which disclosure is required under SEC rules. Annually, directors and executive officers must submit a form to TIAA's General Counsel confirming that he or she has received, read and understands the Code of Ethics and has complied with the requirements of the Code; and notify the General Counsel promptly if he or she becomes aware of any existing or potential violation of this Code.

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REPORT OF INDEPENDENT AUDITORS

To the Board of Directors of
TIAA-CREF Life Insurance Company

We have audited the accompanying statutory-basis financial statements of TIAA-CREF Life Insurance Company, which comprise the statutory statements of admitted assets, liabilities and capital and surplus as of December 31, 2018 and 2017, and the related statutory-basis statements of operations and changes in capital and surplus, and of cash flows for each of the three years in the period ended December 31, 2018.

MANAGEMENT'S RESPONSIBILITY FOR THE FINANCIAL STATEMENTS

Management is responsible for the preparation and fair presentation of the statutory-basis financial statements in accordance with the accounting practices prescribed or permitted by the New York State Department of Financial Services. Management is also responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of statutory-basis financial statements that are free from material misstatement, whether due to fraud or error.

AUDITORS' RESPONSIBILITY

Our responsibility is to express an opinion on the statutory-basis 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 statutory-basis 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 our 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, we consider internal control relevant to the Company'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 Company'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.

BASIS FOR ADVERSE OPINION ON U.S. GENERALLY ACCEPTED ACCOUNTING PRINCIPLES

As described in Note 2 to the statutory-basis financial statements, the statutory-basis financial statements are prepared by the Company on the basis of the accounting practices prescribed or permitted by the New York State Department of Financial Services, which is a basis of accounting other than accounting principles generally accepted in the United States of America.

The effects on the statutory-basis financial statements of the variances between the statutory basis of accounting described in Note 2 and accounting principles generally accepted in the United States of America, although not reasonably determinable, are presumed to be material.

ADVERSE OPINION ON U.S. GENERALLY ACCEPTED ACCOUNTING PRINCIPLES

In our opinion, because of the significance of the matter discussed in the "Basis for Adverse Opinion on U.S. Generally Accepted Accounting Principles" paragraph, the statutory-basis financial statements referred to above do not present fairly, in accordance with accounting principles generally accepted in the United States of America, the financial position of the Company as of December 31, 2018 and 2017, or the results of its operations or its cash flows for each of the three years in the period ended December 31, 2018.

OPINION ON STATUTORY BASIS OF ACCOUNTING

In our opinion, the statutory-basis financial statements referred to above present fairly, in all material respects, the admitted assets, liabilities and capital and surplus of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in accordance with the accounting practices prescribed or permitted by the New York State Department of Financial Services described in Note 2.

EMPHASIS OF MATTER

As discussed in Note 10 to the statutory-basis financial statements, the Company has entered into significant transactions with affiliated entities. Our opinion is not modified with respect to this matter.

/s/ PricewaterhouseCoopers LLP
New York, NY
March 14, 2019

TIAA-CREF LIFE INSURANCE COMPANY
STATUTORY-BASIS STATEMENTS OF ADMITTED ASSETS,
LIABILITIES AND CAPITAL AND SURPLUS

| (in thousands) | December 31, | |
|---|---------------------|---------------------|
| | 2018 | 2017 |
| ADMITTED ASSETS | | |
| Bonds | \$ 7,913,172 | \$ 7,240,086 |
| Preferred stocks | 183 | 183 |
| Cash, cash equivalents and short-term investments | 171,753 | 102,646 |
| Contract loans | 33,771 | 27,016 |
| Other long-term investments | 4,707 | 5,124 |
| Investment income due and accrued | 69,960 | 63,092 |
| Federal income tax recoverable from TIAA | 2,184 | — |
| Net deferred federal income tax asset | 16,773 | 17,006 |
| Reinsurance amounts receivable | 14,227 | 28,176 |
| Other assets | 23,997 | 20,834 |
| Separate account assets | 5,016,425 | 5,052,500 |
| Total admitted assets | \$13,267,152 | \$12,556,663 |
| LIABILITIES, CAPITAL AND SURPLUS | | |
| Liabilities | | |
| Reserves for life and health, annuities and deposit-type contracts | \$ 7,651,764 | \$ 6,996,890 |
| Asset valuation reserve | 52,486 | 46,916 |
| Interest maintenance reserve | 11,169 | 13,796 |
| Federal income tax payable to TIAA | — | 2,287 |
| Other amounts payable on reinsurance | 16,071 | 18,347 |
| Other liabilities | 33,231 | 28,106 |
| Separate account liabilities | 5,001,547 | 5,038,780 |
| Total liabilities | 12,766,268 | 12,145,122 |
| Capital and surplus | | |
| Capital (2,500 shares of \$1,000 par value common stock issued and outstanding) | 2,500 | 2,500 |
| Additional paid-in capital | 557,500 | 457,500 |
| Surplus (deficit) | (59,116) | (48,459) |
| Total capital and surplus | 500,884 | 411,541 |
| Total liabilities, capital and surplus | \$13,267,152 | \$12,556,663 |

See notes to statutory-basis financial statements

TIAA-CREF LIFE INSURANCE COMPANY
STATUTORY-BASIS STATEMENTS OF OPERATIONS

| (in thousands) | For the Years Ended December 31, | | |
|--|----------------------------------|--------------------|------------------|
| | 2018 | 2017 | 2016 |
| REVENUES | | | |
| Insurance and annuity premiums and other considerations | \$ 692,435 | \$ 736,413 | \$695,583 |
| Net investment income | 270,010 | 240,395 | 209,258 |
| Commissions and expense allowances on reinsurance ceded | 18,777 | 24,169 | 26,492 |
| Reserve adjustments on reinsurance ceded | 16,144 | 32,733 | 33,400 |
| Separate account fees and other revenues | 26,613 | 25,936 | 24,821 |
| Total revenues | \$1,023,979 | \$1,059,646 | \$989,554 |
| EXPENSES | | | |
| Policy and contract benefits | \$ 340,270 | \$ 246,649 | \$227,194 |
| Increase in policy and contract reserves | 244,207 | 327,489 | 348,093 |
| Insurance expenses and taxes (excluding Federal income taxes) | 148,568 | 129,053 | 141,101 |
| Commissions on premiums | 24,437 | 27,375 | 31,056 |
| Interest on deposit-type contracts | 65,250 | 49,155 | 37,274 |
| Net transfers to separate accounts | 214,334 | 241,681 | 189,656 |
| Total expenses | \$1,037,066 | \$1,021,402 | \$974,374 |
| Income (loss) before federal income tax and net realized capital gains (losses) | (13,087) | 38,244 | 15,180 |
| Federal income tax expense | 2,364 | 10,907 | 12,303 |
| Net realized capital gains (losses) less capital gains taxes, after transfers to the interest maintenance reserve | 819 | 1,900 | (325) |
| Net income (loss) | \$ (14,632) | \$ 29,237 | \$ 2,552 |

See notes to statutory-basis financial statements

TIAA-CREF LIFE INSURANCE COMPANY
STATUTORY-BASIS STATEMENTS OF CHANGES IN CAPITAL AND SURPLUS

| (in thousands) | Capital Stock | Additional Paid-In Capital | Surplus (Deficit) | Total |
|---|------------------|----------------------------------|----------------------|-----------|
| Balance, December 31, 2015 | \$2,500 | \$407,500 | \$(47,482) | \$362,518 |
| Net income (loss) | — | — | 2,552 | 2,552 |
| Change in net unrealized capital gains (losses) on investments | — | — | (281) | (281) |
| Change in asset valuation reserve | — | — | (7,183) | (7,183) |
| Change in surplus in separate accounts | — | — | (1,601) | (1,601) |
| Change in liability for reinsurance in unauthorized companies | — | — | 1,803 | 1,803 |
| Change in net deferred income tax | — | — | 3,910 | 3,910 |
| Change in non-admitted assets: | | | | |
| Deferred federal income tax asset | — | — | (1,003) | (1,003) |
| Deferred premium asset limitation | — | — | (1,635) | (1,635) |
| Other assets | — | — | 594 | 594 |
| Capital contribution | — | 50,000 | — | 50,000 |
| Balance, December 31, 2016 | \$2,500 | \$457,500 | \$(50,326) | \$409,674 |
| Net income (loss) | — | — | 29,237 | 29,237 |
| Change in net unrealized capital gains (losses) on investments | — | — | (574) | (574) |
| Change in asset valuation reserve | — | — | (6,090) | (6,090) |
| Change in surplus in separate accounts | — | — | (4,094) | (4,094) |
| Change in liability for reinsurance in unauthorized companies | — | — | (10,828) | (10,828) |
| Change in net deferred income tax | — | — | (26,980) | (26,980) |
| Change in non-admitted assets: | | | | |
| Deferred federal income tax asset | — | — | 22,610 | 22,610 |
| Deferred premium asset limitation | — | — | (1,137) | (1,137) |
| Other assets | — | — | (277) | (277) |
| Balance, December 31, 2017 | \$2,500 | \$457,500 | \$(48,459) | \$411,541 |
| Net income (loss) | — | — | (14,632) | (14,632) |
| Change in net unrealized capital gains (losses) on investments | — | — | (202) | (202) |
| Change in asset valuation reserve | — | — | (5,570) | (5,570) |
| Change in surplus in separate accounts | — | — | (349) | (349) |
| Change in liability for reinsurance in unauthorized companies | — | — | 10,648 | 10,648 |
| Change in net deferred income tax | — | — | 4,947 | 4,947 |
| Change in non-admitted assets: | | | | |
| Deferred federal income tax asset | — | — | (5,180) | (5,180) |
| Deferred premium asset limitation | — | — | (1,927) | (1,927) |
| Other assets | — | — | 1,608 | 1,608 |
| Capital contribution | — | 100,000 | — | 100,000 |
| Balance, December 31, 2018 | \$2,500 | \$557,500 | \$(59,116) | \$500,884 |

See notes to statutory-basis financial statements

TIAA-CREF LIFE INSURANCE COMPANY
STATUTORY-BASIS STATEMENTS OF CASH FLOWS

| (in thousands) | For the Years Ended December 31, | | |
|---|----------------------------------|-------------|------------|
| | 2018 | 2017 | 2016 |
| CASH FROM OPERATIONS | | | |
| Insurance and annuity premiums and other considerations | \$ 687,300 | \$ 736,564 | \$ 684,962 |
| Net investment income | 261,013 | 231,848 | 200,408 |
| Separate account fees and other revenues | 43,854 | 49,060 | 57,547 |
| Total receipts | 992,167 | 1,017,472 | 942,917 |
| Policy and contract benefits | 304,039 | 223,773 | 189,705 |
| Commissions and expenses paid | 173,344 | 156,463 | 172,618 |
| Federal income tax expense | 5,621 | 15,545 | 9,311 |
| Net transfers to separate accounts | 217,883 | 240,597 | 190,483 |
| Total disbursements | 700,887 | 636,378 | 562,117 |
| Net cash from operations | 291,280 | 381,094 | 380,800 |
| CASH FROM INVESTMENTS | | | |
| Proceeds from long-term investments sold, matured, or repaid: | | | |
| Bonds | 638,932 | 572,415 | 653,665 |
| Stocks | — | 346 | — |
| Other invested assets | 1,000 | 5,313 | — |
| Net gains on cash, cash equivalents and short-term investments | — | — | 42 |
| Miscellaneous proceeds | 399 | 161 | — |
| Cost of investments acquired: | | | |
| Bonds | 1,312,893 | 1,694,574 | 1,508,360 |
| Net increase in contract loans | 6,755 | 3,159 | 5,174 |
| Net losses on cash, cash equivalents and short-term investments | — | 2 | — |
| Miscellaneous applications | — | — | 560 |
| Net cash used in investments | (679,317) | (1,119,500) | (860,387) |
| CASH FROM FINANCING AND OTHER | | | |
| Additional paid in capital | 100,000 | — | 50,000 |
| Net deposits on deposit-type contracts funds | 339,319 | 816,788 | 294,277 |
| Other cash provided (applied) | 17,825 | (3,867) | (2,590) |
| Net cash from financing and other | 457,144 | 812,921 | 341,687 |
| NET CHANGE IN CASH, CASH EQUIVALENTS & SHORT-TERM INVESTMENTS | 69,107 | 74,515 | (137,900) |
| CASH, CASH EQUIVALENTS & SHORT-TERM INVESTMENTS, BEGINNING OF YEAR | 102,646 | 28,131 | 166,031 |
| CASH, CASH EQUIVALENTS & SHORT-TERM INVESTMENTS, END OF YEAR | \$ 171,753 | \$ 102,646 | \$ 28,131 |

See notes to statutory-basis financial statements

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS

Note 1—organization and operations

TIAA-CREF Life Insurance Company commenced operations as a legal reserve life insurance company under the insurance laws of the State of New York on December 18, 1996, under its former name, TIAA Life Insurance Company, and changed its name to TIAA-CREF Life Insurance Company (“TIAA Life” or the “Company”) on May 1, 1998. TIAA Life is a direct wholly-owned subsidiary of Teachers Insurance and Annuity Association of America (“TIAA” or the “Parent”), a legal reserve life insurance company established under the insurance laws of the State of New York in 1918.

The Company issues non-qualified annuity contracts with fixed and variable components, fixed and variable universal life contracts, funding agreements, book value separate account agreements, term-life insurance and single premium immediate annuities.

Note 2—significant accounting policies

BASIS OF PRESENTATION:

The accompanying financial statements have been prepared on the basis of statutory accounting principles prescribed or permitted by the New York State Department of Financial Services (“NYDFS” or the “Department”); a comprehensive basis of accounting that differs from accounting principles generally accepted in the United States (“GAAP”). The Department requires insurance companies domiciled in the State of New York to prepare their statutory-basis financial statements in accordance with the National Association of Insurance Commissioners’ (“NAIC”) Accounting Practices and Procedures Manual (“NAIC SAP”), subject to any deviation prescribed or permitted by the Department (“New York SAP”).

The table below provides a reconciliation of the Company’s net income and capital and surplus between NAIC SAP and the New York SAP annual statement filed with the Department.

| (in thousands) | For the Years Ended December 31, | | | | |
|---|---|--|-------------|------------------------------|------------------------------|
| | SSAP# | F/S Line | 2018 | 2017 (as revised) | 2016 (as revised) |
| Net income (loss), New York SAP | | | \$ (14,632) | \$ 29,237 | \$ 2,552 |
| New York SAP Prescribed Practices that are an increase/ (decrease) to NAIC SAP: | | | | | |
| Additional reserves for term conversions | 51R | Increase in policy and contract reserves | 1,140 | 1,534 | 409 |
| Net income (loss), NAIC SAP | | | \$ (13,492) | \$ 30,771 | \$ 2,961 |
| Capital and surplus, New York SAP | | | \$500,884 | \$411,541 | \$409,674 |
| New York SAP Prescribed Practices that are an increase/ (decrease) to NAIC SAP: | | | | | |
| Deferred premium asset limitation | 51R, 61R | Other assets | 63 | 343 | 344 |
| Separate Account Assets | 56 | Separate account assets | (33,873) | (13,365) | (17,446) |
| Separate Account Liabilities | 56 | Separate account liabilities | 28,900 | 8,885 | 9,294 |
| Additional reserves for term conversions | 51R | Reserves for life and health insurance, annuities and deposit-type contracts | 5,734 | 4,594 | 3,060 |
| Capital and surplus, NAIC SAP | | | \$501,708 | \$411,998 | \$404,926 |

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The deferred premium asset limitation results from the NYDFS Circular Letter No. 11 (2010), which prescribed the calculation and clarified the accounting for deferred premium assets when reinsurance is involved.

The deferred premium asset limitation in prior years' presentation of the reconciliation of the Company's net income and capital and surplus between NAIC SAP and practices prescribed or permitted by the State of New York has been revised. This revision had no effect on the statements of admitted assets, liabilities and capital and surplus, or the related statements of operations or changes in capital and surplus, or of cash flows. The impact of the revision was limited to the calculation of the amounts in the footnote disclosure.

The Stable Value Separate Account ("SVSA") products are accounted for at book value in accordance with New York Insurance Law ("NYIL") Section 1414. The separate account liabilities for the benefits guaranteed under the contracts are carried at book value in accordance with NYIL section 4217, NYDFS Regulation No. 151.

The additional reserve for the term conversions results from the Department requiring in Regulation No. 147 (11NYCRR 98) Valuation of Life Insurance Reserves Section 98.4 for any policy which guarantees renewal, or conversion to another policy, without evidence of insurability, additional reserves shall be held that account for excess mortality due to anti-selection with appropriate margins to cover expenses and risk of moderately adverse deviations in experience.

The Company's risk based capital as of December 31, 2018 and 2017 would not have triggered a regulatory event without the use of the New York SAP prescribed practices.

Accounting Principles Generally Accepted in the United States: The Financial Accounting Standards Board ("FASB") dictates the accounting principles for financial statements that are prepared in conformity with GAAP with applicable authoritative accounting pronouncements. As a result, the Company cannot refer to financial statements prepared in accordance with NAIC SAP and New York SAP as having been prepared in accordance with GAAP.

The primary differences between GAAP and NAIC SAP can be summarized as follows:

Under GAAP:

- Investments in bonds considered to be "available for sale" are carried at fair value rather than at amortized cost under NAIC SAP;
- Impairments on securities (other than loan-backed and structured securities) due to credit losses are recorded as other-than-temporary impairments ("OTTI") through earnings for the difference between amortized cost and discounted cash flows when a security is deemed impaired. Other declines in fair value related to factors other than credit are recorded as other comprehensive income, which is a separate component of stockholder's equity. Under NAIC SAP, an impairment for such securities is recorded through earnings for the difference between amortized cost and fair value;
- For loan-backed and structured securities that are other-than-temporarily impaired, declines in fair value related to factors other than credit are recorded as other comprehensive income, which is a separate component of stockholder's equity. Under NAIC SAP, such declines in fair value are not recorded until a credit loss occurs;
- If in the aggregate, the Company has a net negative cash balance, the negative cash is recorded as a liability rather than as a negative asset under NAIC SAP;

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

- Changes in the allowance for estimated uncollectible amounts related to mortgage loans are recorded through earnings rather than as unrealized losses on impairments included in the Asset Valuation Reserve, which is a component of surplus under NAIC SAP;
- Changes in the value of certain other long-term investments accounted for under the equity method of accounting are recorded through earnings rather than as unrealized gains (losses), which is a component of surplus under NAIC SAP;
- Investments in wholly-owned subsidiaries, other entities under the control of the parent, and certain variable interest entities are consolidated in the parent’s financial statements rather than being carried at the parent’s share of the underlying GAAP equity or statutory surplus of a domestic insurance subsidiary under NAIC SAP;
- Contracts that contain an embedded derivative are bifurcated from the host contract and accounted for separately under GAAP, whereas under NAIC SAP, the embedded derivative is not bifurcated between components and is accounted for as part of the host contract;
- Certain assets designated as “non-admitted assets” and excluded from assets in the statutory balance sheet are included in the GAAP balance sheet;
- Surplus notes are reported as a liability rather than a component of capital and contingency reserves under NAIC SAP;
- The Asset Valuation Reserve (“AVR”) is not recognized under GAAP. The AVR is established under NAIC SAP with changes recorded as a direct charge to surplus;
- The Interest Maintenance Reserve (“IMR”) is not recognized under GAAP. The realized gains and losses resulting from changes in interest rates are reported as a component of net income under GAAP rather than being deferred and subsequently amortized into income over the remaining expected life of the investment sold under NAIC SAP;
- Dividends on participating policies are accrued when earned under GAAP rather than being recognized for the year when they are approved under NAIC SAP;
- Policy acquisition costs, such as commissions, and other costs incurred in connection with acquiring new business, are deferred and amortized over the expected lives of the policies issued rather than being expensed when incurred under NAIC SAP;
- Policy and contract reserves are based on management’s best estimates of expected mortality, morbidity, persistency and interest rather than being based on statutory mortality, morbidity and interest requirements under NAIC SAP;
- Deferred income taxes, subject to valuation allowance, include federal and state income taxes and changes in the deferred tax are reflected in earnings. Under NAIC SAP, deferred taxes exclude state income taxes and are admitted to the extent they can be realized within three years subject to a 15% limitation of capital and surplus with changes in the net deferred tax reflected as a component of surplus;
- Contracts that do not subject the Company to risks arising from policyholder mortality or morbidity are reported as a deposit liability. Under NAIC SAP, an annuity contract containing a life contingency is required to be classified as a life insurance contract, regardless of the significance of any mortality and morbidity risk, and amounts received and paid under these contracts are reported as revenue and benefits, respectively;
- Assets and liabilities are reported gross of reinsurance under GAAP and net of reinsurance under NAIC SAP. Certain reinsurance transactions are accounted for as financing transactions under GAAP and as reinsurance under NAIC SAP. Transactions recorded as financing have no impact on premiums or losses incurred, while under NAIC SAP, premiums paid to the reinsurer are recorded as ceded premiums (a reduction in revenue) and expected reimbursement for losses from the reinsurer are recorded as a reduction in losses;

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

- When reserves ceded to an unauthorized reinsurer exceed the assets or letters of credit supporting the reserves no liability is established under GAAP. Under NAIC SAP, a liability is established and changes to these amounts are credited or charged directly to unassigned surplus (deficit).

The effects of these differences, while not determined, are presumed to be material.

Use of Estimates: The preparation of statutory-basis financial statements requires management to make estimates and assumptions that impact the reported amounts of assets and liabilities at the date of the financial statements. Management is also required to disclose contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results may differ from those estimates.

The most significant estimates include those used in the recognition of other-than-temporary impairments, reserves for life and health insurance, annuities and deposit-type contracts and the valuation of deferred tax assets.

Reclassifications: Certain prior year amounts within these financial statement footnotes have been reclassified to conform to the current year presentation. No reclassifications were made to the statements of admitted assets, liabilities and capital and surplus, or the related statements of operations or changes in capital and surplus, or of cash flows.

ACCOUNTING POLICIES:

The following is a summary of the significant accounting policies followed by the Company:

Bonds: Bonds are stated at amortized cost using the constant yield method. Bonds in or near default (rated NAIC 6) are stated at the lower of amortized cost or fair value. NAIC ratings are applied to bonds and other securities. Categories 1 and 2 are considered investment grade, while Categories 3 through 6 are considered below investment grade. Bonds are recorded on a trade date basis, except for private placement bonds, which are recorded on the funding date. Bonds the Company intends to sell prior to maturity (“held for sale”) are stated at the lower of amortized cost or fair value.

Included within bonds are loan-backed and structured securities. Estimated future cash flows and expected prepayment speeds are used to determine the amortization of loan-backed and structured securities under the prospective method. Expected future cash flows and prepayment speeds are evaluated quarterly. Certain loan-backed and structured securities are reported at the lower of amortized cost or fair value as a result of the NAIC modeling process.

If it is determined that a decline in the fair value of a bond, excluding loan-backed and structured securities, is other-than-temporary, the cost basis of the bond is written down to fair value and the amount of the write down is accounted for as a realized loss. The new cost basis is not changed for subsequent recoveries in fair value. Future declines in fair value which are determined to be other-than-temporary are recorded as realized losses.

For loan-backed and structured securities, which the Company has the intent and ability to hold for a period of time sufficient to recover the amortized cost bases, when an other-than-temporary impairment (“OTTI”) has occurred because the Company does not expect to recover the entire amortized cost basis of the security, the amount of the OTTI recognized as a realized loss is the difference between the security’s amortized cost basis and the present value of cash flows expected to be collected, discounted at the loan-backed or structured security’s effective interest rate.

For loan-backed and structured securities, when an OTTI has occurred because the Company intends to sell the security or the Company does not have the intent and ability to retain the security for a period of time

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

sufficient to recover the amortized cost basis, the amount of the OTTI realized is the difference between the security's amortized cost basis and fair value at the balance sheet date.

In periods subsequent to the recognition of an OTTI loss for a loan-backed or structured security, the Company accounts for the other-than-temporarily impaired security as if the security had been purchased on the measurement date of the impairment. The difference between the new amortized cost basis and the cash flows expected to be collected is accreted as interest income in future periods based on prospective changes in cash flow estimates.

Preferred Stocks: Preferred stocks are stated at amortized cost unless they have an NAIC rating designation of 4, 5, or 6 which are stated at the lower of amortized cost or fair value. The fair values of preferred stocks are determined using prices provided by independent pricing services or internally developed pricing models. When it is determined that a decline in fair value of an investment is other-than-temporary, the cost basis of the investment is reduced to its fair value and the amount of the reduction is accounted for as a realized loss.

Other Long-term Investments: Other long-term investments include the Company's investments in surplus notes, which are stated at amortized cost. All of the Company's investments in surplus notes have an NAIC 1 rating designation.

The Company monitors the effects of current and expected market conditions and other factors on these investments to identify and quantify any impairment in value. The Company assesses the investments for potential impairment by performing analysis between the fair value and the cost basis of the investments. The Company evaluates recoverability of the Company's direct investment to determine if OTTI is warranted. When it is determined that a decline in fair value of an investment is other-than-temporary, the cost basis of the investment is reduced to its fair value and the amount of the reduction is accounted for as a realized loss.

Investments in wholly-owned non-insurance subsidiaries are stated at the value of their underlying audited GAAP equity. Dividends and distributions from subsidiaries are recorded in investment income to the extent that they are not in excess of the investee's undistributed accumulated earnings and changes in the equity of subsidiaries are recorded directly to surplus as unrealized gains or losses.

Cash and Cash Equivalents: Cash includes cash on deposit and cash equivalents. Cash equivalents are short-term, highly liquid investments, with original maturities of three months or less at the date of purchase and are stated at amortized cost. If in the aggregate, the Company has a net negative cash balance, the negative cash is recorded as a negative asset.

Short-Term Investments: Short-term investments (investments with remaining maturities of one year or less at the time of acquisition, excluding those investments classified as cash equivalents) that are not impaired are stated at amortized cost using the straight line interest method. Short-term investments that are impaired are stated at the lower of amortized cost or fair value.

Contract Loans: Contract loans are stated at outstanding principal balances. Interest income accrued on contract loans past due 90 days or more are included in the unpaid balance of the loan. The excess of unpaid contract loan balances over the cash surrender value, if any, is non-admitted and reflected as an adjustment to surplus. Interest income on such contract loans is recorded as earned using the contractually agreed upon interest rate.

Investment Income Due and Accrued: Investment income due is investment income earned and legally due to be paid to the Company at the reporting date. Investment income accrued is investment income earned but not legally due to be paid to the Company until subsequent to the reporting date. The Company writes off

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

amounts deemed uncollectible as a charge against investment income in the period such determination is made. Amounts deemed collectible, but over 90 days past due for any invested asset except mortgage loans in default are non-admitted. Amounts deemed collectible, but over 180 days past due for mortgage loans in default are non-admitted. The Company accrues interest income on impaired loans to the extent it is deemed collectible.

Separate Accounts: Separate Accounts are established in conformity with insurance laws and are maintained for the benefit of separate account contract holders. In accordance with the provisions of the separate account products, some separate account assets are considered legally insulated, which prevents such assets from being generally available to satisfy claims resulting from the general account. The Company’s separate accounts are legally insulated from the general account with the exception of the Separate Account MVA-1, which is not legally insulated. Separate account assets are accounted for at fair value, except the Stable Value Separate Account (“SVSA”) which supports book value separate account agreements, in which case the assets are accounted for at amortized cost in accordance with NYDFS guidance. Separate account liabilities reflect the contractual obligations of the insurer arising out of the provisions of the insurance contract.

Foreign Currency Transactions and Translation: Investments denominated in foreign currencies and foreign currency contracts are valued in U.S. dollars, based on exchange rates at the balance sheet date. Investment transactions in foreign currencies are recorded at the exchange rates prevailing on the respective transaction dates. All other asset and liability accounts denominated in foreign currencies are adjusted to reflect exchange rates at the balance sheet date. Realized and unrealized gains and losses due to foreign exchange transactions and translation adjustments are not separately reported but are collectively included in realized and unrealized capital gains and losses, respectively.

Non-Admitted Assets: For statutory accounting purposes, certain assets are designated as non-admitted assets. Changes in non-admitted assets are reported as a direct adjustment to surplus in the accompanying Statements of Changes in Capital and Surplus.

At December 31, the major categories of assets that are non-admitted are as follows (in thousands):

| | 2018 | 2017 | Change |
|-------------------------|-----------------|-----------------|-----------------|
| Net deferred tax assets | \$31,158 | \$25,978 | \$ 5,180 |
| Deferred premium assets | 37,333 | 35,406 | 1,927 |
| Other invested assets | — | 1,202 | (1,202) |
| Sundry receivables | 28 | 434 | (406) |
| Total | \$68,519 | \$63,020 | \$ 5,499 |

Insurance and Annuity Premiums: Life insurance premiums are recognized as revenue over the premium-paying period of the related policies. Annuity considerations are recognized as revenue when received. Deposits on deposit-type contracts are recorded directly as a liability when received. Expenses incurred when acquiring new business are charged to operations as incurred.

Reserves for Life and Health Insurance, Annuities and Deposit-type Contracts: Policy and contract reserves are determined in accordance with standard valuation methods approved by the Department and are computed in accordance with standard actuarial methodology. The reserves established utilize assumptions for interest, mortality and other risks insured. Such reserves are established to provide for adequate contractual benefits guaranteed under policy and contract provisions.

Liabilities for deposit-type contracts, which do not contain any life contingencies, are equal to deposits received and interest credited to the benefit of contract holders, less surrenders or withdrawals (that represent a return to the contract holders) plus additional reserves (if any) necessitated by actuarial regulations.

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The Company performed asset adequacy analysis in order to test the adequacy of its reserves in light of the assets supporting such reserves, and determined that its reserves are sufficient to meet its obligations.

Reinsurance: The Company enters into reinsurance agreements in the normal course of its insurance business to reduce overall risk. The Company remains liable for reinsurance ceded if the reinsurer fails to meet its obligation on the business assumed. All reinsurance is placed with unaffiliated reinsurers. A liability is established for reserves ceded to unauthorized reinsurers which are not secured by or in excess of letters of credit or trust agreements. The Company does not have reinsurance agreements in effect under which the reinsurer may unilaterally cancel the agreement. Reinsurance premiums, benefits and reserves are accounted for on bases consistent with those used in accounting for the original policies issued and the terms of the reinsurance contracts. The Company records a receivable for reinsured benefits paid but not yet reimbursed by the reinsurer and reduces policyholders' reserves for the portion of insurance liabilities that are reinsured. Commissions and expense allowances on reinsurance ceded are reported as income in the summary of operations, and the balance sheet provision for due and accrued amounts is reported as an asset. Amounts shown in the financial statements are reported net of the impact of reinsurance.

Asset Valuation Reserve and Interest Maintenance Reserve: Mandatory reserves have been established for the General Account and Separate Account investments, where required. Such reserves consist of the AVR for potential credit-related losses on applicable General Account and Separate Account invested assets. Changes to the AVR are reported as direct additions to or deductions from surplus. An IMR is established for interest-related realized capital gains (losses) resulting from changes in the general level of interest rates for the General Account, as well as any Separate Accounts, not carried at fair value. Transfers to the IMR are deducted from realized capital gains and losses and are net of related federal income tax. IMR amortization, as calculated under the grouped method, is included in net investment income. Net realized capital gains (losses) are presented net of federal income tax expense or benefit and IMR transfer.

Net Realized Capital Gains (Losses): Realized capital gains (losses), net of taxes, exclude gains (losses) deferred into the IMR and gains (losses) of the separate accounts. Realized capital gains (losses), including OTTI, are recognized in net income and are determined using the specific identification method.

Federal Income Taxes: Current federal income taxes are charged or credited based upon amounts estimated to be payable or recoverable as a result of operations for the current year and any adjustments to such estimates from prior years. Deferred federal income tax assets ("DTAs") and deferred federal income tax liabilities ("DTLs") are recognized for expected future tax consequences of temporary differences between statutory and taxable income. Temporary differences are identified and measured using a balance sheet approach whereby statutory and tax balance sheets are compared. Changes in DTAs and DTLs are recognized as a separate component of surplus. Net DTAs are admitted to the extent permissible under NAIC SAP. Gross DTAs are reduced by a statutory valuation allowance if it is more likely than not that some portion or all of the gross DTA will not be realized. The Company is required to establish a tax loss contingency if it is more likely than not that a tax position will not be sustained. The amount of the contingency reserve is management's best estimate of the amount of the original tax benefit that could be reversed upon audit, unless the best estimate is greater than 50% of the original tax benefit, in which case the reserve is equal to the entire tax benefit.

The Company files a consolidated federal income tax return with its parent, TIAA, and its subsidiaries. The consolidating companies participate in tax allocation agreements. The tax allocation agreements provide that each member of the group is allocated its share of the consolidated tax provision or benefit, determined generally on a separate company basis, but may, where applicable, recognize the tax benefits of net operating losses or capital losses utilizable by the consolidated group. Intercompany tax balances are settled quarterly on an estimated basis with a final settlement occurring within 30 days of the filing of the consolidated return.

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Statements of Cash Flows: Noncash activities are excluded from the Statutory—Basis Statements of Cash Flows. These noncash activities for the years ended December 31, include the following (in thousands):

| | 2018 | 2017 | 2016 |
|---|-----------|----------|-----------|
| Exchange/restructure/transfer of bond investments | \$168,869 | \$72,445 | \$176,336 |
| Capitalized interest on bonds | \$ 1,739 | \$ 1,230 | \$ 446 |
| Interest credited on deposit-type contracts | \$ 65,561 | \$50,640 | \$ 38,282 |

APPLICATION OF NEW ACCOUNTING PRONOUNCEMENTS:

In June 2016, the NAIC adopted substantive revisions to SSAP No. 51, *Life Contracts*, to incorporate references to the Valuation Manual (“VM”) and to facilitate the implementation of Principles-Based Reserving (“PBR”), which was effective on January 1, 2017. The adoption of PBR will be phased-in over three years, and only applies to new policies issued after the revised Standard Valuation Law and VM are in effect. Under the current system of reserving, formulas and assumptions are used to determine reserves as prescribed by state laws and regulations. Under PBR, companies will hold the higher of (a) the reserve using prescribed methods and assumptions or (b) the PBR reserve which considers a range of future economic conditions, computed using justified company experience factors, such as mortality, policyholder behavior and expenses. The adoption of the modifications to SSAP No. 51 relating to PBR will not affect the in-force block of business issued prior to the effective date.

In August 2016, the NAIC adopted and made effective modifications to SSAP No. 51, *Life Contracts*. These modifications clarify that annual assumption changes from reserving methods used in PBR would not qualify as a change in valuation basis. Changes in valuation basis are recorded directly to surplus instead of through income. This modification was made to accommodate PBR when it becomes effective and subsequent implementations.

In December 2018, the Company’s state of domicile, New York, issued an emergency regulation to begin the implementation of principle-based reserving (PBR) to become effective on January 1, 2020. When New York final adopts PBR it will apply to the Company. Until New York adopts PBR, the Company will continue to follow New York requirements, which are formula based reserves. The Company continues to evaluate the NAIC guidance and does not anticipate a material impact on surplus.

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Note 3—long-term bonds

The book/adjusted carrying value, estimated fair value, excess of fair value over book/adjusted carrying value and excess of book/adjusted carrying value over fair value of long-term bonds at December 31, are shown below (in thousands):

| | Book/ Adjusted Carrying Value | 2018 Excess of | | Estimated Fair Value |
|--|--|---|---|-------------------------|
| | | Fair Value Over Book/ Adjusted Carrying Value | Book/ Adjusted Carrying Value Over Fair Value | |
| Bonds: | | | | |
| U.S. governments | \$ 254,255 | \$ 1,940 | \$ (2,670) | \$ 253,525 |
| All other governments | 65,949 | 17 | (2,152) | 63,814 |
| States, territories & possessions | 51,698 | 1,463 | (254) | 52,907 |
| Political subdivisions of states, territories, & possessions | 20,509 | 248 | (154) | 20,603 |
| Special revenue & special assessment, non-guaranteed agencies & government | 701,469 | 6,121 | (13,670) | 693,920 |
| Industrial & miscellaneous | 6,819,133 | 85,888 | (203,430) | 6,701,591 |
| Credit tenant loans | 159 | 4 | — | 163 |
| Total | \$7,913,172 | \$ 95,681 | \$(222,330) | \$7,786,523 |

| | Book/ Adjusted Carrying Value | 2017 Excess of | | Estimated Fair Value |
|--|--|---|---|-------------------------|
| | | Fair Value Over Book/ Adjusted Carrying Value | Book/ Adjusted Carrying Value Over Fair Value | |
| Bonds: | | | | |
| U.S. governments | \$ 291,063 | \$ 3,901 | \$ (1,725) | \$ 293,239 |
| All other governments | 76,767 | 288 | (938) | 76,117 |
| States, territories & possessions | 63,532 | 2,666 | (307) | 65,891 |
| Political subdivisions of states, territories, & possessions | 27,335 | 1,288 | (125) | 28,498 |
| Special revenue & special assessment, non-guaranteed agencies & government | 612,783 | 8,062 | (9,429) | 611,416 |
| Industrial & miscellaneous | 6,164,500 | 291,460 | (24,237) | 6,431,723 |
| Credit tenant loans | 4,106 | 86 | — | 4,192 |
| Total | \$7,240,086 | \$307,751 | \$ (36,761) | \$7,511,076 |

Impairment Review Process: All securities are subjected to the Company's process for identifying OTTI. The Company writes down securities that it deems to have an OTTI in value in the period that the securities are deemed to be impaired, based on management's case-by-case evaluation of the decline in value and prospects for recovery. Management considers a wide range of factors in the impairment evaluation process, including, but not limited to, the following: (a) the length of time the fair value has been below amortized cost; (b) the financial condition and near-term prospects of the issuer; (c) whether the debtor is current on contractually obligated interest and principal payments; (d) the intent and ability of the Company to retain the investment for a period of time sufficient to allow for any anticipated recovery in fair value or repayment; (e) information obtained from regulators, ratings agencies and various public sources; (f) the potential for impairments in an entire industry sector or sub-sector; (g) the potential for impairments in certain economically- depressed geographic locations; and (h) the potential for impairment based on an estimated

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

discounted cash flow analysis for loan-backed and structured securities. Where impairment is considered to be other-than-temporary, the Company recognizes a realized loss and adjusts the cost basis of the security accordingly. The Company does not change the revised cost basis for subsequent recoveries in value.

Unrealized Losses on Bonds: The gross unrealized losses and estimated fair values for bonds by the length of time that individual securities had been in a continuous unrealized loss position are shown in the table below (in thousands):

| | Less than twelve months | | | Twelve months or more | | |
|------------------------------------|-------------------------|-----------------------|----------------------|-----------------------|-----------------------|----------------------|
| | Amortized Cost | Gross Unrealized Loss | Estimated Fair Value | Amortized Cost | Gross Unrealized Loss | Estimated Fair Value |
| December 31, 2018 | | | | | | |
| All other bonds | \$3,515,896 | \$(129,968) | \$3,385,928 | \$1,257,377 | \$(70,039) | \$1,187,338 |
| Loaned-backed and structured bonds | 247,597 | (3,202) | 244,395 | 612,022 | (19,121) | 592,901 |
| Total | \$3,763,493 | \$(133,170) | \$3,630,323 | \$1,869,399 | \$(89,160) | \$1,780,239 |

| | Less than twelve months | | | Twelve months or more | | |
|------------------------------------|-------------------------|-----------------------|----------------------|-----------------------|-----------------------|----------------------|
| | Amortized Cost | Gross Unrealized Loss | Estimated Fair Value | Amortized Cost | Gross Unrealized Loss | Estimated Fair Value |
| December 31, 2017 | | | | | | |
| All other bonds | \$ 873,008 | \$ (5,597) | \$ 867,411 | \$ 652,824 | \$(17,830) | \$ 634,994 |
| Loaned-backed and structured bonds | 308,803 | (3,066) | 305,737 | 359,804 | (10,268) | 349,536 |
| Total | \$1,181,811 | \$ (8,663) | \$1,173,148 | \$1,012,628 | \$(28,098) | \$ 984,530 |

Based upon the Company's current evaluation of these securities in accordance with its impairment policy, the Company has concluded that these securities are not other-than-temporarily impaired. Additionally, the Company currently intends and has the ability to hold the securities with unrealized losses for a period of time sufficient for them to recover.

Scheduled Maturities of Bonds: The carrying value and estimated fair value of bonds, categorized by contractual maturity, are shown below. Bonds not due at a single maturity date have been included in the following table based on the year of final maturity. Actual maturities may differ from contractual maturities because borrowers may prepay obligations with or without call or prepayment penalties. Mortgage-backed and asset-backed securities are shown separately in the table below, as they are not due at a single maturity date (in thousands):

| | December 31, 2018 | | December 31, 2017 | |
|--|--------------------|----------------------|--------------------|----------------------|
| | Carrying Value | Estimated Fair Value | Carrying Value | Estimated Fair Value |
| Due in one year or less | \$ 351,013 | \$ 349,183 | \$ 345,288 | \$ 345,733 |
| Due after one year through five years | 1,580,412 | 1,570,630 | 1,508,645 | 1,531,702 |
| Due after five years through ten years | 2,397,408 | 2,325,486 | 2,138,288 | 2,173,283 |
| Due after ten years | 2,466,088 | 2,438,623 | 2,336,513 | 2,554,350 |
| Subtotal | 6,794,921 | 6,683,922 | 6,328,734 | 6,605,068 |
| Residential mortgage-backed securities | 546,529 | 538,852 | 469,269 | 463,860 |
| Commercial mortgage-backed securities | 180,437 | 175,747 | 137,712 | 137,852 |
| Asset-backed securities | 391,285 | 388,002 | 304,371 | 304,296 |
| Subtotal | 1,118,251 | 1,102,601 | 911,352 | 906,008 |
| Total | \$7,913,172 | \$7,786,523 | \$7,240,086 | \$7,511,076 |

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The following table presents the carrying value of the long-term bond portfolio by investment grade as of December 31, (in thousands):

| | 2018 | | 2017 | |
|------------------|--------------------|---------------|--------------------|---------------|
| NAIC 1 and 2 | \$7,865,511 | 99.4% | \$7,189,686 | 99.3% |
| NAIC 3 through 6 | 47,661 | 0.6 | 50,400 | 0.7 |
| Total | \$7,913,172 | 100.0% | \$7,240,086 | 100.0% |

Bond Diversification: The carrying values of long-term bond investments were diversified by the following classification at December 31 as follows:

| | 2018 | 2017 |
|--|---------------|---------------|
| Manufacturing | 19.5% | 20.2% |
| Finance and financial services | 18.1 | 17.0 |
| Public utilities | 12.2 | 12.2 |
| Residential mortgage-backed securities | 6.9 | 6.5 |
| Oil and gas | 6.3 | 6.8 |
| Transportation | 5.8 | 6.3 |
| Services | 5.3 | 4.9 |
| Real estate investment trusts | 5.1 | 4.8 |
| Asset-backed securities | 4.9 | 4.2 |
| Revenue and special obligations | 3.4 | 3.3 |
| Communications | 3.3 | 3.5 |
| Retail & wholesale trade | 2.8 | 3.0 |
| U.S. governments | 2.7 | 3.4 |
| Commercial mortgage-backed securities | 2.3 | 1.9 |
| Other governments | 0.8 | 1.1 |
| Mining | 0.6 | 0.9 |
| Total | 100.0% | 100.0% |

Loan-backed and Structured Securities: The near-term prepayment assumptions for loan-backed and structured securities are based on historical averages drawing from performance experience for a particular transaction and may vary by security type. The long-term assumptions are adjusted based on expected performance.

For the years ended December 31, 2018 and 2017, the Company did not recognize any OTTI on loan-backed or structured securities where it had the intent to sell, lacked the ability to retain the security for a period of time sufficient to recover the amortized cost basis, or where the present value of the cash flows expected to be collected was less than the amortized cost basis.

Note 4—subsidiary, controlled and affiliated entities

The Company has no investments in subsidiary, controlled or affiliated entities (“SCA”) that exceed 10% of its admitted assets.

During 2018, the Company’s sole operating subsidiary, TIAA-CREF Life Insurance Agency, LLC (“Agency”) was transferred to a subsidiary of TIAA. The carrying value as of December 31, 2017 was zero due to the Agency’s equity being non-admitted.

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

At December 31, 2018 or 2017, respectively, the Company has the following as amounts due to parent, subsidiaries, and affiliates, which are reported in “Other liabilities” (in thousands):

| | 2018 | 2017 |
|---|----------|----------|
| Amounts due to parent, subsidiaries, and affiliates | \$18,528 | \$12,307 |

Note 5—investment income and capital gains and losses

Net Investment Income: The components of net investment income for the years ended December 31, are as follows (in thousands):

| | 2018 | 2017 | 2016 |
|--|-----------|-----------|-----------|
| Bonds | \$281,016 | \$244,244 | \$211,291 |
| Other long-term investments | 555 | 388 | 666 |
| Cash, cash equivalents and short-term investments | 879 | 446 | 152 |
| Contract loans | 1,327 | 1,103 | 957 |
| Total gross investment income | 283,777 | 246,181 | 213,066 |
| Investment expenses | (14,906) | (5,750) | (3,946) |
| Net investment income before amortization/(accretion) of IMR | 268,871 | 240,431 | 209,120 |
| Amortization/(accretion) of IMR | 1,139 | (36) | 138 |
| Net investment income | \$270,010 | \$240,395 | \$209,258 |

Realized Capital Gains and Losses: The net realized capital gains (losses) on sales, redemptions of investments and write-downs due to OTTI for the years ended December 31, are as follows (in thousands):

| | 2018 | 2017 | 2016 |
|--|-----------|-----------|----------|
| Bonds | \$(1,883) | \$ 16,892 | \$ 2,061 |
| Stocks | — | 346 | — |
| Other long-term investments | — | 478 | — |
| Cash, cash equivalent and short-term investments | — | (1) | 43 |
| Total before capital gain (loss) tax and transfers to IMR, net of taxes | (1,883) | 17,715 | 2,104 |
| Transfers to IMR, net of taxes | 1,488 | (11,268) | (1,411) |
| Capital gain/loss tax benefit (expense) | 1,214 | (4,547) | (1,018) |
| Net realized capital gains (losses) less capital gains tax, after transfers to IMR | \$ 819 | \$ 1,900 | \$ (325) |

Write-downs of investments resulting from OTTI, included in the preceding table, are as follows for the years ended December 31 (in thousands):

| | 2018 | 2017 | 2016 |
|-----------------------------------|---------|------|---------|
| Other-than-temporary impairments: | | | |
| Bonds | \$5,868 | \$— | \$2,839 |

Information related to the sales of long term bonds for the years ended December 31 are as follows (in thousands):

| | 2018 | 2017 | 2016 |
|-----------------------|-----------|-----------|-----------|
| Proceeds from sales | \$129,264 | \$171,380 | \$155,787 |
| Gross gains on sales | \$ 4,752 | \$ 16,648 | \$ 4,022 |
| Gross losses on sales | \$ 839 | \$ 1,699 | \$ 3,296 |

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The Company generally holds its investments until maturity. The Company performs periodic reviews of its portfolio to identify investments which may have deteriorated in credit quality to determine if any are candidates for sale in order to maintain a quality portfolio of investments. Investments which are deemed candidates for sale are continually monitored until sold and carried at the lower of amortized cost or fair value. In accordance with the Company's valuation and impairment process the investment will be monitored quarterly for further declines in fair value at which point an OTTI will be recorded until actual disposal of the investment.

Note 6—disclosures about fair value of financial instruments

FAIR VALUE OF FINANCIAL INSTRUMENTS

Included in the Company's financial statements are certain financial instruments carried at fair value. Other financial instruments are periodically measured at fair value, such as when impaired, or for certain bonds and preferred stock when carried at the lower of cost or fair value.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Fair values of financial instruments are based on quoted market prices when available. When market prices are not available, fair values are primarily provided by a third party-pricing service for identical or comparable assets, or through the use of valuation methodologies using observable market inputs. These fair values are generally estimated using discounted cash flow analyses, incorporating current market inputs for similar financial instruments with comparable terms and credit quality. In instances where there is little or no market activity for the same or similar instruments, the Company estimates fair value using methods, models and assumptions that management believes market participants would use to determine a current transaction price in a hypothetical market. These valuation techniques involve management estimation and judgment for many factors including market bid/ask spreads, and such estimations may become significant with increasingly complex instruments or pricing models.

The Company's financial assets and liabilities have been classified, for disclosure purposes, based on a hierarchy defined by SSAP No. 100, Fair Value Measurements. The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The hierarchy gives the highest ranking to fair values determined using unadjusted quoted prices in active markets for identical assets and liabilities (Level 1) and the lowest ranking to fair values determined using methodologies and models with unobservable inputs (Level 3). An asset's or a liability's classification is based on the lowest level input that is significant to its measurement. For example, a Level 3 fair value measurement may include inputs that are both observable (Levels 1 and Level 2) and unobservable (Level 3). The levels of the fair value hierarchy are as follows:

Level 1—Inputs are unadjusted quoted prices in active markets for identical assets and liabilities that the Company has the ability to access at the measurement date.

Level 2—Other than quoted prices within Level 1 inputs are observable for the asset or liability, either directly or indirectly.

Level 2 inputs include:

- 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,
- Inputs other than quoted prices that are observable for the asset or liability,
- Inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Level 3—Inputs are unobservable inputs for the asset or liability supported by little or no market activity. Unobservable inputs reflect the Company's own assumptions about the assumptions that market

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

participants would use in pricing the asset or liability. The Company’s data used to develop unobservable inputs is adjusted if information is reasonably available without undue cost and effort that indicates that market participants would use different assumptions.

The following table provides information about the aggregate fair value for all financial instruments and the level within the fair value hierarchy, with no fair values approximated by net asset value (“NAV”), at December 31, 2018 (in thousands):

| | Aggregate Fair Value | Admitted Assets | Level 1 | Level 2 | Level 3 |
|--|-------------------------|---------------------|--------------------|---------------------|------------------|
| Assets: | | | | | |
| Bonds | \$ 7,786,523 | \$ 7,913,172 | \$ — | \$ 7,774,091 | \$ 12,432 |
| Preferred stock | 3,006 | 183 | 3,006 | — | — |
| Other long-term investments | 5,573 | 4,707 | — | 5,573 | — |
| Separate account assets | 4,982,552 | 5,016,425 | 2,852,457 | 2,130,095 | — |
| Contract loans | 33,771 | 33,771 | — | — | 33,771 |
| Cash, cash equivalent & short term investments | 171,747 | 171,753 | 2,775 | 168,972 | — |
| Total | \$12,983,172 | \$13,140,011 | \$2,858,238 | \$10,078,731 | \$ 46,203 |

| | Aggregate Fair Value | Statement Value | Level 1 | Level 2 | Level 3 |
|------------------------------|-------------------------|---------------------|-------------|-------------|--------------------|
| Liabilities: | | | | | |
| Deposit-type contracts | \$ 4,104,701 | \$ 4,104,701 | \$ — | \$ — | \$4,104,701 |
| Separate account liabilities | 5,001,547 | 5,001,547 | — | — | 5,001,547 |
| Total | \$ 9,106,248 | \$ 9,106,248 | \$ — | \$ — | \$9,106,248 |

The following table provides information about the aggregate fair value for all financial instruments and the level within the fair value hierarchy, with no fair values approximated by NAV, at December 31, 2017 (in thousands):

| | Aggregate Fair Value | Admitted Assets | Level 1 | Level 2 | Level 3 |
|--|-------------------------|---------------------|--------------------|--------------------|------------------|
| Assets: | | | | | |
| Bonds | \$ 7,511,076 | \$ 7,240,086 | \$ — | \$7,509,683 | \$ 1,393 |
| Other long-term investments | 5,879 | 4,725 | — | 5,879 | — |
| Preferred stock | 3,778 | 183 | 3,778 | — | — |
| Separate account assets | 5,039,136 | 5,052,500 | 2,851,861 | 2,187,275 | — |
| Contract loans | 27,016 | 27,016 | — | — | 27,016 |
| Cash, cash equivalent & short term investments | 102,644 | 102,646 | 2,720 | 99,924 | — |
| Total | \$12,689,529 | \$12,427,156 | \$2,858,359 | \$9,802,761 | \$ 28,409 |

| | Aggregate Fair Value | Statement Value | Level 1 | Level 2 | Level 3 |
|------------------------------|-------------------------|---------------------|-------------|-------------|--------------------|
| Liabilities: | | | | | |
| Deposit-type contracts | \$ 3,700,451 | \$ 3,700,451 | \$ — | \$ — | \$3,700,451 |
| Separate account liabilities | 5,038,780 | 5,038,780 | — | — | 5,038,780 |
| Total | \$ 8,739,231 | \$ 8,739,231 | \$ — | \$ — | \$8,739,231 |

The estimated fair values of the financial instruments presented above were determined by the Company using market information available as of December 31, 2018 and 2017. Considerable judgment is required to interpret market data in developing the estimates of fair value for financial instruments for which there are no available market value quotations. The estimates presented are not necessarily indicative of the amounts the

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Company could have realized in a market exchange. The use of different market assumptions and/or estimation methodologies may have a material effect on the estimated fair value amounts.

Level 1 financial instruments

Unadjusted quoted prices for these securities are provided to the Company by independent pricing services. Preferred stocks and separate account assets in Level 1 primarily include exchange traded equities and mutual fund investments valued by the respective mutual fund companies. Cash, cash equivalents, and short term assets in Level 1 consist of currency denominated in US dollars.

Level 2 financial instruments

Bonds in Level 2 are valued principally by third party pricing services using market observable inputs. Because most bonds do not trade daily, independent pricing services regularly derive fair values using recent trades of securities with similar features. When recent trades are not available, pricing models are used to estimate the fair values of securities by discounting future cash flows at estimated market interest rates. Typical inputs to models used by independent pricing services include but are not limited to benchmark yields, reported trades, broker-dealer quotes, issuer spreads, benchmark securities, bids, offers, reference data, and industry and economic events. Additionally, for loan-backed and structured securities, valuation is based primarily on market inputs including benchmark yields, expected prepayment speeds, loss severity, delinquency rates, weighted average coupon, weighted average maturity and issuance specific information. Issuance specific information includes collateral type, payment terms of underlying assets, payment priority within the tranche, structure of the security, deal performance and vintage of loans.

Other long-term investments in level 2 represent surplus notes and are valued by a third party pricing vendor using primarily observable market inputs. Observable inputs include benchmark yields, reported trades, market dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers and reference data.

Separate account assets in Level 2 consist principally of corporate bonds, short term government agency notes and commercial paper.

Cash, cash equivalents, and short-term investments in Level 2 are valued principally by third party services using market observable inputs.

Level 3 financial instruments

Valuation techniques for bonds included in Level 3 are generally the same as those described in Level 2 except that the techniques utilize inputs that are not readily observable in the market, including illiquidity premiums and spread adjustments to reflect industry trends or specific credit-related issues. The Company assesses the significance of unobservable inputs for each security and classifies that security in Level 3 as a result of the significance of unobservable inputs.

Contract loans are fully collateralized by the cash surrender value of underlying insurance policies and are valued based on the carrying value of the loan, which approximates fair value, and are classified as Level 3.

Separate account liabilities are accounted for at fair value, except for deposit-type contracts, and reflect the contractual obligations of the insurer arising out of the provisions of the insurance contract.

Deposit-type contracts are valued based on the accumulated account value, which approximates fair value, and are classified as Level 3.

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Assets and liabilities measured and reported at fair value

The following table provides information about the Company's financial assets and liabilities measured and reported at fair value, with no fair values approximated by NAV, at December 31 (in thousands):

| | 2018 | | | |
|---------------------------------|-------------|----------|---------|-------------|
| | Level 1 | Level 2 | Level 3 | Total |
| Assets at fair value: | | | | |
| Separate account assets | \$2,840,318 | \$44,596 | \$— | \$2,884,914 |
| Total assets at fair value | \$2,840,318 | \$44,596 | \$— | \$2,884,914 |
| Total liabilities at fair value | \$ — | \$ — | \$— | \$ — |

| | 2017 | | | |
|---------------------------------|-------------|----------|---------|-------------|
| | Level 1 | Level 2 | Level 3 | Total |
| Assets at fair value: | | | | |
| Separate account assets | \$2,841,311 | \$45,245 | \$— | \$2,886,556 |
| Total assets at fair value | \$2,841,311 | \$45,245 | \$— | \$2,886,556 |
| Total liabilities at fair value | \$ — | \$ — | \$— | \$ — |

Transfers between Level 1 and Level 2

Periodically, the Company has transfers between Level 1 and Level 2 due to the availability of quoted prices for identical assets in active markets at the measurement date. The Company's policy is to recognize transfers between levels as of the actual date of the event or change in circumstances that caused the transfer.

For assets and liabilities held at December 31, 2018 or 2017, the Company had no transfers between Level 1 and Level 2 of the fair value hierarchy.

Reconciliation of Level 3 assets and liabilities measured and reported at fair value:

At December 31, 2018 and 2017, there are no assets or liabilities measured and reported at fair value using Level 3 inputs. The Company's policy is to recognize transfers into and out of Level 3 at the actual date of the event or change in circumstances that caused the transfer.

Note 7—restricted assets

The following table provides information on amounts and the nature of assets pledged to others as collateral or otherwise restricted by the Company (in thousands):

| | 2018 | | | | | | | | | | |
|---------------------------|-----------------------------|-------------------------------|--|------------------------------------|------------------|-----------------------|----------------------------------|-------------------------------|---------------------------------------|---|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Restricted Asset Category | Total General Account (G/A) | G/A Supporting (S/A) Activity | Total Separate Account (S/A) Restricted Assets | S/A Assets Supporting G/A Activity | Total (1 plus 3) | Total From Prior Year | Increase/ (Decrease) (5 minus 6) | Total Non admitted Restricted | Total Admitted Restricted (5 minus 8) | Gross (Admitted & Nonadmitted) Restricted to Total Assets | Admitted Restricted to Total Admitted Assets |
| On deposit with states | \$8,174 | \$— | \$— | \$— | \$8,174 | \$8,237 | \$(63) | \$— | 8,174 | 0.061% | 0.062% |

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

| Restricted Asset Category | 2017 | | | | | | | | | | |
|---------------------------|-----------------------------|-------------------------------|--|------------------------------------|------------------|-----------------------|----------------------------------|-------------------------------|---------------------------------------|---|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | Total General Account (G/A) | G/A Supporting (S/A) Activity | Total Separate Account (S/A) Restricted Assets | S/A Assets Supporting G/A Activity | Total (1 plus 3) | Total From Prior Year | Increase/ (Decrease) (5 minus 6) | Total Non admitted Restricted | Total Admitted Restricted (5 minus 8) | Gross (Admitted & Nonadmitted) Restricted to Total Assets | Admitted Restricted to Total Admitted Assets |
| On deposit with states | \$8,237 | \$— | \$— | \$— | \$8,237 | \$8,152 | \$85 | \$— | \$8,237 | 0.065% | 0.066% |

Note 8—premiums and annuity considerations deferred and uncollected

Premium and annuity considerations deferred and uncollected at December 31 (in thousands):

| | 2018 | | 2017 | |
|-----------------------|-----------------|-----------------|-----------------|-----------------|
| | Gross | Net of Loading | Gross | Net of Loading |
| Ordinary new business | \$ 1,236 | \$ 1,307 | \$ 1,216 | \$ 1,532 |
| Ordinary renewal | 19,776 | 55,785 | 19,137 | 52,702 |
| Total | \$21,012 | \$57,092 | \$20,353 | \$54,234 |

Deferred premium is the portion of the annual premium not earned at the reporting date. Loading of deferred premium is an amount obtained by subtracting the valuation net deferred premium from the gross deferred premium and generally includes allowances for acquisition costs and other expenses.

Uncollected premium is gross premium net of reinsurance that is due and unpaid at the reporting date. Net premium is the amounts used in the calculation of reserves.

Note 9—separate accounts

The Company utilizes separate accounts to record and account for assets and liabilities for particular lines of business and/or transactions. As of December 31, 2018, the Company reported separate account assets and liabilities for the following products: variable life, variable annuity, fixed annuity, group life and group annuity.

The Company’s Separate Account VLI-1 (“VLI-1”) was established under New York law on May 23, 2001, for the purpose of issuing and funding flexible premium variable universal life insurance policies and is registered with the Securities and Exchange Commission (“Commission”) as a unit investment trust under the Investment Company Act of 1940, as amended (“1940 Act”). The assets of this account are carried at fair value.

The Company’s Separate Account VLI-2 (“VLI-2”) was established under New York law on February 15, 2012, for the purpose of issuing and funding group and individual variable life insurance policies and is registered with the Commission as a unit investment trust under the 1940 Act. The assets of this account are carried at fair value.

The Company’s Separate Account VA-1 (“VA-1”) was established under New York law on July 27, 1998, for the purpose of funding individual non-qualified variable annuities and is registered with the Commission as a unit investment trust under the 1940 Act. The assets of this account are carried at fair value.

The Company’s Separate Account MVA-1 (“MVA-1”) was established on July 23, 2008, as a non-unitized Separate Account that supports flexible premium deferred fixed annuity contracts subject to withdrawal charges and a market value adjustment feature. The assets of this account are carried at fair value.

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The Company’s Stable Value Separate Account-1 (“SVSA-1”) and Stable Value Separate Account-3 (“SVSA-3”) were established on May 14, 2012 and November 13, 2013, respectively, as non-unitized guaranteed separate accounts that support book value separate account agreement contracts issued to certain externally managed stable value funds. The assets of these accounts are carried at amortized cost.

SVSA accounts support contracts issued as one of several vehicles for stable value funds. Participant withdrawals from the stable value fund are typically funded through the stable value fund’s cash buffer account which is held outside of the contract. In the event that the stable value fund’s cash buffer account is insufficient to pay participant and plan sponsor withdrawals, the sponsor of the stable value fund may request that the Company’s pro-rata share of such excess amounts be paid from the Company’s contract. Certain participant withdrawals requested from the Company’s contract are paid at book value and others are paid at the lesser of book value or market value. Plan Sponsor withdrawals from the stable value fund are typically paid (to the extent the fund’s cash buffer account is insufficient) at book value as long as 12 months advance notice is provided by the plan sponsor.

SVSA contracts utilize an interest crediting formula that includes a guaranteed crediting rate adjusted for the market value of the separate account assets over a period reflecting the duration of such assets.

In accordance with the domiciliary state procedures for approving items within the separate account, the separate account classifications of the following items are supported by a specific state statute:

| Product Identification | Product Classification | State Statute Reference |
|-------------------------------|-------------------------------|---|
| TC Life VLI—1 | Variable life | Section 4240 of the New York Insurance Law |
| TC Life VLI—2 | Variable life | Section 4240 of the New York Insurance Law |
| TC Life VA—1 | Variable annuity | Section 4240 of the New York Insurance Law |
| TC Life MVA—1 | Fixed annuity | Section 4240 of the New York Insurance Law |
| TC Life SVSA—1 | Group annuity GIC | Section 4240 (a)(5)(ii) of the New York Insurance Law |
| TC Life SVSA—3 | Group annuity GIC | Section 4240 (a)(5)(ii) of the New York Insurance Law |

In accordance with the provisions of the separate account products, some assets are considered legally insulated while others are not legally insulated from the general account. Legal insulation of the separate account assets prevents such assets from being generally available to satisfy claims resulting from the general account.

The Company’s Separate Account assets includes both assets legally insulated and not legally insulated from the general account at December 31, as follows (in thousands):

| Product | 2018 | | 2017 | |
|----------------|--------------------------------|------------------------------|--------------------------------|------------------------------|
| | Separate Account Assets | | Separate Account Assets | |
| | Legally Insulated | Not Legally Insulated | Legally Insulated | Not Legally Insulated |
| TC Life VLI—1 | \$ 214,473 | \$ — | \$ 205,739 | \$ — |
| TC Life VLI—2 | 152,160 | — | 138,701 | — |
| TC Life VA—1 | 2,472,722 | — | 2,495,996 | — |
| TC Life MVA—1 | — | 45,559 | — | 46,120 |
| TC Life SVSA—1 | 1,263,182 | — | 1,250,285 | — |
| TC Life SVSA—3 | 868,329 | — | 915,659 | — |
| Total | \$4,970,866 | \$45,559 | \$5,006,380 | \$46,120 |

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

In accordance with the specific rules for products recorded within the separate account, some separate account liabilities are guaranteed by the general account.

As of December 31, 2018 and 2017, the general account of the Company has a maximum guarantee for separate account liabilities of \$12,001 thousand and \$967 thousand, respectively. The amount paid for risk charges is not explicit, but rather embedded within the mortality and expense charges. The separate accounts had no reserves for asset default risk that were recorded in lieu of contributions to AVR.

Although the Company owns the assets of these separate accounts, the separate accounts' income, investment gains and investment losses are credited to or charged against the assets of the separate accounts without regard to the Company's other income, gains or losses.

Additional information regarding separate accounts of the Company is as follows for the years ended December 31, (in thousands):

| | 2018 | | | Total |
|---|--|---|---|--------------------|
| | Non-indexed Guarantee less than/equal to 4% | Non-indexed Guarantee more than 4% | Non-guaranteed Separate Accounts | |
| Premiums, considerations or deposits | \$ 1,582 | \$ — | \$ 414,636 | \$ 416,218 |
| Reserves | | | | |
| For accounts with assets at: | | | | |
| Fair value | \$ 19,302 | \$16,557 | \$2,834,612 | \$2,870,471 |
| Amortized cost | 2,105,121 | — | — | 2,105,121 |
| Total reserves | \$2,124,423 | \$16,557 | \$2,834,612 | \$4,975,592 |
| By withdrawal characteristics: | | | | |
| Subject to discretionary withdrawal: | | | | |
| With market value adjustment | \$ 18,802 | \$16,557 | \$ — | \$ 35,359 |
| At fair value | 2,105,121 | — | 2,834,612 | 4,939,733 |
| Not subject to discretionary withdrawal | 500 | — | — | 500 |
| Total reserves | \$2,124,423 | \$16,557 | \$2,834,612 | \$4,975,592 |

| | 2017 | | | Total |
|---|--|---|---|--------------------|
| | Non-indexed Guarantee less than/equal to 4% | Non-indexed Guarantee more than 4% | Non-guaranteed Separate Accounts | |
| Premiums, considerations, or deposits | \$ 345 | \$ — | \$ 389,564 | \$ 389,909 |
| Reserves | | | | |
| For accounts with assets at: | | | | |
| Fair value | \$ 20,613 | \$16,235 | \$2,835,900 | \$2,872,748 |
| Amortized cost | 2,131,339 | — | — | 2,131,339 |
| Total reserves | \$2,151,952 | \$16,235 | \$2,835,900 | \$5,004,087 |
| By withdrawal characteristics: | | | | |
| Subject to discretionary withdrawal: | | | | |
| With market value adjustment | \$ 19,513 | \$16,235 | \$ — | \$ 35,748 |
| At fair value | 2,131,339 | — | 2,835,900 | 4,967,239 |
| Not subject to discretionary withdrawal | 1,100 | — | — | 1,100 |
| Total reserves | \$2,151,952 | \$16,235 | \$2,835,900 | \$5,004,087 |

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

| | 2016 | | | Total |
|---|---|--|-------------------------------------|--------------------|
| | Non-indexed Guarantee less than/equal to 4% | Non-indexed Guarantee more than 4% | Non-guaranteed Separate Accounts | |
| Premiums, considerations, or deposits | \$ 296 | \$ — | \$ 327,375 | \$ 327,671 |
| Reserves | | | | |
| For accounts with assets at: | | | | |
| Fair value | \$ 19,926 | \$17,444 | \$2,230,402 | \$2,267,772 |
| Amortized cost | 3,256,023 | — | — | \$3,256,023 |
| Total reserves | \$3,275,949 | \$17,444 | \$2,230,402 | \$5,523,795 |
| By withdrawal characteristics: | | | | |
| Subject to discretionary withdrawal: | | | | |
| With market value adjustment | \$ 19,476 | \$17,444 | \$ — | \$ 36,920 |
| At fair value | 3,256,023 | — | 2,230,402 | 5,486,425 |
| Not subject to discretionary withdrawal | 450 | — | — | 450 |
| Total reserves | \$3,275,949 | \$17,444 | \$2,230,402 | \$5,523,795 |

The following is a reconciliation of transfers to (from) the Company to the Separate Accounts (in thousands):

| | 2018 | 2017 | 2016 |
|--|-------------------|-------------------|-------------------|
| Transfers as reported in the Summary of Operations of the separate accounts statement: | | | |
| Transfers to separate accounts | \$ 420,769 | \$ 399,875 | \$ 332,216 |
| Transfers from separate accounts | (206,366) | (157,965) | (142,165) |
| Net transfers to separate accounts | 214,403 | 241,910 | 190,051 |
| Reconciling adjustments: | | | |
| Fund transfer exchange gain (loss) | (69) | (229) | (395) |
| Transfers as reported in the Company's Statements of Operations | \$ 214,334 | \$ 241,681 | \$ 189,656 |

Note 10—related party transactions

The majority of services for the operation of the Company are provided at cost by TIAA pursuant to a Service Agreement. Expense payments under the Service Agreement are made monthly by the Company to TIAA based on TIAA's costs for providing such services. TIAA's costs include employee benefit expenses, which are allocated based on salaries attributable to the Company. The Company also pays TIAA for investment advisory services and other administrative services for the Company's insurance general account (the "General Account") in accordance with an Investment Management Agreement. Further, TIAA entered into Investment Management Agreements with Teachers Advisors, LLC ("TAL") and Nuveen Alternatives Advisors, LLC, each an indirect wholly-owned subsidiary of TIAA, appointing such affiliated advisors with authority to manage investments held within the Company's General Account. The Company made payments to TIAA for the years ended December 31, are as follows (in thousands):

| | 2018 | 2017 | 2016 |
|---------------------|------------------|------------------|------------------|
| Payments to TIAA | | | |
| Operating expenses | \$114,861 | \$100,267 | \$109,793 |
| Investment expenses | 14,490 | 5,657 | 3,910 |
| Total | \$129,351 | \$105,924 | \$113,703 |

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

TAL also provides investment advisory services and other administrative services for all of the Company’s insurance separate accounts, including guaranteed investment contract (GIC) separate accounts, in accordance with an Investment Management Agreement.

Payments made to TAL for services for the years ended December 31, are as follows (in thousands):

| | 2018 | 2017 | 2016 |
|-----------------|---------|---------|---------|
| Payments to TAL | \$3,198 | \$4,193 | \$4,603 |

Teachers Personal Investors Services, Inc. (“TPIS”), an indirect subsidiary of TIAA’s wholly owned subsidiary Nuveen, LLC, and TIAA-CREF Individual & Institutional Services, LLC (“Services”), a subsidiary of TIAA, are authorized to distribute contracts for the Separate Accounts. Expenses associated with the distribution services agreement for the years ended December 31, are as follows (in thousands):

| | 2018 | 2017 | 2016 |
|-------------------------------|----------|----------|----------|
| Payments to TPIS and Services | \$16,834 | \$12,600 | \$16,556 |

Services for certain funding agreements for qualified state tuition programs for which TIAA-CREF Tuition Financing, Inc. (“TFI”), a wholly-owned subsidiary of TIAA, is the program manager, are provided to the Company by TFI pursuant to a service agreement between the Company and TFI. Payments associated with this service agreement for the years ended December 31, are as follows (in thousands):

| | 2018 | 2017 | 2016 |
|-----------------|----------|----------|---------|
| Payments to TFI | \$13,395 | \$11,750 | \$9,247 |

The Company has a financial support agreement with TIAA. Under this agreement, TIAA will provide support so that the Company will have the greater of (a) capital and surplus of \$250,000 thousand, (b) the amount of capital and surplus necessary to maintain the Company’s capital and surplus at a level not less than 150% of the NAIC Risk Based Capital model or (c) such other amount as necessary to maintain the Company’s financial strength ratings at least the same as TIAA’s rating. This agreement is not an evidence of indebtedness or an obligation or liability of TIAA and does not provide any creditor of the Company with recourse to TIAA. During 2018, TIAA contributed \$100,000 thousand in capital to the Company. During 2017, there were no contributions from TIAA to the Company.

The Company maintains a \$100,000 thousand unsecured 364-day revolving line of credit with TIAA. This line has an expiration date of July 8, 2019. As of December 31, 2018, \$30,000 thousand of this facility was maintained on a committed basis and there were no balances outstanding.

Note 11—federal income taxes

The application of SSAP No. 101 requires a company to evaluate the recoverability of DTAs and to establish a valuation allowance if necessary to reduce the DTA to an amount which is more likely than not to be realized. Based on the weight of all available evidence, the Company has not recorded a valuation allowance on DTAs at December 31, 2018 or December 31, 2017.

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The components of net deferred tax assets and deferred tax liabilities at December 31, are as follows (in thousands):

| | 12/31/2018 | | | 12/31/2017 | | | Change | | |
|--|-----------------|----------------|---------------------------|-----------------|----------------|---------------------------|------------------------------|-----------------------------|---------------------------|
| | (1) Ordinary | (2) Capital | (3) (Col 1+2) Total | (4) Ordinary | (5) Capital | (6) (Col 4+5) Total | (7) (Col 1-4) Ordinary | (8) (Col 2-5) Capital | (9) (Col 7+8) Total |
| a) Gross deferred tax assets | \$ 50,641 | \$ 3,229 | \$ 53,870 | \$ 46,805 | \$ 2,986 | \$ 49,791 | \$ 3,836 | \$ 243 | \$ 4,079 |
| b) Statutory valuation allowance adjustments | — | — | — | — | — | — | — | — | — |
| c) Adjusted gross deferred tax assets (a – b) | 50,641 | 3,229 | 53,870 | 46,805 | 2,986 | 49,791 | 3,836 | 243 | 4,079 |
| d) Deferred tax assets non-admitted | 28,316 | 2,842 | 31,158 | 22,997 | 2,981 | 25,978 | 5,319 | (139) | 5,180 |
| e) Subtotal net admitted deferred tax asset (c – d) | 22,325 | 387 | 22,712 | 23,808 | 5 | 23,813 | (1,483) | 382 | (1,101) |
| f) Deferred tax liabilities | 5,894 | 45 | 5,939 | 6,802 | 5 | 6,807 | (908) | 40 | (868) |
| g) Net admitted deferred tax assets/(net deferred tax liability) (e – f) | \$16,431 | \$ 342 | \$16,773 | \$17,006 | \$ — | \$17,006 | \$ (575) | \$ 342 | \$ (233) |

| | 12/31/2018 | | | 12/31/2017 | | | Change | | |
|--|-----------------|----------------|---------------------------|-----------------|----------------|---------------------------|------------------------------|-----------------------------|---------------------------|
| | (1) Ordinary | (2) Capital | (3) (Col 1+2) Total | (4) Ordinary | (5) Capital | (6) (Col 4+5) Total | (7) (Col 1-4) Ordinary | (8) (Col 2-5) Capital | (9) (Col 7+8) Total |
| Admission Calculation Components | | | | | | | | | |
| SSAP No. 101 (in thousands) | | | | | | | | | |
| a) Federal income taxes paid in prior years recoverable through loss carrybacks | \$ — | \$ 342 | \$ 342 | \$ — | \$ — | \$ — | \$ — | \$ 342 | \$ 342 |
| b) Adjusted gross DTA expected to be realized (excluding the amount of DTA from (a) above after application of the threshold limitation. (The lesser of (b)1 and (b)2 below) | 16,431 | — | 16,431 | 17,006 | — | 17,006 | (575) | — | (575) |
| 1. Adjusted gross DTA expected to be realized following the balance sheet date | 16,431 | — | 16,431 | 17,006 | — | 17,006 | (575) | — | (575) |
| 2. Adjusted gross DTA allowed per limitation threshold | XX | XX | 72,616 | XX | XX | 59,207 | XX | XX | 13,409 |
| c) Adjusted gross DTA (excluding the amount of DTA from (a) and (b) above) offset by gross DTL | 5,894 | 45 | 5,939 | 6,802 | 5 | 6,807 | (908) | 40 | (868) |
| d) DTA admitted as the result of application of SSAP No. 101. Total ((a)+(b)+(c)) | \$22,325 | \$ 387 | \$22,712 | \$23,808 | \$ 5 | \$23,813 | \$(1,483) | \$ 382 | \$(1,101) |

| | 2018 | 2017 |
|--|-----------|-----------|
| (a) Ratio Percentage Used to Determine Recovery Period and Threshold Limitation Amount | 786% | 750% |
| (b) Amount Of Adjusted Capital And Surplus Used To Determine The Threshold Limitation In (b)2 Above (in thousands) | \$484,111 | \$394,535 |

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

| | 12/31/2018 | | 12/31/2017 | | Change | |
|--|-----------------|----------------|-----------------|----------------|------------------------------|-----------------------------|
| | (1) Ordinary | (2) Capital | (3) Ordinary | (4) Capital | (5) (Col 1–3) Ordinary | (6) (Col 2–4) Capital |
| Impact of Tax Planning Strategies: (in thousands) | | | | | | |
| Determination of adjusted gross deferred tax assets and net admitted deferred tax assets, by tax character as a percentage | | | | | | |
| Adjusted gross DTA | \$50,641 | \$3,229 | \$46,805 | \$2,986 | \$ 3,836 | \$243 |
| Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies | —% | —% | —% | —% | —% | —% |
| Net admitted adjusted gross DTA | \$22,325 | \$ 387 | \$23,808 | \$ 5 | \$(1,483) | \$382 |
| Percentage of net admitted adjusted gross DTAs by tax character admitted because of the impact of tax planning strategies | —% | —% | —% | —% | —% | —% |

The Company does not have DTLs that are not recognized.

The Company does not use reinsurance in its tax-planning strategies.

Current income taxes incurred consist of the following major components (in thousands):

| | 12/31/2018 | 12/31/2017 | 12/31/2016 |
|---|------------|------------|------------|
| Current Income Tax: | | | |
| Federal income tax expense | \$ 2,301 | \$ 9,481 | \$12,302 |
| Foreign taxes | — | — | — |
| Subtotal | \$ 2,301 | \$ 9,481 | \$12,302 |
| Federal income taxes expense on net capital gains | (1,214) | 4,547 | 1,019 |
| Other | 63 | 1,426 | 1 |
| Federal and foreign income tax expense | \$ 1,150 | \$15,454 | \$13,322 |

| | 12/31/2018 | 12/31/2017 | Change |
|---|------------|------------|-----------|
| Deferred tax assets: | | | |
| Ordinary: | | | |
| Policyholder reserves | \$10,260 | \$ 8,875 | \$ 1,385 |
| Deferred acquisition costs | 38,959 | 34,544 | 4,415 |
| Unauthorized reinsurance | 693 | 2,929 | (2,236) |
| Receivables—non-admitted | 6 | 91 | (85) |
| Other (including items < 5% of total ordinary tax assets) | 723 | 366 | 357 |
| Subtotal | \$50,641 | \$46,805 | \$ 3,836 |
| Non-admitted | 28,316 | 22,997 | 5,319 |
| Admitted ordinary deferred tax assets | \$22,325 | \$23,808 | \$(1,483) |
| Capital: | | | |
| Investments | \$ 3,229 | \$ 2,986 | \$ 243 |
| Net capital loss carry-forward | — | — | — |
| Subtotal | \$ 3,229 | \$ 2,986 | \$ 243 |
| Statutory valuation allowance adjustment | — | — | — |
| Non-admitted | 2,842 | 2,981 | (139) |
| Admitted capital deferred tax assets | 387 | 5 | 382 |
| Admitted deferred tax assets | \$22,712 | \$23,813 | \$(1,101) |

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

| | 12/31/2018 | 12/31/2017 | Change |
|---|-----------------|-----------------|----------------|
| Deferred tax liabilities: | | | |
| Ordinary: | | | |
| Reserve transition adjustment | \$ 5,709 | \$ 6,524 | \$(815) |
| Other | 185 | 278 | (93) |
| Subtotal | \$ 5,894 | \$ 6,802 | \$(908) |
| Capital: | | | |
| Investments | 45 | 5 | 40 |
| Deferred tax liabilities | \$ 5,939 | \$ 6,807 | \$(868) |
| Net admitted deferred tax assets/liabilities | \$16,773 | \$17,006 | \$(233) |

The provision for federal and foreign income taxes incurred is different from that which would be obtained by applying the statutory federal income tax rate to income before income taxes. The significant items causing this difference at December 31, 2018, are as follows (in thousands):

| Description | Tax Effect | Effective Tax Rate |
|--|------------------|--------------------|
| Provision computed at statutory rate | \$(3,144) | 21.00% |
| Dividends received deduction | (454) | 3.01 |
| SAGIC—ordinary income & capital gains | (2,173) | 14.52 |
| Amortization of interest maintenance reserve | (239) | 1.60 |
| Tax-exempt interest | (157) | 1.05 |
| Liability for unauthorized reinsurance | 2,236 | (14.94) |
| Prior year true-up | (206) | 1.38 |
| Change in unrealized gains/losses | 42 | (0.28) |
| Nonadmitted assets | 296 | (1.97) |
| Other permanent differences | 2 | (0.01) |
| Total | \$(3,797) | 25.36% |
| Federal and foreign income tax incurred—Ordinary | \$ 2,364 | (15.80)% |
| Federal and foreign income tax incurred—Capital | (1,214) | 8.11 |
| Change in net deferred income tax charge (benefit) | (4,947) | 33.05 |
| Total statutory income taxes | \$(3,797) | 25.36% |

At December 31, 2018, the Company had no net operating loss carry forwards or capital loss carry forwards. Due to the Tax Cuts and Jobs Act, carryback of NOLs generated after December 31, 2017 are disallowed. Therefore, ordinary income tax paid in years 2017 and prior may not be recouped in the event of future net losses.

Income tax, ordinary and capital available for recoupment from its parent, TIAA, in the event of future net losses include (in thousands):

| Year Incurred | Ordinary | Capital | Total |
|---------------|------------|----------------|----------------|
| 2015 | \$— | \$ — | \$ — |
| 2016 | — | — | — |
| 2017 | — | 4,351 | 4,351 |
| 2018 | — | — | — |
| Total | \$— | \$4,351 | \$4,351 |

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

There were no deposits to suspend interest on potential underpayments reported as admitted assets under IRC Section 6603 as the Company maintains NOL carryforwards.

The Company files a consolidated federal income tax return with its parent, TIAA and its affiliates:

- 1) TIAA Board of Overseers
- 2) ND Properties, Inc.
- 3) TCT Holdings, inc.
- 4) T-C Europe Holding, Inc.
- 5) Nuveen Holdings, Inc.*
- 6) NIS/R&T, Inc. f/k/a Nuveen Investment Solutions, Inc.*
- 7) Nuveen Investments Holdings, Inc.*
- 8) Nuveen Investments, Inc. f/k/a Nuveen Global Investments Holdings, LLC*
- 9) Nuveen Securities, LLC*
- 10) Terra Land Company
- 11) T-C SP, Inc.
- 12) 730 Texas Forest Holdings, Inc.
- 13) JWL Properties, Inc.
- 14) T-Investment Properties Corp.
- 15) Teachers Personal Investors Services, Inc.
- 16) Westchester Group Investment Management, Inc.
- 17) Covariance Capital Management, Inc.
- 18) Greenwood Resources, Inc.
- 19) Westchester Group Asset Management, Inc.
- 20) Westchester Group Investment Management Holding Company, Inc.
- 21) Westchester Group Farm Management, Inc.
- 22) Westchester Group Real Estate, Inc.
- 23) Oleum Holding Company, Inc.
- 24) TIAA-CREF Tuition Financing, Inc.
- 25) MyVest Corporation
- 26) Nuveen Holdings 1, Inc.*
- 27) AMC Holding, Inc.
- 28) Business Property Lending Inc.
- 29) CustomerOne Financial Network, Inc.
- 30) Elite Lender Services, Inc.
- 31) TIAA, FSB (fka Everbank)
- 32) EverBank Commercial Finance, Inc.
- 33) EverBank Wealth Management, Inc.
- 34) EverTrade Direct Brokerage, Inc
- 35) TIAA FSB Holdings, Inc.
- 36) Tygris Asset Finance, Inc.
- 37) Tygris Commercial Finance Group, Inc.
- 38) Teachers Insurance and Annuity Association of America

All consolidating companies, excluding those denoted with an asterisk (*) above, participate in a tax sharing agreement under the following criteria. Under the agreement, current federal income tax expense (benefit) is computed on a separate return basis and provides that members shall make payments or receive reimbursements to the extent that their income (loss) contributes to or reduces consolidated federal tax expense. The consolidating companies included in this agreement are reimbursed for net operating losses or other tax attributes they have generated when utilized in the consolidated return.

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The companies denoted with an asterisk above (collectively, “Nuveen subgroup”), are subject to a separate tax sharing agreement, under which current federal income tax expense (benefit) is computed on a separate subgroup return basis. Under the Agreement, Nuveen Holdings I, Inc (“Nuveen”) makes payments to TIAA for amounts equal to the federal income payments that the Nuveen subgroup would be obliged to pay the federal government if the Nuveen subgroup had actually filed a separate consolidated tax return. Nuveen is reimbursed for the subgroup losses to the extent that the subgroup tax return reflects a tax benefit that the Nuveen subgroup could have carried back to a prior consolidated return year. However, in the event the TIAA consolidated group owes Alternative Minimum Tax (“AMT”) in a given year, Nuveen will pay or receive reimbursements for its allocable share of tax, in an amount equal to the ratio that its standalone AMT liability bears to that of the consolidated group’s liability.

The 2017 Tax Cuts and Jobs Act (the “Act”) reduces the U.S. corporate tax rate from 35% to 21%, includes several base broadening provisions, and reforms the US international tax system. With a few exceptions, key provisions are effective for tax years beginning January 1, 2018.

The Company’s DTAs and DTLs as of December 31, 2018 and December 31, 2017 reflect the enacted tax rate of 21% which is expected to apply when the DTAs and DTLs will be settled or realized. The Company’s federal income tax incurred for the year ended December 31, 2018 is computed using the enacted tax rate of 21%.

In February 2018, INT 18-01: Updated Tax Estimates under the Tax Cuts and Jobs Act was issued to address the application of statutory accounting principles when a reporting entity does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Act.

As of December 31, 2017, the Company noted that the impact of the Act to DTA admissibility under SSAP 101 was under evaluation. Our net admitted DTA as of December 31, 2017 was computed based on reasonable estimates and guidance available as of the date of this filing.

Additionally, in evaluating the impact of reform to the US international tax system, the Company had estimated that no material liability would be due for the repatriation transition tax provided in the Act.

As of the close of the measurement period allowed under INT 18-01 (one year from the date of the Act), no significant changes in reasonable estimates reported in December 31, 2017 have occurred.

The Company’s tax years 2014 through 2018 are open to examination by the IRS.

Note 12—policy and contract reserves

Policy and contract reserves are determined in accordance with standard valuation methods approved by the Department and are computed in accordance with standard actuarial methodology. The reserves are based on assumptions for interest, mortality and other risks insured.

For annuities and supplementary contracts, policy and contract reserves are calculated using Commissioner’s Annuity Reserve Valuation Method (“CARVM”) in accordance with New York State Regulation 151, Actuarial Guideline 43 (“AG43”) for variable annuity products and Actuarial Guideline 33 for all other products.

The Company performed asset adequacy analysis in order to test the adequacy of its reserves in light of the assets supporting such reserves. The Company maintains additional reserves at the level of \$16,500 thousand and \$4,000 thousand for 2018 and 2017, respectively, based on asset adequacy and AG43 analysis. On this basis, the Company determined that the Company’s reserves are sufficient to meet its obligations.

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Withdrawal characteristics of annuity actuarial reserves and deposit-type contracts at December 31 are as follows (in thousands):

| | 2018 | | | | |
|---|----------------------------|---|---|--------------|-------------------|
| | General Account | Separate Account with Guarantees | Separate Account Nonguaranteed | Total | % of Total |
| Subject to discretionary withdrawal: | | | | | |
| With market value adjustment | \$ — | \$ 35,359 | \$ — | \$ 35,359 | 0.4% |
| At fair value | — | 2,105,121 | 2,473,728 | 4,578,849 | 45.6% |
| Total with market value adjustment or at fair value | \$ — | \$2,140,480 | \$2,473,728 | \$ 4,614,208 | 46.0% |
| At book value without adjustment (minimal or no charge or adjustment) | 5,203,550 | — | — | 5,203,550 | 51.9% |
| Not subject to discretionary withdrawal | 212,825 | 500 | — | 213,325 | 2.1% |
| Total (gross) | \$5,416,375 | \$2,140,980 | \$2,473,728 | \$10,031,083 | 100.0% |
| Reinsurance ceded | — | — | — | — | |
| Total (net) | \$5,416,375 | \$2,140,980 | \$2,473,728 | \$10,031,083 | |

| | 2017 | | | | |
|---|----------------------------|---|---|--------------|-------------------|
| | General Account | Separate Account with Guarantees | Separate Account Nonguaranteed | Total | % of Total |
| Subject to discretionary withdrawal: | | | | | |
| With market value adjustment | \$ — | \$ 35,748 | \$ — | \$ 35,748 | 0.4% |
| At fair value | — | 2,131,339 | 2,496,877 | 4,628,216 | 47.6% |
| Total with market value adjustment or at fair value | \$ — | \$2,167,087 | \$2,496,877 | \$ 4,663,964 | 48.0% |
| At book value without adjustment (minimal or no charge or adjustment) | 4,882,212 | — | — | 4,882,212 | 50.3% |
| Not subject to discretionary withdrawal | 164,391 | 1,100 | — | 165,491 | 1.7% |
| Total (gross) | \$5,046,603 | \$2,168,187 | \$2,496,877 | \$ 9,711,667 | 100.0% |
| Reinsurance ceded | — | — | — | — | |
| Total (net) | \$5,046,603 | \$2,168,187 | \$2,496,877 | \$ 9,711,667 | |

For Ordinary Life Insurance (including term plans, universal life and variable universal life), reserves for all policies are calculated in accordance with New York State Insurance Regulation 147 using the 1980 CSO Table or 2001 CSO Table and interest rates of 3.5% through 4.5%. Term conversion reserves are based on the Company's term conversion mortality experience and interest at base valuation assumptions.

Liabilities for incurred but not reported life insurance claims and disability waiver of premium claims are based on historical experience and are set equal to a percentage of reserves. Reserves for amounts not yet due for incurred but not reported disability waiver of premium claims are a percentage of the total Active Lives Disability Waiver of Premium Reserve.

The Company waives deduction of deferred fractional premiums upon death of the insured and returns any portion of the final premium beyond the date of death. The Company has no policies where the surrender values were in excess of the legally computed reserves as of December 31, 2018 or 2017. The Company has \$43,431,076 thousand and \$41,542,140 thousand of insurance in force for which the gross premiums are less

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

than the net premiums according to the standard of valuation set by the State of New York as of December 31, 2018 and 2017, respectively. Premium deficiency reserves related to the above insurance total \$5,975 thousand and \$16,313 thousand at December 31, 2018 and 2017, respectively.

For retained assets, an accumulation account issued from the proceeds of annuity and life insurance policies, reserves are held equal to the current account balances.

The Tabular Interest, Tabular Less Actual Reserve Released and Tabular Cost have all been determined by formulae as prescribed by the NAIC except for deferred annuities, for which tabular interest has been determined from the basic data.

Note 13—reinsurance

Reinsurance transactions included in the statutory—basis statements of operations within “Insurance and annuity premiums and other considerations” are as follows (in thousands):

| | <u>Years Ended December 31</u> | | |
|-----------------|--------------------------------|-------------------|-------------------|
| | <u>2018</u> | <u>2017</u> | <u>2016</u> |
| Direct premiums | \$ 801,098 | \$ 857,163 | \$ 815,562 |
| Ceded premiums | (108,663) | (120,750) | (119,979) |
| Net premiums | <u>\$ 692,435</u> | <u>\$ 736,413</u> | <u>\$ 695,583</u> |

The major lines in the accompanying financial statements that were reduced by the effect of these reinsurance agreements include (in thousands):

| | <u>2018</u> | <u>2017</u> | <u>2016</u> |
|--|----------------|----------------|----------------|
| Reinsurance ceded: | | | |
| Insurance and annuity premiums and other considerations | \$108,663 | \$120,750 | \$119,979 |
| Policy and contract benefits | 44,279 | 49,284 | 30,724 |
| Increase in policy and contract reserves | 5,395 | 30,359 | 34,154 |
| Reserves for life and health, annuities and deposit-type contracts | <u>582,642</u> | <u>577,247</u> | <u>546,888</u> |

Note 14—capital and surplus and shareholders’ dividends restrictions

The portion of unassigned surplus (deficit) increased or (reduced) by each item below as of December 31 are as follows (in thousands):

| | <u>2018</u> | <u>2017</u> |
|---|----------------|-------------|
| Change in net unrealized capital gains (losses) | \$ (202) | \$ (574) |
| Change in asset valuation reserve | (5,570) | (6,090) |
| Change in net deferred federal income tax | 4,947 | (26,980) |
| Change in non-admitted assets | (5,499) | 21,196 |
| Change in liability for reinsurance of unauthorized companies | 10,648 | (10,828) |
| Change in surplus of separate accounts | (349) | (4,094) |
| Surplus paid in | <u>100,000</u> | <u>—</u> |

As of December 31, 2018 there was no portion of unassigned surplus (deficit) represented by cumulative net unrealized gains and losses, gross of deferred taxes, and \$202 thousand as of December 31, 2017.

TIAA-CREF LIFE INSURANCE COMPANY
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Capital: The Company has 2,500 shares of common stock authorized, issued and outstanding. All shares are Class A. The Company has no preferred stock outstanding.

Dividend Restrictions: Under the New York Insurance Law, the Company is permitted without prior insurance regulatory clearance to pay a stockholder dividend as long as the aggregated amount of all such dividends in any calendar year does not exceed the lesser of (i) 10% of its surplus to policyholders as of the immediately preceding calendar year and (ii) its net gain from operations for the immediately preceding calendar year (excluding realized investment gains). The Company did not pay dividends to its shareholder for the years ended December 31, 2018 and 2017.

Note 15—contingencies

It is the opinion of management that any liabilities which might arise from litigation, state guaranty fund assessments, and other matters, over and above amounts already provided for in the financial statements, are not considered material in relation to the Company's financial position or the results of its operations.

The Company receives and responds to subpoenas or other inquiries from state and federal regulators, including state insurance commissioners; state attorneys general and other state governmental authorities; the SEC and federal governmental authorities. The Company cooperates in connection with these inquiries and believes the ultimate liability that could result from litigation and proceedings would not have a material adverse effect on the Company's financial position.

Note 16—subsequent events

In preparing these financial statements, the Company has evaluated events and transactions for potential recognition or disclosure through March 14, 2019, the date the financial statements were available to be issued.

At December 31, 2018, TC Life held an investment in Pacific Gas and Electric ("PG&E") with a book value of \$21.7 million. On January 14, 2019, PG&E announced its intention to file for reorganization under Chapter 11 of the U.S. Bankruptcy code. As a result, management identified its intent to sell, and TC Life sold certain PG&E investments. Accordingly, a change in intent and impairment of \$4.4 million was recorded for the year ended December 31, 2018.

REPORT OF INDEPENDENT AUDITORS

To the Board of Trustees of
Teachers Insurance and Annuity Association of America

We have audited the accompanying statutory-basis financial statements of Teachers Insurance and Annuity Association of America, which comprise the statutory-basis statements of admitted assets, liabilities and capital and contingency reserves as of December 31, 2018 and 2017, and the related statutory-basis statements of operations and changes in capital and contingency reserves, and of cash flows for each of the three years in the period ended December 31, 2018.

MANAGEMENT’S RESPONSIBILITY FOR THE FINANCIAL STATEMENTS

Management is responsible for the preparation and fair presentation of the statutory-basis financial statements in accordance with the accounting practices prescribed or permitted by the New York State Department of Financial Services. Management is also responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of statutory-basis financial statements that are free from material misstatement, whether due to fraud or error.

AUDITORS’ RESPONSIBILITY

Our responsibility is to express an opinion on the statutory-basis 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 statutory-basis 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 our 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, we consider internal control relevant to the Company’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 Company’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.

BASIS FOR ADVERSE OPINION ON U.S. GENERALLY ACCEPTED ACCOUNTING PRINCIPLES

As described in Note 2 to the statutory-basis financial statements, the statutory-basis financial statements are prepared by the Company on the basis of the accounting practices prescribed or permitted by the New York State Department of Financial Services, which is a basis of accounting other than accounting principles generally accepted in the United States of America.

The effects on the statutory-basis financial statements of the variances between the statutory basis of accounting described in Note 2 and accounting principles generally accepted in the United States of America, although not reasonably determinable, are presumed to be material.

ADVERSE OPINION ON U.S. GENERALLY ACCEPTED ACCOUNTING PRINCIPLES

In our opinion, because of the significance of the matter discussed in the “Basis for Adverse Opinion on U.S. Generally Accepted Accounting Principles” paragraph, the statutory-basis financial statements referred to above do not present fairly, in accordance with accounting principles generally accepted in the United States of America, the financial position of the Company as of December 31, 2018 and 2017, or the results of its operations or its cash flows for each of the three years in the period ended December 31, 2018.

OPINION ON STATUTORY BASIS OF ACCOUNTING

In our opinion, the statutory-basis financial statements referred to above present fairly, in all material respects, the admitted assets, liabilities and capital and contingency reserves of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in accordance with the accounting practices prescribed or permitted by the New York State Department of Financial Services described in Note 2.

/s/ PricewaterhouseCoopers LLP

New York, New York

March 14, 2019

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
STATUTORY-BASIS STATEMENTS OF ADMITTED ASSETS,
LIABILITIES AND CAPITAL AND CONTINGENCY RESERVES

| (in millions) | December 31, | |
|---|---------------------|------------------|
| | 2018 | 2017 |
| ADMITTED ASSETS | | |
| Bonds | \$187,325 | \$184,895 |
| Preferred stocks | 245 | 338 |
| Common stocks | 5,899 | 5,680 |
| Mortgage loans | 29,959 | 26,597 |
| Real estate | 2,152 | 2,078 |
| Cash, cash equivalents and short-term investments | 598 | 640 |
| Contract loans | 1,890 | 1,680 |
| Derivatives | 968 | 244 |
| Securities lending collateral assets | 562 | 706 |
| Other long-term investments | 30,413 | 30,165 |
| Investment income due and accrued | 1,802 | 1,794 |
| Net deferred federal income tax asset | 2,402 | 1,964 |
| Other assets | 782 | 770 |
| Separate account assets | 38,289 | 37,596 |
| Total admitted assets | \$303,286 | \$295,147 |
| LIABILITIES, CAPITAL AND CONTINGENCY RESERVES | | |
| Liabilities | | |
| Reserves for life and health insurance, annuities and deposit-type contracts | \$213,138 | \$207,664 |
| Dividends due to policyholders | 1,885 | 1,884 |
| Interest maintenance reserve | 2,149 | 2,136 |
| Federal income taxes payable to affiliates | 45 | 17 |
| Asset valuation reserve | 5,260 | 5,388 |
| Derivatives | 164 | 470 |
| Payable for collateral for securities loaned | 562 | 706 |
| Other liabilities | 3,712 | 2,981 |
| Separate account liabilities | 38,245 | 37,565 |
| Total liabilities | 265,160 | 258,811 |
| Capital and contingency reserves | | |
| Capital (2,500 shares of \$1,000 par value common stock issued and outstanding and \$550,000 paid-in capital) | 3 | 3 |
| Surplus notes | 5,041 | 5,041 |
| Contingency reserves: | | |
| For investment losses, annuity and insurance mortality, and other risks | 33,082 | 31,292 |
| Total capital and contingency reserves | 38,126 | 36,336 |
| Total liabilities, capital and contingency reserves | \$303,286 | \$295,147 |

See notes to statutory-basis financial statements

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
STATUTORY-BASIS STATEMENTS OF OPERATIONS

| (in millions) | For the Years Ended December 31, | | |
|--|---|-----------------|-----------------|
| | 2018 | 2017 | 2016 |
| REVENUES | | | |
| Insurance and annuity premiums and other considerations | \$16,220 | \$16,644 | \$16,595 |
| Annuity dividend additions | 1,761 | 1,503 | 1,970 |
| Net investment income | 12,550 | 11,875 | 11,907 |
| Other revenue | 379 | 371 | 325 |
| Total revenues | \$30,910 | \$30,393 | \$30,797 |
| BENEFITS AND EXPENSES | | | |
| Policy and contract benefits | \$17,694 | \$16,206 | \$14,385 |
| Dividends to policyholders | 3,526 | 3,212 | 3,813 |
| Increase in policy and contract reserves | 5,279 | 6,115 | 7,461 |
| Net operating expenses | 1,882 | 2,123 | 1,620 |
| Net transfers to separate accounts | 442 | 1,123 | 1,851 |
| Total benefits and expenses | \$28,823 | \$28,779 | \$29,130 |
| Income before federal income taxes and net realized capital gains (losses) | \$ 2,087 | \$ 1,614 | \$ 1,667 |
| Federal income tax expense (benefit) | (23) | (4) | 16 |
| Net realized capital gains (losses) less capital gains taxes, after transfers to the interest maintenance reserve | (657) | (598) | (161) |
| Net income | \$ 1,453 | \$ 1,020 | \$ 1,490 |

See notes to statutory-basis financial statements

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
STATUTORY-BASIS STATEMENTS OF CHANGES IN CAPITAL
AND CONTINGENCY RESERVES

| (in millions) | Capital Stock and Additional Paid-in Capital | Surplus Notes | Contingency Reserves | Total |
|--|--|------------------|-------------------------|----------|
| Balance, December 31, 2015 | \$ 3 | \$4,000 | \$30,732 | \$34,735 |
| Net income | — | — | 1,490 | 1,490 |
| Change in net unrealized capital gains on investments | — | — | (481) | (481) |
| Change in asset valuation reserve | — | — | (257) | (257) |
| Change in net deferred income tax | — | — | (272) | (272) |
| Change in post-retirement benefit liability | — | — | 4 | 4 |
| Change in non-admitted assets: | | | | |
| Deferred federal income tax asset | — | — | 271 | 271 |
| Other assets | — | — | 93 | 93 |
| Balance, December 31, 2016 | \$ 3 | \$4,000 | \$31,580 | \$35,583 |
| Net income | — | — | 1,020 | 1,020 |
| Change in net unrealized capital gains on investments | — | — | 1,070 | 1,070 |
| Change in asset valuation reserve | — | — | (1,221) | (1,221) |
| Change in net deferred income tax | — | — | (4,554) | (4,554) |
| Change in post-retirement benefit liability | — | — | (5) | (5) |
| Change in non-admitted assets: | | | | |
| Deferred federal income tax asset | — | — | 3,310 | 3,310 |
| Other assets | — | — | 92 | 92 |
| Change in surplus notes | — | 1,041 | — | 1,041 |
| Balance, December 31, 2017 | \$ 3 | \$5,041 | \$31,292 | \$36,336 |
| Net income | — | — | 1,453 | 1,453 |
| Change in net unrealized capital gains on investments | — | — | (359) | (359) |
| Change in asset valuation reserve | — | — | 128 | 128 |
| Change in net deferred income tax | — | — | (147) | (147) |
| Change in post-retirement benefit liability | — | — | 7 | 7 |
| Change in non-admitted assets: | | | | |
| Deferred federal income tax asset | — | — | 585 | 585 |
| Other assets | — | — | 123 | 123 |
| Balance, December 31, 2018 | \$ 3 | \$5,041 | \$33,082 | \$38,126 |

See notes to statutory-basis financial statements

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
STATUTORY-BASIS STATEMENTS OF CASH FLOWS

| (in millions) | For the Years Ended December 31, | | |
|---|----------------------------------|----------------|----------------|
| | 2018 | 2017 | 2016 |
| CASH FROM OPERATIONS | | | |
| Insurance and annuity premiums and other considerations | \$16,225 | \$16,650 | \$16,599 |
| Net investment income | 11,756 | 11,301 | 11,324 |
| Miscellaneous income | 365 | 361 | 317 |
| Total receipts | 28,346 | 28,312 | 28,240 |
| Policy and contract benefits | 17,633 | 16,128 | 14,449 |
| Operating expenses | 1,865 | 1,729 | 1,560 |
| Dividends paid to policyholders | 1,764 | 1,756 | 1,819 |
| Federal income tax expense (benefit) | (63) | (16) | 15 |
| Net transfers to separate accounts | 442 | 1,127 | 1,814 |
| Total disbursements | 21,641 | 20,724 | 19,657 |
| Net cash from operations | 6,705 | 7,588 | 8,583 |
| CASH FROM INVESTMENTS | | | |
| Proceeds from investments sold, matured, or repaid: | | | |
| Bonds | 17,950 | 27,267 | 25,064 |
| Stocks | 1,891 | 1,298 | 529 |
| Mortgage loans and real estate | 2,880 | 1,464 | 2,342 |
| Other invested assets | 2,368 | 2,213 | 2,314 |
| Miscellaneous proceeds | 1,182 | 52 | 622 |
| Cost of investments acquired: | | | |
| Bonds | 19,838 | 25,622 | 28,844 |
| Stocks | 1,716 | 3,489 | 1,005 |
| Mortgage loans and real estate | 6,482 | 6,684 | 4,593 |
| Other invested assets | 4,483 | 3,923 | 4,457 |
| Miscellaneous applications | 513 | 1,076 | 191 |
| Net cash used in investments | (6,761) | (8,500) | (8,219) |
| CASH FROM FINANCING AND OTHER | | | |
| Proceeds from issuance of surplus notes | — | 1,994 | — |
| Extinguishment of surplus notes | — | (950) | — |
| Premium paid on extinguishment of surplus notes | — | (373) | — |
| Net deposits on deposit-type contracts funds | 15 | 24 | (7) |
| Other cash provided (applied) | (1) | 252 | (285) |
| Net cash from (used in) financing and other | 14 | 947 | (292) |
| NET CHANGE IN CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS | (42) | 35 | 72 |
| CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS, BEGINNING OF YEAR | 640 | 605 | 533 |
| CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS, END OF YEAR | \$ 598 | \$ 640 | \$ 605 |

See notes to statutory-basis financial statements

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS

Note 1—organization

Teachers Insurance and Annuity Association of America (“TIAA” or the “Company”) was established in 1918 as a legal reserve life insurance company under the insurance laws of the State of New York. All of the outstanding common stock of TIAA is held by the TIAA Board of Overseers (“Board of Overseers”), a not-for-profit corporation incorporated in the State of New York originally created for the purpose of holding the stock of TIAA.

The Company’s primary purpose is to aid and strengthen non-profit educational and research organizations, governmental entities and other non-profit institutions by providing retirement and insurance benefits for their employees and their families and by counseling such organizations and their employees on benefit plans and other measures of economic security.

Note 2—significant accounting policies

BASIS OF PRESENTATION:

The financial statements of Teachers Insurance and Annuity Association of America (“TIAA” or the “Company”) are presented on the basis of statutory accounting principles prescribed or permitted by the New York State Department of Financial Services (“NYDFS” or the “Department”). The Department requires insurance companies domiciled in the State of New York to prepare their statutory-basis financial statements in accordance with the National Association of Insurance Commissioners’ (“NAIC”) Accounting Practices and Procedures Manual (“NAIC SAP”), subject to any deviation prescribed or permitted by the Department (“New York SAP”).

The table below provides a reconciliation of the Company’s net income and capital and contingency reserves between NAIC SAP and the New York SAP annual statement filed with the Department. The additional reserve for the term conversions results from the Department requiring in Regulation No. 147 (11NYCRR 98) Valuation of Life Insurance Reserves Section 98.4 for any policy which guarantees renewal, or conversion to another policy, without evidence of insurability, additional reserves shall be held that account for excess mortality due to anti-selection with appropriate margins to cover expenses and risk of moderately adverse deviations in experience.

| (in millions) | SSAP# | F/S Line | For the Years Ended December 31, | | |
|---|--------------|--|---|-------------|-------------|
| | | | 2018 | 2017 | 2016 |
| Net income, New York SAP | | | \$ 1,453 | \$ 1,020 | \$ 1,490 |
| New York SAP Prescribed Practices that are an increase/ (decrease) to NAIC SAP: | | | | | |
| Additional reserves for term conversions | 51R | Increase in policy and contract reserves | — | 1 | 1 |
| Net income (loss), NAIC SAP | | | \$ 1,453 | \$ 1,021 | \$ 1,491 |
| Capital and surplus, New York SAP | | | \$38,126 | \$36,336 | \$35,583 |
| New York SAP Prescribed Practices that are an increase/ (decrease) to NAIC SAP: | | | | | |
| Additional reserves for term conversions | 51R | Reserves for life and health insurance, annuities and deposit-type contracts | 22 | 22 | 21 |
| Capital and surplus, NAIC SAP | | | \$38,148 | \$36,358 | \$35,604 |

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The Company's risk based capital as of December 31, 2018 and 2017 would not have triggered a regulatory event without the use of the New York SAP prescribed practices.

Accounting Principles Generally Accepted in the United States: The Financial Accounting Standards Board ("FASB") dictates the accounting principles for financial statements that are prepared in conformity with Generally Accepted Accounting Principles ("GAAP") with applicable authoritative accounting pronouncements. As a result, the Company cannot refer to financial statements prepared in accordance with NAIC SAP and New York SAP as having been prepared in accordance with GAAP.

The primary differences between GAAP and NAIC SAP can be summarized as follows:

Under GAAP:

- Investments in bonds considered to be "available for sale" are carried at fair value rather than at amortized cost under NAIC SAP;
- Impairments on securities (other than loan-backed and structured securities) due to credit losses are recorded as other-than-temporary impairments ("OTTI") through earnings for the difference between amortized cost and discounted cash flows when a security is deemed impaired. Other declines in fair value related to factors other than credit are recorded as other comprehensive income, which is a separate component of stockholder's equity. Under NAIC SAP, an impairment for such securities is recorded through earnings for the difference between amortized cost and fair value;
- For loan-backed and structured securities that are other-than-temporarily impaired, declines in fair value related to factors other than credit are recorded as other comprehensive income, which is a separate component of stockholder's equity. Under NAIC SAP, such declines in fair value are not recorded until a credit loss occurs;
- Changes in the allowance for estimated uncollectible amounts related to mortgage loans are recorded through earnings rather than as unrealized losses on impairments included in the Asset Valuation Reserve, which is a component of surplus under NAIC SAP;
- If in the aggregate, the Company has a net negative cash balance, the negative cash is recorded as a liability rather than as a negative asset under NAIC SAP;
- Changes in the value of certain other long-term investments accounted for under the equity method of accounting are recorded through earnings rather than as unrealized gains (losses), which is a component of surplus under NAIC SAP;
- Investments in wholly-owned subsidiaries, other entities under the control of the parent, and certain variable interest entities are consolidated in the parent's financial statements rather than being carried at the parent's share of the underlying GAAP equity or statutory surplus of a domestic insurance subsidiary under NAIC SAP;
- Contracts that contain an embedded derivative are bifurcated from the host contract and accounted for separately under GAAP, whereas under NAIC SAP, the embedded derivative is not bifurcated between components and is accounted for as part of the host contract;
- Certain assets designated as "non-admitted assets" and excluded from assets in the statutory balance sheet are included in the GAAP balance sheet;
- Surplus notes are reported as a liability rather than a component of capital and contingency reserves under NAIC SAP;
- The Asset Valuation Reserve ("AVR") is not recognized under GAAP. The AVR is established under NAIC SAP with changes recorded as a direct charge to surplus;

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

- The Interest Maintenance Reserve (“IMR”) is not recognized under GAAP. The realized gains and losses resulting from changes in interest rates are reported as a component of net income under GAAP rather than being deferred and subsequently amortized into income over the remaining expected life of the investment sold under NAIC SAP;
- Dividends on participating policies are accrued when earned under GAAP rather than being recognized for the year when they are approved under NAIC SAP;
- Policy acquisition costs, such as commissions, and other costs incurred in connection with acquiring new business, are deferred and amortized over the expected lives of the policies issued rather than being expensed when incurred under NAIC SAP;
- Policy and contract reserves are based on management’s best estimates of expected mortality, morbidity, persistency and interest rather than being based on statutory mortality, morbidity and interest requirements under NAIC SAP;
- Deferred income taxes, subject to valuation allowance, include federal and state income taxes and changes in the deferred tax are reflected in earnings. Under NAIC SAP, deferred taxes exclude state income taxes and are admitted to the extent they can be realized within three years subject to a 15% limitation of capital and surplus with changes in the net deferred tax reflected as a component of surplus;
- Contracts that do not subject the Company to risks arising from policyholder mortality or morbidity are reported as a deposit liability. Under NAIC SAP, an annuity contract containing a life contingency is required to be classified as a life insurance contract, regardless of the significance of any mortality and morbidity risk, and amounts received and paid under these contracts are reported as revenue and benefits, respectively;
- Assets and liabilities are reported gross of reinsurance under GAAP and net of reinsurance under NAIC SAP. Certain reinsurance transactions are accounted for as financing transactions under GAAP and as reinsurance under NAIC SAP. Transactions recorded as financing have no impact on premiums or losses incurred, while under NAIC SAP, premiums paid to the reinsurer are recorded as ceded premiums (a reduction in revenue) and expected reimbursement for losses from the reinsurer are recorded as a reduction in losses;
- When reserves ceded to an unauthorized reinsurer exceed the assets or letters of credit supporting the reserves no liability is established under GAAP. Under NAIC SAP, a liability is established and changes to these amounts are credited or charged directly to unassigned surplus (deficit).

The effects of these differences, while not determined, are presumed to be material.

Use of Estimates: The preparation of statutory-basis financial statements requires management to make estimates and assumptions that impact the reported amounts of assets and liabilities at the date of the financial statements. Management is also required to disclose contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results may differ from those estimates.

The most significant estimates include those used in the recognition of other-than-temporary impairments, reserves for life and health insurance, annuities and deposit-type contracts and the valuation of deferred tax assets.

Reclassifications: Certain prior year amounts within these financial statement footnotes have been reclassified to conform to the current year presentation. No reclassifications were made to the Statements of Admitted Assets, Liabilities, and Capital and Contingency Reserves and the related Statements of Operations, Changes in Capital and Contingency Reserves, and Cash Flows.

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

ACCOUNTING POLICIES:

The following is a summary of the significant accounting policies followed by the Company:

Bonds: Bonds are stated at amortized cost using the constant yield method. Bonds in or near default (rated NAIC 6) are stated at the lower of amortized cost or fair value. NAIC ratings are applied to bonds and other securities. Categories 1 and 2 are considered investment grade, while Categories 3 through 6 are considered below investment grade. Bonds are recorded on a trade date basis, except for private placement bonds, which are recorded on the funding date. Bonds the Company intends to sell prior to maturity (“held for sale”) are stated at the lower of amortized cost or fair value. Exchange Traded Funds identified in the Purposes and Procedures Manual of the NAIC Investment Analysis Office as qualifying for bond treatment are stated at fair value.

Pursuant to the NAIC adopted modifications to SSAP No. 26R, Bonds, which were effective December 31, 2017, the Company holds Securities Valuations Office (“SVO”) identified bond exchange traded funds (“ETFs”). These ETFs are reported at fair value, and the Company has not elected systematic value.

Included within bonds are loan-backed and structured securities. Estimated future cash flows and expected prepayment speeds are used to determine the amortization of loan-backed and structured securities under the prospective method. Expected future cash flows and prepayment speeds are evaluated quarterly. Certain loan-backed and structured securities are reported at the lower of amortized cost or fair value as a result of the NAIC modeling process.

If it is determined that a decline in the fair value of a bond, excluding loan-backed and structured securities, is other-than-temporary, the cost basis of the bond is written down to fair value and the amount of the write down is accounted for as a realized loss. The new cost basis is not changed for subsequent recoveries in fair value. Future declines in fair value which are determined to be other-than-temporary are recorded as realized losses.

For loan-backed and structured securities which the Company has the intent and ability to hold for a period of time sufficient to recover the amortized cost basis, when an OTTI has occurred because the Company does not expect to recover the entire amortized cost basis of the security, the amount of the OTTI recognized as a realized loss is the difference between the security’s amortized cost basis and the present value of cash flows expected to be collected, discounted at the loan-backed or structured security’s effective interest rate.

For loan-backed and structured securities, when an OTTI has occurred because the Company intends to sell the security or does not have the intent and ability to retain the security for a period of time sufficient to recover the amortized cost basis, the amount of the OTTI realized is the difference between the security’s amortized cost basis and fair value at the balance sheet date.

In periods subsequent to the recognition of an OTTI loss for a loan-backed or structured security, the Company accounts for the other-than-temporarily impaired security as if the security had been purchased on the measurement date of the impairment. The difference between the new amortized cost basis and the cash flows expected to be collected is accreted as interest income in future periods based on prospective changes in cash flow estimates.

Preferred Stocks: Preferred stocks are stated at amortized cost unless they have an NAIC rating designation of 4, 5, or 6 which are stated at the lower of amortized cost or fair value. The fair value of preferred stocks is determined using prices provided by independent pricing services or internally developed pricing models. When it is determined that a decline in fair value of an investment is other-than-temporary, the cost basis of the investment is reduced to its fair value and the amount of the reduction is accounted for as a realized loss.

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Common Stocks: Unaffiliated common stocks are stated at fair value, which is based on quoted market prices, where available. Changes in fair value are recorded through surplus as an unrealized gain or loss. For common stocks without quoted market prices, fair value is estimated using independent pricing services or internally developed pricing models. When it is determined that a decline in fair value of an investment is other-than-temporary, the cost basis of the investment is reduced to its fair value and the amount of the reduction is accounted for as a realized loss.

Investments in wholly-owned subsidiaries are stated at the value of their underlying net assets as follows: (1) domestic insurance subsidiaries are stated at the value of their underlying statutory surplus, and (2) non-insurance subsidiaries are stated at the value of their underlying audited GAAP equity. Dividends and distributions from subsidiaries are recorded in investment income to the extent they are not in excess of the investee's undistributed accumulated earnings, and changes in the equity of subsidiaries are recorded directly to surplus as unrealized gains or losses.

Mortgage Loans: Mortgage loans are stated at amortized cost, net of valuation allowances. Amortized cost consists of the unpaid principal balance of the loans, net of unamortized premiums, discounts, and certain mortgage origination fees. Mortgage loans held for sale are stated at the lower of amortized cost or fair value. Mortgage loans are evaluated for impairment when it is probable that the receipt of contractual payments of principal and interest may not occur when scheduled. If the impairment is considered to be temporary, a valuation allowance is established for the excess of the carrying value of the mortgage over its estimated fair value. Changes in valuation allowance for mortgage loans are included in net unrealized capital gains and losses on investments. When an event occurs resulting in an impairment that is other-than-temporary, a direct write-down is recorded as a realized loss and a new cost basis is established. The fair value of mortgage loans is generally determined using a discounted cash flow methodology based on coupon rates, maturity provisions and credit assumptions.

Real Estate: Real estate occupied by the Company and real estate held for the production of income is carried at depreciated cost, less encumbrances. Real estate held for sale is carried at the lower of depreciated cost or fair value, less encumbrances, and estimated costs to sell. The Company utilizes the straight-line method of depreciation on real estate and it is generally computed over a forty-year period. A real estate property may be considered impaired when events or circumstances indicate that the carrying value may not be recoverable. When the Company determines that an investment in real estate is impaired, a direct write-down is made to reduce the carrying value of the property to its estimated fair value based on an external appraisal, net of encumbrances, and a realized loss is recorded. The Company makes investments in commercial real estate directly, through wholly owned subsidiaries and through real estate limited partnerships which are included in Other Long-term Investments. The Company monitors the effects of current and expected market conditions and other factors on its real estate investments to identify and quantify any impairment in value. The Company assesses assets to determine if events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. The Company evaluates the recoverability of income producing directly held Real Estate investments based on undiscounted cash flows and then reviews the results of an independent third party appraisal to determine the fair value and if an impairment is required.

Other Long-term Investments: Other long-term investments primarily include investments in joint ventures, partnerships, and limited liability companies which are stated at cost, adjusted for the Company's percentage of the most recent available financial statements based on the underlying U.S. GAAP or International Financial Reporting Standards, generally measured at fair value, as reflected on the respective entity's financial statements.

The Company monitors the effects of current and expected market conditions and other factors on these investments to identify and quantify any impairment in value. The Company assesses the investments for

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

potential impairment by performing analysis between the fair value and the cost basis of the investments. The Company evaluates recoverability of the Company's direct investment to determine if OTTI is warranted. When it is determined that a decline in fair value of an investment is other-than-temporary, the cost basis of the investment is reduced to its fair value, and the amount of the reduction is accounted for as a realized loss.

Investments in wholly-owned non-insurance subsidiaries are stated at the value of their underlying audited GAAP equity. Dividends and distributions from subsidiaries are recorded in investment income to the extent they are not in excess of the investee's undistributed accumulated earnings, and changes in the equity of subsidiaries are recorded directly to surplus as unrealized gains or losses.

Other long-term investments include the Company's investments in surplus notes, which are stated at amortized cost. All of the Company's investments in surplus notes have a NAIC 1 rating designation.

Cash and Cash Equivalents: Cash includes cash on deposit and cash equivalents. Cash equivalents are short-term, highly liquid investments with original maturities of three months or less at the date of purchase and are stated at amortized cost. If in the aggregate, the Company has a net negative cash balance, the negative cash is recorded as a negative asset.

Short-Term Investments: Short-term investments (investments with remaining maturities greater than three months and less than or equal to 12 months at the time of acquisition, excluding those investments classified as cash equivalents) that are not impaired are stated at amortized cost using the straight line interest method. Short-term investments that are impaired are stated at the lower of amortized cost or fair value.

Contract Loans: Contract loans are stated at outstanding principal balances. Interest income accrued on contract loans past due 90 days or more are included in the unpaid balance of the loan. The excess of unpaid contract loan balances over the cash surrender value, if any, is non-admitted and reflected as an adjustment to surplus. Interest income on such contract loans is recorded as earned using the contractually agreed upon interest rate.

Derivative Instruments: The Company designates its derivative transactions as hedging or replication transactions. Derivatives that qualify and are designated for hedge accounting are reported as assets or liabilities on the balance sheet and accounted for in a manner consistent with the hedged item. Swap coupon cash flows and income accruals are reported as a component of net investment income. Upon termination, the gain or loss on these contracts is recognized in a manner consistent with the disposed hedged item.

Derivatives used in hedging relationships that do not qualify or are not designated for hedge accounting are carried at fair value. Changes in fair value are reported in surplus as net unrealized capital gains (losses). Swap coupon cash flows and income accruals are reported as a component of net investment income. Upon termination the gain or loss on these contracts is recognized as realized capital gains (losses) and is subject to Interest Maintenance Reserve ("IMR") or Asset Valuation Reserve ("AVR") treatment.

Derivatives used in replication transactions are accounted for in a manner consistent with the cash instrument and the replicated asset. Accordingly, these derivatives are carried at amortized cost or fair value. Amortization of derivative premiums is reported as a component of net investment income. Swap coupon cash flows and income accruals are recorded as a component of net investment income. Upon termination, the gain or loss on these contracts is recognized as realized capital gains (losses) and is subject to IMR or AVR treatment.

The Company does not offset the carrying values recognized in the balance sheet for derivatives executed with the same counterparty under the same master netting agreement.

Investment Income Due and Accrued: Investment income due is investment income earned and legally due to be paid to the Company at the reporting date. Investment income accrued is investment income earned but

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

not legally due to be paid to the Company until subsequent to the reporting date. The Company writes off amounts deemed uncollectible as a charge against investment income in the period such determination is made. Amounts deemed collectible, but over 90 days past due for any invested asset except mortgage loans in default are non-admitted. Amounts deemed collectible, but over 180 days past due for mortgage loans in default are non-admitted. The Company accrues interest income on impaired loans to the extent it is deemed collectible.

Separate Accounts: Separate Accounts are established in conformity with insurance laws, are segregated from the Company’s general account and are maintained for the benefit of separate account contract holders. Separate accounts are accounted for at fair value, except the TIAA Stable Value Separate Account, which supports book value separate account agreements, in which case the assets are accounted for at amortized cost. Separate account liabilities reflect the contractual obligations of the insurer arising out of the provisions of the insurance contract.

Foreign Currency Transactions and Translation: Investments denominated in foreign currencies and foreign currency contracts are valued in U.S. dollars, based on exchange rates at the balance sheet date. Investment transactions in foreign currencies are recorded at the exchange rates prevailing on the respective transaction dates. All other asset and liability accounts denominated in foreign currencies are adjusted to reflect exchange rates at the balance sheet date. Realized and unrealized gains and losses due to foreign exchange transactions and translation adjustments are not separately reported but are collectively included in realized and unrealized capital gains and losses, respectively.

Non-Admitted Assets: For statutory accounting purposes, certain assets are designated as non-admitted assets. Changes in non-admitted assets are reported as a direct adjustment to surplus.

At December 31, the major categories of assets that are non-admitted are as follows (in millions):

| | 2018 | 2017 | Change |
|---|----------------|----------------|----------------|
| Net deferred federal income tax asset | \$3,135 | \$3,720 | \$(585) |
| Furniture and electronic data processing equipment | 430 | 532 | (102) |
| Other long-term investments | 167 | 126 | 41 |
| Receivable from parent, subsidiaries and affiliates | — | 27 | (27) |
| Other | 167 | 202 | (35) |
| Total | \$3,899 | \$4,607 | \$(708) |

Electronic Data Processing Equipment, Computer Software, Furniture and Equipment and Leasehold Improvements: Electronic data processing (“EDP”) equipment, computer software and furniture and equipment which qualify for capitalization are depreciated over the lesser of useful life or 3 years. Office alterations and leasehold tenant improvements which qualify for capitalization are depreciated over the lesser of useful life or 5 years or the remaining life of the lease, respectively.

At December 31, the accumulated depreciation on EDP equipment, computer software, furniture and equipment and leasehold improvements is as follows (in millions):

| | 2018 | 2017 |
|--|---------|---------|
| EDP equipment and computer software | \$1,691 | \$1,424 |
| Furniture and equipment and leasehold improvements | \$ 117 | \$ 102 |

Repurchase Agreement: Repurchase agreements are agreements between a seller and a buyer, whereby the seller of securities sells and simultaneously agrees to repurchase the same or substantially the same securities

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

from the buyer at a stated price on a specified date. Repurchase agreements are generally accounted for as secured borrowings. The assets transferred are not removed from the balance sheet; the cash collateral received is reported on the balance sheet with an offsetting liability reported in “Other liabilities.”

Securities Lending Program: The Company has a securities lending program whereby it may lend securities to qualified institutional borrowers to earn additional income. The Company receives collateral (in the form of cash) against the loaned securities and maintains collateral in an amount not less than 102% of the market value of loaned securities during the period of the loan. The cash collateral received is reported in “Securities lending collateral assets” with an offsetting collateral liability included in “Payable for collateral for securities loaned.” Securities lending income is recorded in the accompanying Statements of Operations in “Net investment income.”

Insurance and Annuity Premiums and Other Considerations: Life insurance premiums are recognized as revenue over the premium-paying period of the related policies. Annuity premiums and other considerations, including consideration on annuity product rollovers, are recognized as revenue when received. Deposits on deposit-type contracts are recorded directly as a liability when received. Expenses incurred when acquiring new business are charged to operations as incurred.

Reserves for Life and Health Insurance, Annuities and Deposit-type Contracts: Policy and contract reserves are determined in accordance with standard valuation methods approved by the Department and are computed in accordance with standard actuarial methodology. The reserves established utilize assumptions for interest, mortality and other risks insured. Such reserves are established to provide for adequate contractual benefits guaranteed under policy and contract provisions.

Liabilities for deposit-type contracts, which do not contain any life contingencies, are equal to deposits received and interest credited to the benefit of contract holders, less surrenders or withdrawals (that represent a return to the contract holders) plus additional reserves (if any) necessitated by actuarial regulations.

The Company performed asset adequacy analysis in order to test the adequacy of its reserves in light of the assets supporting such reserves, and determined that its reserves are sufficient to meet its obligations.

Asset Valuation Reserve and Interest Maintenance Reserve: Mandatory reserves have been established for the General Account and Separate Account investments, where required. Such reserves consist of the AVR for potential credit-related losses on applicable General Account and Separate Account invested assets. Changes to the AVR are reported as direct additions to or deductions from surplus. An IMR is established for interest-related realized capital gains (losses) resulting from changes in the general level of interest rates for the General Account, as well as any Separate Accounts, not carried at fair value. Transfers to the IMR are deducted from realized capital gains and losses and are net of related federal income tax. IMR amortization, as calculated under the grouped method, is included in net investment income. Net realized capital gains (losses) are presented net of federal income tax expense or benefit and IMR transfer. For bonds, excluding loan-back and structured securities, losses from other-than-temporary impairments are recorded entirely to either the AVR or the IMR in accordance with the nature of the impairment.

Net Realized Capital Gains (Losses): Realized capital gains (losses), net of taxes, exclude gains (losses) deferred into the IMR and gains (losses) of the separate accounts. Realized capital gains (losses), including OTTI, are recognized in net income and are determined using the specific identification method.

Dividends Due to Policyholders: Dividends on insurance policies and pension annuity contracts in the payout phase are declared by the TIAA Board of Trustees (the “Board”) in December of each year, and such dividends are credited to policyholders in the following calendar year. Dividends on pension annuity contracts in the accumulation phase are declared by the Board in February of each year, and such dividends on the

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

various existing vintages of pension annuity contracts in the accumulation phase are credited to policyholders during the ensuing twelve month period beginning March 1.

Federal Income Taxes: Current federal income taxes are charged or credited based upon amounts estimated to be payable or recoverable as a result of operations for the current year and any adjustments to such estimates from prior years. Deferred federal income tax assets (“DTAs”) and deferred federal income tax liabilities (“DTLs”) are recognized for expected future tax consequences of temporary differences between statutory and taxable income. Temporary differences are identified and measured using a balance sheet approach whereby statutory and tax balance sheets are compared. Changes in DTAs and DTLs are recognized as a separate component of surplus. Net DTAs are admitted to the extent permissible under NAIC SAP. Gross DTAs are reduced by a statutory valuation allowance if it is more likely than not that some portion or all of the gross DTA will not be realized. The Company is required to establish a tax loss contingency if it is more likely than not that a tax position will not be sustained. The amount of the contingency reserve is management’s best estimate of the amount of the original tax benefit that could be reversed upon audit, unless the best estimate is greater than 50% of the original tax benefit, in which case the reserve is equal to the entire tax benefit.

The Company files a consolidated federal income tax return with its includable insurance and non-insurance subsidiaries. The consolidating companies participate in tax allocation agreements. The tax allocation agreements provide that each member of the group is allocated its share of the consolidated tax provision or benefit, determined generally on a separate company basis, but may, where applicable, recognize the tax benefits of net operating losses or capital losses utilizable by the consolidated group. Intercompany tax balances are settled quarterly on an estimated basis with a final settlement occurring within 30 days of the filing of the consolidated return. The tax allocation agreements are not applied to subsidiaries that are disregarded under federal tax law.

Statements of Cash Flows: Noncash activities are excluded from the Statutory—Basis Statements of Cash Flows. These noncash activities for the years ended December 31 include the following (in millions):

| | 2018 | 2017 | 2016 |
|--|---------|---------|---------|
| Exchange/transfer/conversion/distribution of invested assets | \$3,403 | \$5,003 | \$2,753 |
| Annuity dividend additions | \$1,761 | \$1,503 | \$1,970 |
| Capitalized interest | \$ 397 | \$ 351 | \$ 310 |
| Interest credited on deposit-type contracts | \$ 28 | \$ 28 | \$ 23 |

APPLICATION OF NEW ACCOUNTING PRONOUNCEMENTS:

In June 2016, the NAIC adopted substantive revisions to SSAP No. 51, Life Contracts, to incorporate references to the Valuation Manual (“VM”) and to facilitate the implementation of Principles-Based Reserving (“PBR”), which was effective on January 1, 2017. The adoption of PBR will be phased-in over three years, and only applies to new policies issued after the revised Standard Valuation Law and VM are in effect. Under the current system of reserving, formulas and assumptions are used to determine reserves as prescribed by state laws and regulations. Under PBR, companies will hold the higher of (a) the reserve using prescribed methods and assumptions and (b) the PBR reserve which considers a range of future economic conditions, computed using justified company experience factors, such as mortality, policyholder behavior and expenses. The adoption of the modifications to SSAP No. 51 relating to PBR will not affect the in-force block of business issued prior to the effective date.

In August 2016, the NAIC adopted and made effective modifications to SSAP No. 51, Life Contracts. These modifications clarify that annual assumption changes from reserving methods used in PBR would not qualify as a change in valuation basis. Changes in valuation basis are recorded directly to surplus instead of through income. This modification was made to accommodate PBR when it becomes effective and subsequent implementations.

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

In December 2018, the Company's state of domicile, New York, issued an emergency regulation to begin the implementation of principle-based reserving (PBR) to become effective on January 1, 2020. When New York final adopts PBR it will apply to the Company. Until New York adopts PBR, the Company will continue to follow New York requirements, which are formula based reserves. The Company continues to evaluate the NAIC guidance and does not anticipate a material impact on surplus.

Note 3—long-term bonds, preferred stocks, and unaffiliated common stocks

The book/adjusted carrying value, estimated fair value, excess of fair value over book/adjusted carrying value and excess of book/adjusted carrying value over fair value of long-term bonds at December 31, is shown below (in millions):

| | Book/ Adjusted Carrying Value | 2018 Excess of | | Estimated Fair Value |
|--|--|---|---|-------------------------|
| | | Fair Value Over Book/ Adjusted Carrying Value | Book/ Adjusted Carrying Value Over Fair Value | |
| Bonds: | | | | |
| U.S. governments | \$ 31,179 | \$ 2,224 | \$ (147) | \$ 33,256 |
| All other governments | 5,342 | 232 | (111) | 5,463 |
| States, territories and possessions | 654 | 51 | (6) | 699 |
| Political subdivisions of states, territories, and possessions | 1,054 | 49 | (9) | 1,094 |
| Special revenue and special assessment, non-guaranteed agencies and government | 18,478 | 765 | (133) | 19,110 |
| Credit tenant loans | 9,922 | 351 | (217) | 10,056 |
| Industrial and miscellaneous | 119,633 | 3,455 | (3,124) | 119,964 |
| Hybrids | 306 | 35 | (9) | 332 |
| Parent, subsidiaries and affiliates | 757 | — | (29) | 728 |
| Total | \$187,325 | \$ 7,162 | \$(3,785) | \$190,702 |

| | Book/ Adjusted Carrying Value | 2017 Excess of | | Estimated Fair Value |
|--|--|---|---|-------------------------|
| | | Fair Value Over Book/ Adjusted Carrying Value | Book/ Adjusted Carrying Value Over Fair Value | |
| Bonds: | | | | |
| U.S. governments | \$ 32,407 | \$ 3,330 | \$ (42) | \$ 35,695 |
| All other governments | 5,071 | 473 | (15) | 5,529 |
| States, territories and possessions | 632 | 73 | (1) | 704 |
| Political subdivisions of states, territories, and possessions | 1,058 | 90 | (10) | 1,138 |
| Special revenue and special assessment, non-guaranteed agencies and government | 18,353 | 1,124 | (63) | 19,414 |
| Credit tenant loans | 9,324 | 792 | (26) | 10,090 |
| Industrial and miscellaneous | 116,877 | 7,697 | (432) | 124,142 |
| Hybrids | 343 | 73 | (6) | 410 |
| Parent, subsidiaries and affiliates | 830 | — | (4) | 826 |
| Total | \$184,895 | \$13,652 | \$ (599) | \$197,948 |

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Impairment Review Process: All securities are subjected to the Company’s process for identifying OTTI. The Company writes down securities it deems to have an OTTI in value during the period the securities are deemed to be impaired, based on management’s case-by-case evaluation of the decline in value and prospects for recovery. Management considers a wide range of factors in the impairment evaluation process, including, but not limited to, the following: (a) the length of time the fair value has been below amortized cost; (b) the financial condition and near-term prospects of the issuer; (c) whether the debtor is current on contractually obligated interest and principal payments; (d) the intent and ability of the Company to retain the investment for a period of time sufficient to allow for any anticipated recovery in fair value or repayment; (e) information obtained from regulators and ratings agencies; (f) the potential for impairments in an entire industry sector or sub-sector; (g) the potential for impairments in certain economically-depressed geographic locations and (h) the potential for impairment based on an estimated discounted cash flow analysis for structured and loan-backed securities. Where impairment is considered to be other-than-temporary, the Company recognizes a realized loss and adjusts the cost basis of the security accordingly. The Company does not change the revised cost basis for subsequent recoveries in value.

Unrealized Losses on Bonds, Preferred Stocks and Unaffiliated Common Stocks: The gross unrealized losses and estimated fair values for securities by the length of time that individual securities are in a continuous unrealized loss position are shown in the table below (in millions):

| | Less than twelve months | | | Twelve months or more | | |
|-------------------------------|-------------------------|-----------------------------|----------------------------|-----------------------|-----------------------------|----------------------------|
| | Amortized Cost | Gross Unrealized Loss | Estimated Fair Value | Amortized Cost | Gross Unrealized Loss | Estimated Fair Value |
| December 31, 2018 | | | | | | |
| Loan-backed and structured | | | | | | |
| bonds | \$11,922 | \$ (276) | \$11,646 | \$ 9,721 | \$ (423) | \$ 9,298 |
| All other bonds | 54,512 | (2,057) | 52,455 | 13,065 | (1,064) | 12,001 |
| Total bonds | \$66,434 | \$(2,333) | \$64,101 | \$22,786 | \$(1,487) | \$21,299 |
| Unaffiliated common stocks | 349 | (40) | 309 | 42 | (3) | 39 |
| Preferred stocks | 9 | (1) | 8 | — | — | — |
| Total bonds and stocks | \$66,792 | \$(2,374) | \$64,418 | \$22,828 | \$(1,490) | \$21,338 |

| | Less than twelve months | | | Twelve months or more | | |
|-------------------------------|-------------------------|-----------------------------|----------------------------|-----------------------|-----------------------------|----------------------------|
| | Amortized Cost | Gross Unrealized Loss | Estimated Fair Value | Amortized Cost | Gross Unrealized Loss | Estimated Fair Value |
| December 31, 2017 | | | | | | |
| Loan-backed and structured | | | | | | |
| bonds | \$ 4,983 | \$ (42) | \$ 4,941 | \$ 6,388 | \$ (193) | \$ 6,195 |
| All other bonds | 7,234 | (111) | 7,123 | 8,123 | (278) | 7,845 |
| Total bonds | \$12,217 | \$ (153) | \$12,064 | \$14,511 | \$ (471) | \$14,040 |
| Unaffiliated common stocks | 121 | (4) | 117 | 31 | (8) | 23 |
| Total bonds and stocks | \$12,338 | \$ (157) | \$12,181 | \$14,542 | \$ (479) | \$14,063 |

Based upon the Company’s current evaluation of these securities in accordance with its impairment policy, the Company has concluded that these securities are not other-than-temporarily impaired. Additionally, the Company currently intends and has the ability to hold the securities with unrealized losses for a period of time sufficient for them to recover.

Scheduled Maturities of Bonds: The carrying value and estimated fair value of bonds, categorized by contractual maturity, are shown below. Bonds not due at a single maturity date have been included in the

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

following table based on the year of final maturity. Actual maturities may differ from contractual maturities because borrowers may prepay obligations with or without call or prepayment penalties. Mortgage-backed, asset-backed, and bond exchange traded fund securities are shown separately in the table below, as they are not due at a single maturity date (in millions):

| | December 31, 2018 | | December 31, 2017 | |
|--|--|-------------------------|--|-------------------------|
| | Book/ Adjusted Carrying Value | Estimated Fair Value | Book/ Adjusted Carrying Value | Estimated Fair Value |
| Due in one year or less | \$ 2,575 | \$ 2,600 | \$ 2,929 | \$ 2,985 |
| Due after one year through five years | 27,520 | 27,601 | 24,316 | 25,260 |
| Due after five years through ten years | 37,358 | 36,622 | 39,020 | 40,492 |
| Due after ten years | 60,826 | 63,202 | 58,479 | 65,571 |
| Subtotal | 128,279 | 130,025 | 124,744 | 134,308 |
| Residential mortgage-backed securities | 29,468 | 30,926 | 31,760 | 33,980 |
| Commercial mortgage-backed securities | 10,407 | 10,285 | 10,358 | 10,503 |
| Asset-backed securities | 18,541 | 18,836 | 17,994 | 19,118 |
| Exchange-traded funds | 630 | 630 | 39 | 39 |
| Subtotal | 59,046 | 60,677 | 60,151 | 63,640 |
| Total | \$187,325 | \$190,702 | \$184,895 | \$197,948 |

Bond Diversification: The following table presents the diversification of the carrying values of long-term bond investments at December 31. Loan-backed and structured securities issued by the U.S. government are included in residential mortgage-backed securities and asset-backed securities.

| | 2018 | 2017 |
|--|--------|--------|
| Residential mortgage-backed securities | 15.7% | 17.2% |
| Manufacturing | 11.1 | 11.5 |
| Public utilities | 10.2 | 10.2 |
| Asset-backed securities | 9.9 | 9.7 |
| Other | 8.7 | 7.9 |
| U.S. governments | 8.1 | 8.1 |
| Services | 7.9 | 7.3 |
| Finance and financial services | 7.0 | 6.9 |
| Revenue and special obligations | 6.4 | 5.8 |
| Commercial mortgage-backed securities | 5.6 | 5.6 |
| Oil and gas | 4.0 | 4.4 |
| All other governments | 2.8 | 2.7 |
| Communications | 2.6 | 2.7 |
| Total | 100.0% | 100.0% |

The following table presents the carrying value of the long-term bond portfolio by investment grade as of December 31, (in millions):

| | 2018 | | 2017 | |
|------------------|-----------|--------|-----------|--------|
| NAIC 1 and 2 | \$168,570 | 90.0% | \$167,373 | 90.5% |
| NAIC 3 through 6 | 18,755 | 10.0 | 17,522 | 9.5 |
| Total | \$187,325 | 100.0% | \$184,895 | 100.0% |

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Sub-prime exposure: The following table presents the carrying value of the sub-prime residential mortgage-backed securities by investment grade as of December 31, (in millions):

| | <u>2018</u> | | <u>2017</u> | |
|------------------|----------------|---------------|----------------|---------------|
| NAIC 1 and 2 | \$1,023 | 98.6% | \$1,431 | 98.7% |
| NAIC 3 through 6 | 14 | 1.4% | 19 | 1.3% |
| Total | \$1,037 | 100.0% | \$1,450 | 100.0% |

Loan-backed and Structured Securities: The near-term prepayment assumptions for loan-backed and structured securities are based on historical averages drawing from performance experience for a particular transaction and may vary by security type. The long-term assumptions are adjusted based on expected performance.

For the years ended December 31, 2018 and 2017, the Company recognized OTTI on loan-backed and structured securities of \$26 million and \$8 million, respectively.

Other Disclosures: The following table represents the carrying amount of bonds and stocks denominated in a foreign currency as of December 31, (in millions):

| | <u>2018</u> | <u>2017</u> |
|---|-------------|-------------|
| Carrying amount of bonds and stocks denominated in foreign currency | \$3,361 | \$3,160 |
| Carrying amount of bonds and stocks denominated in foreign currency which are collateralized by real estate | \$ 757 | \$ 830 |

Structured Notes: The following table represents structured notes held as of December 31, (in millions):

| <u>2018</u> | | | | |
|-----------------------------|--------------------|-------------------|-------------------------------------|--|
| <u>CUSIP Identification</u> | <u>Actual Cost</u> | <u>Fair Value</u> | <u>Book/Adjusted Carrying Value</u> | <u>Mortgage-Referenced Security (YES/NO)</u> |
| 912828S50 | \$ 10 | \$ 10 | \$ 11 | NO |
| 912810RW0 | 1,205 | 1,164 | 1,241 | NO |
| Total | \$1,215 | \$1,174 | \$1,252 | |

| <u>2017</u> | | | | |
|-----------------------------|--------------------|-------------------|-------------------------------------|--|
| <u>CUSIP Identification</u> | <u>Actual Cost</u> | <u>Fair Value</u> | <u>Book/Adjusted Carrying Value</u> | <u>Mortgage-Referenced Security (YES/NO)</u> |
| X77765AA7 | \$ 2 | \$ 2 | \$ 2 | NO |
| 912828S50 | 10 | 10 | 10 | NO |
| 912810RW0 | 809 | 862 | 816 | NO |
| Total | \$ 821 | \$ 874 | \$ 828 | |

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Note 4—mortgage loans

The Company originates mortgage loans that are principally collateralized by commercial real estate. The composition of the mortgage loan portfolio as of December 31, is as follows (in millions):

| Loan Type | 2018 | 2017 |
|-------------------|-----------------|-----------------|
| Commercial loans | \$26,274 | \$22,806 |
| Mezzanine loans | 2,568 | 2,563 |
| Residential loans | 1,117 | 1,228 |
| Total | \$29,959 | \$26,597 |

The maximum and minimum lending rates for mortgage loans originated or purchased during 2018 and 2017 are as follows:

| Loan Type | 2018 | | 2017 | |
|-------------------|----------------|----------------|----------------|----------------|
| | Maximum | Minimum | Maximum | Minimum |
| Commercial loans | 5.75% | 2.83% | 6.11% | 2.90% |
| Mezzanine loans | 6.71% | 5.38% | 9.16% | 4.69% |
| Residential loans | N/A | N/A | 4.15% | 3.55% |

The maximum percentage of any one loan to the value (“LTV”) of the property at the time of the loan, exclusive of insured, guaranteed or purchase money mortgages, originated or purchased during 2018 and 2017 are as follows:

| Loan Type | Maximum LTV | |
|-------------------|--------------------|-------------|
| | 2018 | 2017 |
| Commercial loans | 69.6% | 79.9% |
| Mezzanine loans | 73.7% | 75.5% |
| Residential loans | N/A | 74.9% |

Impairment Review Process: The Company monitors the effects of current and expected market conditions and other factors on the collectability of mortgage loans to identify and quantify any impairment in value. Impairments are classified as either temporary, for which a recovery is anticipated, or other-than-temporary. Mortgage loans held to maturity with other-than-temporarily impaired values at December 31, 2018 and 2017 have been written down to net realizable values based upon independent appraisals of the collateral. For impaired mortgage loans where the impairments are deemed to be temporary, an allowance for credit losses is established.

Credit quality

For commercial mortgage loans, the primary credit quality indicators are the loan-to-value ratio, debt service coverage ratio and delinquency. Loan-to-value-ratios compare the unpaid principal balance of the loan to the estimated fair value of the underlying collateral. Generally, the higher the loan-to-value ratio, the higher the risk of experiencing a credit loss. Debt service coverage compares a property’s net operating income to amounts needed to service the principal and interest due under the loan. Generally, the lower the debt service coverage ratio, the higher the risk of experiencing a credit loss. The debt service coverage ratio and the loan-to-value ratio, as well as the values utilized in calculating these ratios, are updated quarterly, with a portion of the loan portfolio updated annually. Delinquency is defined as a mortgage loan which is past due. Commercial mortgage loans more than 30 days past due are considered delinquent.

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

For residential mortgage loans, the Company's primary credit quality indicator is performance versus non-performance. The Company generally defines nonperforming residential mortgage loans as those that are 90 or more days past due and/or on non-accrual status. Generally, nonperforming residential loans have a higher risk of experiencing a credit loss.

The credit quality of the recorded investment, which represents carrying value plus accrued interest, in commercial mortgage loans at December 31, are as follows (in millions):

| | <u>Recorded Investment—Commercial</u> | | | % of Total |
|-------------------------------|---------------------------------------|-----------------|-----------------|-----------------------|
| | <u>Loan-to-value Ratios</u> | | Total | |
| 2018 | > 70% | < 70% | | |
| Debt service coverage ratios: | | | | |
| Greater than 1.20x | \$3,252 | \$23,928 | \$27,180 | 93.9% |
| Less than 1.20x | 530 | 1,180 | 1,710 | 5.9% |
| Construction | 31 | 21 | 52 | 0.2% |
| Total | \$3,813 | \$25,129 | \$28,942 | 100.0% |
| 2017 | | | | |
| Debt service coverage ratios: | | | | |
| Greater than 1.20x | \$2,175 | \$21,547 | \$23,722 | 93.1% |
| Less than 1.20x | 483 | 1,161 | 1,644 | 6.5% |
| Construction | 92 | — | 92 | 0.4% |
| Total | \$2,750 | \$22,708 | \$25,458 | 100.0% |

Mortgage Loan Age Analysis: The following table sets forth an age analysis of mortgage loans and identification of mortgage loans in which the Company is a participant or co-lender in a mortgage loan agreement as of December 31, (in millions):

| | Farm | <u>Residential</u> | | <u>Commercial</u> | | Mezzanine | Total |
|---|-------------|--------------------|------------------|-------------------|------------------|------------------|--------------|
| | | Insured | All Other | Insured | All Other | | |
| 2018 | | | | | | | |
| Recorded investment | | | | | | | |
| Current | \$— | \$— | \$1,116 | \$— | \$26,363 | \$2,579 | \$30,058 |
| 30-59 days past due | \$— | \$— | \$ 3 | \$— | \$ — | \$ — | \$ 3 |
| 60-89 days past due | \$— | \$— | \$ — | \$— | \$ — | \$ — | \$ — |
| 90-179 days past due | \$— | \$— | \$ 1 | \$— | \$ — | \$ — | \$ 1 |
| Participant or co-lender in a mortgage loan agreement | | | | | | | |
| Recorded investment | \$— | \$— | \$ — | \$— | \$ 5,499 | \$2,579 | \$ 8,078 |
| 2017 | | | | | | | |
| Recorded investment | | | | | | | |
| Current | \$— | \$— | \$1,227 | \$— | \$22,884 | \$2,574 | \$26,685 |
| 30-59 days past due | \$— | \$— | \$ 4 | \$— | \$ — | \$ — | \$ 4 |
| 60-89 days past due | \$— | \$— | \$ — | \$— | \$ — | \$ — | \$ — |
| 90-179 days past due | \$— | \$— | \$ 1 | \$— | \$ — | \$ — | \$ 1 |
| Participant or co-lender in a mortgage loan agreement | | | | | | | |
| Recorded investment | \$— | \$— | \$ — | \$— | \$ 4,235 | \$2,516 | \$ 6,751 |

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Mortgage Loan Diversification: The following tables set forth the mortgage loan portfolio by property type and geographic distribution as of December 31,

| | Mortgage Loans by Property Type (Commercial & Residential): | |
|----------------------|--|-----------------------|
| | 2018 | 2017 |
| | % of Total | % of Total |
| Office buildings | 32.0% | 32.4% |
| Shopping centers | 26.3 | 28.9 |
| Apartments | 18.6 | 15.6 |
| Industrial buildings | 11.1 | 13.1 |
| Other—commercial | 8.3 | 5.4 |
| Residential | 3.7 | 4.6 |
| Total | 100.0% | 100.0% |

| | Mortgage Loans by Geographic Distribution: | | | |
|-----------------|---|-----------------------|-----------------------|-----------------------|
| | 2018 | | 2017 | |
| | % of Total | % of Total | % of Total | % of Total |
| | Commercial | Residential | Commercial | Residential |
| South Atlantic | 22.5% | 15.8% | 25.1% | 16.0% |
| Pacific | 18.2 | 44.6 | 17.4 | 44.4 |
| South Central | 14.1 | 6.7 | 14.6 | 6.8 |
| Middle Atlantic | 15.8 | 15.0 | 15.8 | 14.4 |
| North Central | 9.8 | 3.0 | 8.8 | 3.2 |
| New England | 7.5 | 5.6 | 8.4 | 5.5 |
| Other | 12.1 | 9.3 | 9.9 | 9.7 |
| Total | 100.0% | 100.0% | 100.0% | 100.0% |

Regional classification is based on American Council of Life Insurers regional chart. See below for details of regions.

South Atlantic states are DE, DC, FL, GA, MD, NC, SC, VA and WV

Pacific states are AK, CA, HI, OR and WA

South Central states are AL, AR, KY, LA, MS, OK, TN and TX

Middle Atlantic states are PA, NJ and NY

North Central states are IA, IL, IN, KS, MI, MN, MO, NE, ND, OH, SD and WI

New England states are CT, MA, ME, NH, RI and VT

Other comprises investments in Mountain states (AZ, CO, ID, MT, NV, NM, UT, and WY), Australia, Canada and United Kingdom.

Scheduled Mortgage Loan Maturities: At December 31, contractual maturities for mortgage loans are as follows (in millions):

| | 2018 | 2017 |
|--|---------------------------|---------------------------|
| | Carrying Value | Carrying Value |
| Due in one year or less | \$ 621 | \$ 571 |
| Due after one year through five years | 6,405 | 5,666 |
| Due after five years through ten years | 17,299 | 14,749 |
| Due after ten years | 5,634 | 5,611 |
| Total | \$29,959 | \$26,597 |

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Actual maturities may differ from contractual maturities because borrowers may have the right to prepay mortgages, although prepayment premiums may be applicable.

With respect to impaired loans, the Company accrues interest income to the extent it is deemed collectible. Cash received on impaired mortgage loans that are performing according to their contractual terms is applied in accordance with those terms. For mortgage loans in the process of foreclosure, cash received is initially held in suspense and applied as a return of principal at the time that the foreclosure process is completed, or the mortgage is otherwise disposed.

There were no amounts due from related parties that are collateralized by real estate owned by the Company's investment subsidiaries and affiliates for the years ended December 31, 2018 or 2017.

Note 5—real estate

At December 31, 2018 and 2017, the Company's directly owned real estate investments, were carried net of third party mortgage encumbrances. There were \$44 million of third party mortgage encumbrances as of December 31, 2018, and \$5 million for December 31, 2017.

The directly owned real estate portfolio is diversified by property type and geographic region based on carrying value at December 31, as follows:

| | Directly Owned Real Estate by Property Type: | |
|------------------------|---|-------------------|
| | 2018 | 2017 |
| | % of Total | % of Total |
| Industrial buildings | 36.4% | 39.2% |
| Office buildings | 28.9 | 28.5 |
| Apartments | 21.8 | 19.7 |
| Retail | 7.7 | 7.1 |
| Mixed-use projects | 3.9 | 4.2 |
| Land under development | 1.3 | 1.3 |
| Total | 100.0% | 100.0% |

| | Directly Owned Real Estate by Geographic Region: | |
|-----------------|---|-------------------|
| | 2018 | 2017 |
| | % of Total | % of Total |
| Pacific | 61.9% | 63.0% |
| South Atlantic | 25.5 | 25.7 |
| Middle Atlantic | 7.1 | 8.4 |
| South Central | 3.8 | 2.1 |
| North Central | 1.7 | 0.8 |
| Total | 100.0% | 100.0% |

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Note 6—subsidiary, controlled and affiliated entities

The Company holds interests in subsidiary, controlled and affiliated (“SCA”) entities which are reported as common stock or other long-term investments. The carrying value of investments in SCA entities at December 31, are shown below (in millions):

| | 2018 | 2017 |
|---|-----------------|-----------------|
| Net carrying value of the SCA entities | | |
| Reported as common stock | \$ 5,008 | \$ 4,665 |
| Reported as other long-term investments | 23,348 | 22,777 |
| Total net carrying value | \$28,356 | \$27,442 |

On June 9, 2017, the Company acquired EverBank Financial Corp (“EFC”), inclusive of its wholly-owned subsidiary EverBank, for \$2,648 million. EverBank and TIAA-CREF Trust Company, FSB were subsequently combined under the legal name TIAA, FSB (the “Bank”) and is held by the Company’s wholly-owned holding company TIAA FSB Holdings, Inc (“Holdings”).

As of December 31, 2018 and 2017, no investment in a SCA entity exceeded 10% of the Company’s admitted assets, and the Company does not have any investment in foreign insurance subsidiaries.

The following tables provide information on the Company’s significant investments in non-insurance SCA entities reported as common stock, as well as information received from the NAIC in response to the filing of the common stock investments as of December 31 (in millions):

| SCA Entities | 2018 | | | |
|-------------------------|-----------------------------|--------------|-----------------|--------------------|
| | Percentage of SCA Ownership | Gross Amount | Admitted Amount | Nonadmitted Amount |
| TIAA FSB Holdings, Inc. | 100% | \$3,555 | \$3,555 | \$ — |

| SCA Entity | 2018 | | | | |
|-------------------------|---------------------|----------------------------|-----------------------|----------------------------|--|
| | Type of NAIC Filing | Date of Filing to the NAIC | NAIC Valuation Amount | NAIC Response Received Y/N | NAIC Disallowed Entities Valuation Method, Resubmission Required Y/N |
| TIAA FSB Holdings, Inc. | Sub-2 | 5/22/2018 | \$3,331 | Y | N |

| SCA Entities | 2017 | | | |
|-------------------------|-----------------------------|--------------|-----------------|--------------------|
| | Percentage of SCA Ownership | Gross Amount | Admitted Amount | Nonadmitted Amount |
| TIAA FSB Holdings, Inc. | 100% | \$3,331 | \$3,331 | \$ — |

| SCA Entity | 2017 | | | | |
|-------------------------|---------------------|----------------------------|-----------------------|----------------------------|--|
| | Type of NAIC Filing | Date of Filing to the NAIC | NAIC Valuation Amount | NAIC Response Received Y/N | NAIC Disallowed Entities Valuation Method, Resubmission Required Y/N |
| TIAA FSB Holdings, Inc. | Sub-1 | 8/24/2017 | N/A | Y | N/A |

The Company holds an interest in TIAA-CREF Life Insurance Company (“TIAA Life”), an insurance SCA entity, for which the audited statutory equity reflects departures from NAIC SAP as noted below.

The deferred premium asset limitation results from the NYDFS Circular Letter No. 11 (2010), which prescribed the calculation and clarified the accounting for deferred premium assets when reinsurance is involved.

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The Stable Value Separate Account (“SVSA”) products are accounted for at book value in accordance with New York Insurance Law (“NYIL”) Section 1414. The separate account liabilities for the benefits guaranteed under the contracts are carried at book value in accordance with NYIL section 4217, NYDFS Regulation No. 151.

The Department requires in Regulation No. 147 (11NYCRR 98) Valuation of Life Insurance Reserves Section 98.4 for any policy which guarantees renewal, or conversion to another policy, without evidence of insurability, additional reserves shall be held that account for excess mortality due to anti-selection with appropriate margins to cover expenses and risk of moderately adverse deviations in experience.

The following table provides the monetary effect on net income and surplus as a result of using an accounting practice that differed from NAIC SAP, the amount of the investment in the insurance SCA per audited statutory equity and amount of the investment if the insurance SCA had completed statutory financial statements in accordance with the AP&P Manual (in millions):

| SCA Entity | 2018 | | | |
|----------------------------------|--------------------------------|-----------------------------|------------------------------|--|
| | Monetary Effect on NAIC SAP | | Amount of Investment | |
| | Net Income Increase (Decrease) | Surplus Increase (Decrease) | Per Audited Statutory Equity | If the Insurance SCA Had Completed Statutory Financial Statements* |
| TIAA-CREF Life Insurance Company | \$1 | \$1 | \$515 | \$516 |

* Per AP&P Manual (without permitted or prescribed practices)

| SCA Entity | 2017 | | | |
|----------------------------------|--------------------------------|-----------------------------|------------------------------|--|
| | Monetary Effect on NAIC SAP | | Amount of Investment | |
| | Net Income Increase (Decrease) | Surplus Increase (Decrease) | Per Audited Statutory Equity | If the Insurance SCA Had Completed Statutory Financial Statements* |
| TIAA-CREF Life Insurance Company | \$2 | \$— | \$397 | \$397 |

* Per AP&P Manual (without permitted or prescribed practices)

During 2018 and 2017, had TIAA Life not departed from NAIC SAP a regulatory event would not have been triggered due to risk based capital.

The Company held bonds of affiliates at December 31, 2018 and 2017 of \$757 million and \$848 million, respectively.

As of December 31, 2018 and 2017, the net amount due to SCA entities was \$457 million and \$442 million, respectively. The net amounts are generally settled on a daily or monthly basis. These balances are reported in “Other liabilities.” During 2017, the Company created a subsidiary deposit program which allows certain subsidiaries the ability to deposit excess cash with the Company and earn daily interest. The deposits from this program are included in the net amount due to SCA entities and were \$702 million and \$469 million as of December 31, 2018 and 2017, respectively.

There are no guarantees or undertakings, written or otherwise, for the benefit of an affiliate or a related party that resulted in a material contingent exposure of the reporting entity’s or any related party’s assets or liabilities.

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The Company holds investments in downstream non-insurance holding companies, which are valued by the Company utilizing the look-through approach as defined in SSAP 97, *Investments in Subsidiary, Controlled and Affiliated Entities*. The financial statements for the downstream non-insurance holding companies are not audited and the Company has limited the value of its investment in these non-insurance holding companies to the value contained in the audited financial statements of the underlying investments and unamortized goodwill resulting from the statutory purchase method of accounting. All liabilities, commitments, contingencies, guarantees or obligations of these subsidiaries, which are required to be recorded as liabilities, commitments, contingencies, guarantees or obligations under applicable accounting guidance, are reflected in the Company's determination of the carrying value of the investment in these subsidiaries, if not already recorded in the subsidiaries' financial statements. The Company's carrying value in these downstream non-insurance holding companies is \$6,741 million and \$6,589 million as of December 31, 2018 and 2017, respectively. Significant holdings as of December 31, are as follows (in millions):

| Subsidiary | 2018 Carrying Value | 2017 Carrying Value |
|---|--------------------------------------|--------------------------------------|
| TIAA Global Ag Holdco LLC | \$ 938 | \$ 979 |
| TIAA Super Regional Mall Member Sub LLC | 829 | 824 |
| TIAA Infrastructure Investments, LLC | 557 | 658 |
| Occator Agricultural Properties, LLC | 470 | 493 |
| T-C MV Member LLC | 453 | 175 |
| T-C Europe, LP | 416 | 445 |
| T-C Lux Fund Holdings LLC | 363 | 358 |
| 730 Power Development, LLC | 316 | 251 |
| TIAA-Stonepeak Investments I, LLC | 236 | 312 |
| T-C Waterford Blue Lagoon LLC | 195 | 197 |
| Infra Alpha LLC | 181 | 198 |
| TIAA Wind Investments LLC | 179 | — |
| TIAA GTR Holdco LLC | 168 | 142 |
| TGA MKP Member LLC | 157 | — |
| Actoil Colorado, LLC | 137 | — |
| TGA APAC Fund Holdings, LLC | 119 | 38 |
| TIAA Oil and Gas Investments, LLC | 38 | 448 |
| T-C HV Member LLC | — | 252 |
| Other | 989 | 819 |
| Total | \$6,741 | \$6,589 |

Note 7—other long-term investments

The components of the Company's carrying value in other long term investments are (in millions):

| | 2018 | 2017 |
|--|-----------------|-----------------|
| Affiliated other invested assets | \$23,348 | \$22,777 |
| Unaffiliated other invested assets | 6,968 | 7,007 |
| Other invested assets | 97 | 381 |
| Total other long-term investments | \$30,413 | \$30,165 |

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

As of December 31, 2018 and 2017, affiliated other invested assets consist primarily of investments through downstream legal entities in the following (in millions):

| | 2018 | 2017 |
|---|-----------------|-----------------|
| Real estate | \$ 6,523 | \$ 5,897 |
| Operating subsidiaries and affiliates | 5,370 | 5,213 |
| Securities | 5,325 | 5,053 |
| Agriculture and timber | 4,228 | 4,399 |
| Energy and infrastructure | 1,902 | 2,215 |
| Total affiliated other invested assets | \$23,348 | \$22,777 |

Of the \$5,370 million and \$5,213 million of operating subsidiaries and affiliates as of December 31, 2018 and 2017, \$5,203 million and \$5,064 million were attributed to Nuveen, LLC, TIAA's largest subsidiary, respectively.

As of December 31, 2018 and 2017, unaffiliated other invested assets consist primarily of joint venture investments, partnerships and limited liability companies.

The following table presents the OTTI recorded for the years ended December 31, (in millions) for other long-term investments for which the carrying value is not expected to be recovered:

| | 2018 | 2017 | 2016 |
|------|-------|-------|-------|
| OTTI | \$661 | \$454 | \$384 |

The following table presents the carrying value for other long-term investments denominated in foreign currency for the years ended December 31, (in millions):

| | 2018 | 2017 |
|---|---------|---------|
| Other long-term investments denominated in foreign currency | \$1,277 | \$1,678 |

Note 8—investments commitments

The outstanding obligation for future investments at December 31, 2018, is shown below by asset category (in millions):

| | 2019 | In later years | Total Commitments |
|-----------------------------|----------------|----------------------|----------------------|
| Bonds | \$1,069 | \$ 122 | \$1,191 |
| Stocks | 36 | 104 | 140 |
| Mortgage loans | 603 | — | 603 |
| Real estate | 42 | — | 42 |
| Other long-term investments | 1,319 | 3,326 | 4,645 |
| Total | \$3,069 | \$3,552 | \$6,621 |

The funding of bond commitments is contingent upon the continued favorable financial performance of the potential borrowers, funding of stock commitments is contingent upon their continued favorable financial performance and the funding of real estate and commercial mortgage commitments is generally contingent upon the underlying properties meeting specified requirements, including construction, leasing and occupancy.

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The funding of residential mortgage loan commitments is contingent upon the loan meeting specified guidelines including property appraisal reviews and confirmation of borrower credit. For other long-term investments, primarily fund investments, there are scheduled capital calls that extend into future years.

Note 9—investment income and capital gains and losses

Net Investment Income: The components of net investment income for the years ended December 31, are as follows (in millions):

| | 2018 | 2017 | 2016 |
|---|----------|----------|----------|
| Bonds | \$ 8,738 | \$ 8,709 | \$ 8,879 |
| Stocks | 79 | 43 | 146 |
| Mortgage loans | 1,268 | 1,055 | 937 |
| Real estate | 238 | 237 | 222 |
| Derivatives | 160 | 109 | 57 |
| Other long-term investments | 2,712 | 2,242 | 2,239 |
| Cash, cash equivalents and short-term investments | 8 | 9 | 6 |
| Total gross investment income | 13,203 | 12,404 | 12,486 |
| Less investment expenses | (912) | (723) | (725) |
| Net investment income before amortization of IMR | 12,291 | 11,681 | 11,761 |
| Plus amortization of IMR | 259 | 194 | 146 |
| Net investment income | \$12,550 | \$11,875 | \$11,907 |

Realized Capital Gains and Losses: The net realized capital gains (losses) on sales, redemptions and write-downs due to OTTI for the years ended December 31, are as follows (in millions):

| | 2018 | 2017 | 2016 |
|--|---------|---------|---------|
| Bonds | \$ 129 | \$ 632 | \$(204) |
| Stocks | 102 | (116) | 16 |
| Mortgage loans | (65) | (8) | (17) |
| Real estate | 22 | 67 | 226 |
| Derivatives | 58 | (131) | 125 |
| Other long-term investments | (649) | (470) | (358) |
| Cash, cash equivalents and short-term investments | 18 | 51 | (23) |
| Total before capital gains taxes and transfers to IMR | (385) | 25 | (235) |
| Transfers to IMR | (272) | (623) | 74 |
| Net realized capital losses less capital gains taxes, after transfers to IMR | \$(657) | \$(598) | \$(161) |

Write-downs of investments resulting from OTTI, included in the preceding table, are as follows for the years ended December 31, (in millions):

| | 2018 | 2017 | 2016 |
|-----------------------------------|-------|-------|-------|
| Other-than-temporary impairments: | | | |
| Bonds | \$126 | \$ 66 | \$ 90 |
| Stocks | 72 | 311 | 46 |
| Mortgage Loans | 55 | — | 2 |
| Other long-term investments | 661 | 454 | 384 |
| Total | \$914 | \$831 | \$522 |

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Information related to the sales of long term bonds are as follows for the years ended December 31, (in millions):

| | 2018 | 2017 | 2016 |
|-----------------------|---------|----------|----------|
| Proceeds from sales | \$6,831 | \$13,664 | \$10,436 |
| Gross gains on sales | \$ 307 | \$ 745 | \$ 243 |
| Gross losses on sales | \$ 79 | \$ 122 | \$ 321 |

The Company performs periodic reviews of its portfolio to identify investments which may have deteriorated in credit quality to determine if any are candidates for sale in order to maintain a quality portfolio of investments. Investments which are deemed candidates for sale are continually monitored until sold and carried at the lower of amortized cost or fair value. In accordance with the Company's valuation and impairment process, the investment will be monitored quarterly for further declines in fair value at which point an OTTI will be recorded until actual disposal of the investment.

Note 10—disclosures about fair value of financial instruments

Fair value of financial instruments

Included in the Company's financial statements are certain financial instruments carried at fair value. Other financial instruments are periodically measured at fair value, such as when impaired, or for certain bonds and preferred stocks when carried at the lower of cost or fair value.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Fair values of financial instruments are based on quoted market prices when available. When market prices are not available, fair values are primarily provided by a third party-pricing service for identical or comparable assets, or through the use of valuation methodologies using observable market inputs. These fair values are generally estimated using a discounted cash flow analysis, incorporating current market inputs for similar financial instruments with comparable terms and credit quality. In instances where there is little or no market activity for the same or similar instruments, the Company estimates fair value using methods, models and assumptions that management believes market participants would use to determine a current transaction price in a hypothetical market. These valuation techniques involve management estimation and judgment for many factors including market bid/ask spreads, and such estimations may become significant with increasingly complex instruments or pricing models.

The Company's financial assets and liabilities are classified, for disclosure purposes, based on a hierarchy defined by SSAP No. 100, Fair Value Measurements. The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The hierarchy gives the highest ranking to fair values determined using unadjusted quoted prices in active markets for identical assets and liabilities (Level 1) and the lowest ranking to fair values determined using methodologies and models with unobservable inputs (Level 3). An asset's or a liability's classification is based on the lowest level input that is significant to its measurement. For example, a Level 3 fair value measurement may include inputs that are both observable (Levels 1 and Level 2) and unobservable (Level 3). The levels of the fair value hierarchy are as follows:

Level 1—Inputs are unadjusted quoted prices in active markets for identical assets and liabilities that the Company has the ability to access at the measurement date.

Level 2—Other than quoted prices within Level 1 inputs are observable for the asset or liability, either directly or indirectly.

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Level 2 inputs include:

- 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,
- Inputs other than quoted prices that are observable for the asset or liability,
- Inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Level 3—Inputs are unobservable inputs for the asset or liability supported by little or no market activity. Unobservable inputs reflect the Company’s own assumptions about the assumptions that market participants would use in pricing the asset or liability. The Company’s data used to develop unobservable inputs is adjusted if information is reasonably available without undue cost and effort that indicates that market participants would use different assumptions.

The following table provides information about the aggregate fair value for all financial instruments and the level within the fair value hierarchy, with no fair values approximated by net asset value (“NAV”), at December 31, 2018 (in millions):

| | Aggregate Fair Value | Admitted Assets | Level 1 | Level 2 | Level 3 |
|---|----------------------------|--------------------|-----------------|------------------|-----------------|
| Assets: | | | | | |
| Bonds | \$190,702 | \$187,325 | \$ 630 | \$184,668 | \$ 5,404 |
| Common stock | 891 | 891 | 696 | — | 195 |
| Preferred stock | 309 | 245 | 28 | 19 | 262 |
| Mortgage loans | 29,276 | 29,959 | — | — | 29,276 |
| Derivatives | 931 | 968 | — | 518 | 413 |
| Other invested assets | 89 | 76 | — | 89 | — |
| Contract loans | 1,890 | 1,890 | — | — | 1,890 |
| Separate account assets | 38,260 | 38,289 | 12,298 | 5,295 | 20,667 |
| Cash, cash equivalents & short term investments | 597 | 598 | 117 | 480 | — |
| Total | \$262,945 | \$260,241 | \$13,769 | \$191,069 | \$58,107 |

| | Aggregate Fair Value | Statement Value | Level 1 | Level 2 | Level 3 |
|------------------------------|----------------------------|--------------------|-------------|---------------|-----------------|
| Liabilities: | | | | | |
| Deposit-type contracts | \$ 1,105 | \$ 1,105 | \$ — | \$ — | \$ 1,105 |
| Separate account liabilities | 38,245 | 38,245 | — | — | 38,245 |
| Derivatives | 168 | 164 | — | 168 | — |
| Total | \$ 39,518 | \$ 39,514 | \$ — | \$ 168 | \$39,350 |

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The following table provides information about the aggregate fair value for all financial instruments and the level within the fair value hierarchy, with no fair values approximated by NAV, at December 31, 2017 (in millions):

| | Aggregate Fair Value | Admitted Assets | Level 1 | Level 2 | Level 3 |
|---|----------------------------|--------------------|-----------------|------------------|-----------------|
| Assets: | | | | | |
| Bonds | \$197,948 | \$184,895 | \$ 39 | \$193,053 | \$ 4,856 |
| Common stock | 1,015 | 1,015 | 812 | — | 203 |
| Preferred stock | 406 | 338 | 43 | 19 | 344 |
| Mortgage loans | 26,742 | 26,597 | — | — | 26,742 |
| Derivatives | 291 | 244 | — | 153 | 138 |
| Other invested assets | 95 | 76 | — | 95 | — |
| Contract loans | 1,680 | 1,680 | — | — | 1,680 |
| Separate account assets | 37,599 | 37,596 | 12,716 | 4,845 | 20,038 |
| Cash, cash equivalents & short term investments | 641 | 640 | 280 | 361 | — |
| Total | \$266,417 | \$253,081 | \$13,890 | \$198,526 | \$54,001 |

| | Aggregate Fair Value | Statement Value | Level 1 | Level 2 | Level 3 |
|------------------------------|----------------------------|--------------------|-------------|---------------|-----------------|
| Liabilities: | | | | | |
| Deposit-type contracts | \$ 1,062 | \$ 1,062 | \$ — | \$ — | \$ 1,062 |
| Separate account liabilities | 37,565 | 37,565 | — | — | 37,565 |
| Derivatives | 482 | 470 | — | 482 | — |
| Total | \$ 39,109 | \$ 39,097 | \$ — | \$ 482 | \$38,627 |

The estimated fair values of the financial instruments presented above are determined by the Company using market information available as of December 31, 2018 and 2017. Considerable judgment is required to interpret market data in developing the estimates of fair value for financial instruments for which there are no available market value quotations. The estimates presented are not necessarily indicative of the amounts the Company could realize in a market exchange. The use of different market assumptions and/or estimation methodologies may have a material effect on the estimated fair value amounts.

Level 1 financial instruments

Unadjusted quoted prices for these securities are provided to the Company by independent pricing services. Common stock, preferred stock, and separate account assets in Level 1 primarily include mutual fund investments valued by the respective mutual fund companies, exchange listed equities, and public real estate investment trusts. Bonds included in level 1 represent SVO-identified exchange traded funds that qualify for bond treatment, which are valued using quoted market prices. Cash, cash equivalents and short term investments included in Level 1 represents cash on hand.

Level 2 financial instruments

Bonds included in Level 2 are valued principally by third party pricing services using market observable inputs. Because most bonds do not trade daily, independent pricing services regularly derive fair values using recent trades of securities with similar features. When recent trades are not available, pricing models are used to estimate the fair values of securities by discounting future cash flows at estimated market interest rates. Typical inputs to models used by independent pricing services include but are not limited to benchmark yields,

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

reported trades, broker-dealer quotes, issuer spreads, benchmark securities, bids, offers, reference data, and industry and economic events. Additionally, for loan-backed and structured securities, valuation is based primarily on market inputs including benchmark yields, expected prepayment speeds, loss severity, delinquency rates, weighted average coupon, weighted average maturity and issuance specific information. Issuance specific information includes collateral type, payment terms of underlying assets, payment priority within the tranche, structure of the security, deal performance and vintage of loans.

Preferred stocks included in Level 2 include those which are traded in an inactive market for which prices for identical securities are not available. Valuations are based principally on observable inputs including quoted prices in markets that are not considered active.

Derivative assets and liabilities classified in Level 2 represent over-the-counter instruments that include, but are not limited to, fair value hedges using foreign currency swaps, foreign currency forwards, commodity forwards, interest rate swaps and credit default swaps. Fair values for these instruments are determined internally using market observable inputs that include, but are not limited to, forward currency rates, interest rates, credit default rates and published observable market indices.

Other invested assets in level 2 are valued by a third party pricing vendor using primarily observable market inputs. Observable inputs include benchmark yields, reported trades, market dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers and reference data.

Separate account assets in Level 2 consist principally of short term government agency notes and commercial paper.

Cash, cash equivalents, and short-term investments included in Level 2 are valued principally by third party services using market observable inputs.

Level 3 financial instruments

Valuation techniques for bonds included in Level 3 are generally the same as those described in Level 2 except that the techniques utilize inputs that are not readily observable in the market, including illiquidity premiums and spread adjustments to reflect industry trends or specific credit-related issues. The Company assesses the significance of unobservable inputs for each security and classifies that security in Level 3 as a result of the significance of unobservable inputs.

Estimated fair value for privately traded common equity securities are principally determined using valuation and discounted cash flow models that require a substantial level of judgment. Included in Level 3 common stock is the Company's holdings in the Federal Home Loan Bank of New York ("FHLBNY") stock as described in Note 20 - FHLBNY Membership and Borrowings. As prescribed in the FHLBNY's capital plan, the par value of the capital stock is \$100 and all capital stock is issued, redeemed, repurchased, or transferred at par value. Since there is not an observable market for the FHLBNY's stock, these securities have been classified as Level 3.

Preferred shares are valued using valuation and discounted cash flow models that require a substantial level of judgment.

Mortgage loans are valued using discounted cash flow models that utilize inputs which include loan and market interest rates, credit spreads, the nature and quality of underlying collateral and the remaining term of the loans.

Derivatives assets classified as Level 3 represent structured financial instruments that rely on inputs that are significant to the estimated fair value that are not observable in the market or cannot be corroborated by observable market data. Significant inputs that are unobservable generally include references to inputs outside

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

the observable portion of credit curves or other relevant market measures. These unobservable inputs require significant management judgment or assumptions. Level 3 methodologies are validated through periodic comparison of the Company's fair values to external broker-dealer values.

Contract loans are fully collateralized by the cash surrender value of underlying insurance policies and are valued based on the carrying value of the loan, which is determined to be its fair value, and are classified as Level 3.

Separate account assets classified as Level 3 primarily include directly owned real estate properties, real estate joint ventures and real estate limited partnerships. Directly owned real estate properties are valued on a quarterly basis based on independent third party appraisals. Real estate joint venture interests are valued based on the fair value of the underlying real estate, any related mortgage loans payable and other factors such as ownership percentage, ownership rights, buy/sell agreements, distribution provisions and capital call obligations. Real estate limited partnership interests are valued based on the most recent net asset value of the partnership.

Separate account liabilities are accounted for at fair value, except the TIAA Stable Value Separate Account, which supports book value separate account agreements, in which case the assets are accounted for at amortized cost. Separate account liabilities reflect the contractual obligations of the insurer arising out of the provisions of the insurance contract.

Deposit-type contracts are valued based on the accumulated account value, which is determined to be fair value, and are classified as Level 3.

ASSETS AND LIABILITIES MEASURED AND REPORTED AT FAIR VALUE

The following table provides information about the Company's financial assets and liabilities measured and reported at fair value, with no fair values approximated by NAV, as of December 31, (in millions):

| | 2018 | | | Total |
|---------------------------------|----------------|----------------|----------------|--------------|
| | Level 1 | Level 2 | Level 3 | |
| Assets at fair value: | | | | |
| Bonds | | | | |
| U.S. Government | \$ — | \$1,174 | \$ — | \$ 1,174 |
| Industrial and miscellaneous | 630 | 176 | 100 | 906 |
| Total bonds | \$ 630 | \$1,350 | \$ 100 | \$ 2,080 |
| Common stock | | | | |
| Industrial and miscellaneous | \$ 696 | \$ — | \$ 195 | \$ 891 |
| Total common stocks | \$ 696 | \$ — | \$ 195 | \$ 891 |
| Preferred stock | \$ — | \$ — | \$ 4 | \$ 4 |
| Total preferred stocks | \$ — | \$ — | \$ 4 | \$ 4 |
| Derivatives | | | | |
| Interest rate contracts | \$ — | \$ 4 | \$ — | \$ 4 |
| Foreign exchange contracts | — | 473 | — | 473 |
| Total derivatives | \$ — | \$ 477 | \$ — | \$ 477 |
| Separate accounts assets | \$12,288 | \$4,089 | \$20,667 | \$37,044 |
| Total assets at fair value | \$13,614 | \$5,916 | \$20,966 | \$40,496 |
| Liabilities at fair value: | | | | |
| Derivatives | | | | |
| Foreign exchange contracts | \$ — | \$ 152 | \$ — | \$ 152 |
| Credit default swaps | — | 3 | — | 3 |
| Total liabilities at fair value | \$ — | \$ 155 | \$ — | \$ 155 |

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| | 2017 | | | |
|---------------------------------|----------|---------|----------|----------|
| | Level 1 | Level 2 | Level 3 | Total |
| Assets at fair value: | | | | |
| Bonds | | | | |
| U.S. Government | \$ — | \$ 872 | \$ — | \$ 872 |
| Industrial and miscellaneous | 39 | 79 | 65 | 183 |
| Total bonds | \$ 39 | \$ 951 | \$ 65 | \$ 1,055 |
| Common stock | | | | |
| Industrial and miscellaneous | \$ 812 | \$ — | \$ 203 | \$ 1,015 |
| Total common stocks | \$ 812 | \$ — | \$ 203 | \$ 1,015 |
| Derivatives | | | | |
| Interest rate contracts | \$ — | \$ 3 | \$ — | \$ 3 |
| Foreign exchange contracts | — | 125 | — | 125 |
| Total derivatives | \$ — | \$ 128 | \$ — | \$ 128 |
| Separate accounts assets | \$12,706 | \$3,887 | \$20,038 | \$36,631 |
| Total assets at fair value | \$13,557 | \$4,966 | \$20,306 | \$38,829 |
| Liabilities at fair value: | | | | |
| Derivatives | | | | |
| Foreign exchange contracts | \$ — | \$ 414 | \$ — | \$ 414 |
| Commodity forwards | — | 18 | — | 18 |
| Credit default swaps | — | 14 | — | 14 |
| Total liabilities at fair value | \$ — | \$ 446 | \$ — | \$ 446 |

Transfers between Level 1 and Level 2

Periodically, the Company has transfers between Level 1 and Level 2 due to the availability of quoted prices for identical assets in active markets at the measurement date. The Company's policy is to recognize transfers between levels as of the actual date of the event or change in circumstances that caused the transfer.

As of December 31, 2018 and 2017 the Company had no transfers between Level 1 and Level 2 of the fair value hierarchy.

Reconciliation of Level 3 assets and liabilities measured and reported at fair value:

The following is a reconciliation of the beginning and ending balances for assets and liabilities measured and reported at fair value using Level 3 inputs at December 31, 2018 (in millions):

| | Beginning Balance at 1/1/2018 | Transfers into Level 3 | Transfers out of Level 3 | Total gains & (losses) included in Net Income | Total gains & (losses) included in Surplus | Purchases | Issuances (Sales) | Settlements | Ending Balance at 12/31/2018 |
|-------------------------|-------------------------------------|------------------------------|--------------------------------|--|---|-----------|----------------------|-------------|------------------------------------|
| Bonds | \$ 65 | \$ 75 ^a | \$(38) ^b | \$(8) | \$ 7 | \$ 1 | \$ (1) | \$ (1) | \$ 100 |
| Common stock | 203 | — | (9) ^c | 33 | (3) | 1,039 | (1,068) | — | 195 |
| Preferred stock | — | 44 ^d | (40) ^e | — | — | — | — | — | 4 |
| Separate account assets | 20,038 | — | — | 55 | 451 | 2,214 | (1,994) | (97) | 20,667 |
| Total | \$20,306 | \$119 | \$(87) | \$80 | \$455 | \$3,254 | \$(3,063) | \$(98) | \$20,966 |

a The Company transferred bonds into Level 3 that were measured and reported at fair value.

b The Company transferred bonds out of Level 3 that were not measured and reported at fair value.

c The Company transferred common stocks out of Level 3 due to the availability of observable market data used in the valuation of these securities.

d The Company transferred preferred stocks into Level 3 that were measured and reported at fair value.

e The Company transferred preferred stocks out of Level 3 that were not measured and reported at fair value.

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The following is a reconciliation of the beginning and ending balances for assets and liabilities measured and reported at fair value using Level 3 inputs at December 31, 2017 (in millions):

| | Beginning Balance at 01/01/2017 | Transfers into Level 3 | Transfers out of Level 3 | Total gains (losses) included in Net Income | Total gains (losses) included in Surplus | Purchases | Issuances (Sales) | Settlements | Ending Balance at 12/31/2017 |
|-------------------------|---------------------------------------|------------------------------|--------------------------------|--|---|----------------|----------------------|----------------|------------------------------------|
| Bonds | \$ 28 | \$68 ^a | \$(35) ^b | \$ (6) | \$ 11 | \$ — | \$ — | \$ (1) | \$ 65 |
| Common stock | 523 | — | (22) ^c | 85 | (54) | 414 | (739) | (4) | 203 |
| Separate account assets | 19,468 | — | — | (10) | 327 | 1,087 | (570) | (264) | 20,038 |
| Total | \$20,019 | \$68 | \$(57) | \$ 69 | \$284 | \$1,501 | \$(1,309) | \$(269) | \$20,306 |

a The Company transferred bonds into Level 3 that were measured and reported at fair value.

b The Company transferred bonds out of Level 3 that were not measured and reported at fair value.

c The Company transferred common stocks out of Level 3 due to the availability of observable market data used in the valuation of these securities.

The Company's policy is to recognize transfers into and out of Level 3 at the actual date of the event or change in circumstances that caused the transfer.

QUANTITATIVE INFORMATION REGARDING LEVEL 3 FAIR VALUE MEASUREMENTS

The following table provides quantitative information on significant unobservable inputs (Level 3) used in the fair value measurement of assets that are measured and reported at fair value at December 31, 2018 (in millions):

| Financial Instrument | Fair Value | Valuation Techniques | Significant Unobservable Inputs | Range of Inputs | Weighted Average |
|---|------------|---------------------------------------|-----------------------------------|---------------------|------------------|
| Fixed maturity securities: | | | | | |
| RMBS | \$ 2 | Discounted cash flow | Discount rate | 7.2% – 8.5% | 8.4% |
| | | Market comparable | Credit analysis/market comparable | \$ 92.50 | \$ 92.50 |
| ABS | \$ 98 | Discounted cash flow | Discount rate | 9.0% – 14.8% | 12.1% |
| Equity securities: | | | | | |
| Common stock | \$ 195 | Market comparable | EBITDA multiple | 7.7x – 14.0x | 11.3x |
| | | Equity method | Book value multiple | 1.0x | 1.0x |
| Preferred stock | \$ 4 | Market comparable | Credit analysis/market comparable | \$0.34 – \$1,000.00 | \$376.36 |
| | | Market comparable | EBITDA multiple | 12.0x | 12.0x |
| Separate account assets: | | | | | |
| | \$22,357 | | | | |
| Real estate properties and real estate joint ventures | | | | | |
| Office properties | | Income approach—discounted cash flow | Discount rate | 5.5% – 8.6% | 6.5% |
| | | | Terminal capitalization rate | 4.0% – 7.5% | 5.4% |
| | | Income approach—direct capitalization | Overall capitalization rate | 4.0% – 7.0% | 4.8% |
| Industrial properties | | Income approach—discounted cash flow | Discount rate | 5.3% – 8.9% | 6.8% |
| | | | Terminal capitalization rate | 4.4% – 7.3% | 5.5% |
| | | Income approach—direct capitalization | Overall capitalization rate | 4.0% – 7.0% | 4.9% |
| Residential properties | | Income approach—discounted cash flow | Discount rate | 5.5% – 7.8% | 6.5% |
| | | | Terminal capitalization rate | 3.8% – 6.8% | 5.0% |
| | | Income approach—direct capitalization | Overall capitalization rate | 3.3% – 6.0% | 4.5% |
| Retail properties | | Income approach—discounted cash flow | Discount rate | 5.0% – 10.7% | 6.4% |
| | | | Terminal capitalization rate | 4.3% – 9.0% | 5.3% |
| | | Income approach—direct capitalization | Overall capitalization rate | 3.3% – 8.5% | 4.7% |

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Separate account real estate assets include the values of the related mortgage loans payable in the table below.

| Financial Instrument | Fair Value | Valuation Techniques | Significant Unobservable Inputs | Range of Inputs | Weighted Average |
|----------------------------------|------------|----------------------|--|-----------------|------------------|
| Mortgage loans payable | \$(2,603) | | | | |
| Office and industrial properties | | Discounted cash flow | Loan to value ratio | 36.4% – 67.8% | 47.6% |
| | | Net present value | Equivalency rate | 3.9% – 6.2% | 4.6% |
| | | | Loan to value ratio | 36.4% – 67.8% | 47.6% |
| | | | Weighted average cost of capital risk premium multiple | 1.2 – 1.4 | 1.3 |
| Residential properties | | Discounted cash flow | Loan to value ratio | 31.9% – 63.6% | 48.1% |
| | | Net present value | Equivalency rate | 3.4% – 4.6% | 4.1% |
| | | | Loan to value ratio | 31.9% – 63.6% | 48.1% |
| | | | Weighted average cost of capital risk premium multiple | 1.1 – 1.4 | 1.2 |
| Retail properties | | Discounted cash flow | Loan to value ratio | 31.9% – 55.3% | 39.3% |
| | | Net present value | Equivalency rate | 4.3% – 5.3% | 4.5% |
| | | | Loan to value ratio | 31.9% – 55.3% | 39.3% |
| | | | Weighted average cost of capital risk premium multiple | 1.1 – 1.3 | 1.2 |

Separate account real estate assets include the values of the related loan receivable in the table below.

| Financial Instrument | Fair Value | Valuation Techniques | Significant Unobservable Inputs | Range of Inputs | Weighted Average |
|---------------------------------------|------------|----------------------|---------------------------------|-----------------|------------------|
| Loan receivable | \$913 | | | | |
| Office, retail and storage properties | | Discounted cash flow | Loan to value ratio | 70.8% – 79.2% | 75.6% |
| | | | Equivalency rate | 6.0% – 8.3% | 6.9% |

ADDITIONAL QUALITATIVE INFORMATION ON FAIR VALUATION PROCESS

The Company has various processes and controls in place to ensure that fair value is reasonably estimated. The procedures and framework for fair value methodologies are approved by the TIAA Valuation Committee. The Risk Management Valuation group is responsible for the determination of fair value in accordance with the procedures and framework approved by the TIAA Valuation Committee.

Risk Management Valuation (1) compares price changes between periods to current market conditions, (2) compares trade prices of securities to fair value estimates, (3) compares prices from multiple pricing sources, and (4) performs ongoing vendor due diligence to confirm that independent pricing services use market-based parameters for valuation. Internal and vendor valuation methodologies are reviewed on an ongoing basis and revised as necessary based on changing market conditions to ensure values represent a reasonable exit price.

Markets in which the Company's fixed income securities trade are monitored by surveying the Company's traders. Risk Management Valuation determines if liquidity is active enough to support a Level 2 classification. Use of independent non-binding broker quotations may indicate a lack of liquidity or the general lack of transparency in the process to develop these price estimates, causing them to be considered Level 3.

Level 3 equity investments generally include private equity co-investments along with general and limited partnership interests. Values are derived by the general partners. The partners generally fair value these instruments based on projected net earnings, earnings before interest, taxes depreciation and amortization, discounted cash flow, public or private market transactions, or valuations of comparable companies. When using market comparable, certain adjustments may be made for differences between the reference comparable and the investment, such as liquidity. Investments may also be valued at cost for a period of time after an acquisition, as the best indication of fair value.

With respect to real property investments in TIAA's Real Estate Account, each property is appraised, and each mortgage loan is valued, at least once every calendar quarter. Each property is appraised by an independent, third party appraiser, reviewed by the Company's internal appraisal staff and as applicable, the Real Estate

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Account's independent fiduciary. Any differences in the conclusions of the Company's internal appraisal staff and the independent appraiser are reviewed by the independent fiduciary, who will make a final determination. The independent fiduciary was appointed by a special subcommittee of the Investment Committee of TIAA Board of Trustees to, among other things, oversee the appraisal process. The independent fiduciary must approve all independent appraisers used by the Real Estate Account.

Mortgage loans payable are valued internally by the Risk Management Valuation group, and reviewed by the Real Estate Account's independent fiduciary, at least quarterly based on market factors, such as market interest rates and spreads for comparable loans, the performance of the underlying collateral (such as the loan-to-value ratio and the cash flow of the underlying collateral), the liquidity for mortgage loans of similar characteristics, the maturity date of the loan, the return demands of the market.

The loans receivable are valued internally by the Risk Management Valuation group, and reviewed by the Real Estate Account's independent fiduciary, at least quarterly based on market factors, such as market interest rates and spreads for comparable loans, the liquidity for loans of similar characteristics, the performance of the underlying collateral (such as the loan-to-value ratio and the cash flow of the underlying collateral) and the credit quality of the counterparty. The Real Estate Account continues to use the revised value after valuation adjustments for the loan receivable to calculate the Account's daily net asset value until the next valuation review.

Note 11—restricted assets

The following tables provide information on the amounts and nature of assets pledged to others as collateral or otherwise restricted by the Company as of December 31, (in millions):

| Restricted Asset Category | 2018 | | | | | | | | | | |
|--|-----------------------------|-------------------------------|--|------------------------------------|------------------|-----------------------|----------------------------------|-------------------------------|---------------------------------------|---|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | Total General Account (G/A) | G/A Supporting (S/A) Activity | Total Separate Account (S/A) Restricted Assets | S/A Assets Supporting G/A Activity | Total (1 plus 3) | Total From Prior Year | Increase/ (Decrease) (5 minus 6) | Total Non admitted Restricted | Total Admitted Restricted (5 minus 8) | Gross (Admitted & Nonadmitted) Restricted to Total Assets | Admitted Restricted to Total Admitted Assets |
| Collateral held under security lending agreements | \$562 | \$— | \$ 74 | \$— | \$636 | \$ 732 | \$ (96) | \$— | \$636 | 0.21% | 0.21% |
| FHLB capital stock | 82 | — | — | — | 82 | 81 | 1 | — | 82 | 0.03 | 0.03 |
| On deposit with states | 17 | — | — | — | 17 | 18 | (1) | — | 17 | 0.01 | 0.01 |
| Pledged as collateral not captured in other categories | 26 | — | — | — | 26 | 332 | (306) | — | 26 | 0.01 | 0.01 |
| Other restricted assets | 70 | — | 154 | — | 224 | 42 | 182 | — | 224 | 0.07 | 0.07 |
| Total restricted assets | \$757 | \$— | \$228 | \$— | \$985 | \$1,205 | \$(220) | \$— | \$985 | 0.32% | 0.32% |

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

| Restricted Asset Category | 2017 | | | | | | | | | | |
|--|-----------------------------|-------------------------------|--|------------------------------------|------------------|-----------------------|----------------------------------|-------------------------------|---------------------------------------|---|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | Total General Account (G/A) | G/A Supporting (S/A) Activity | Total Separate Account (S/A) Restricted Assets | S/A Assets Supporting G/A Activity | Total (1 plus 3) | Total From Prior Year | Increase/ (Decrease) (5 minus 6) | Total Non admitted Restricted | Total Admitted Restricted (5 minus 8) | Gross (Admitted & Nonadmitted) Restricted to Total Assets | Admitted Restricted to Total Admitted Assets |
| Collateral held under security | | | | | | | | | | | |
| lending agreements | \$ 706 | \$— | \$26 | \$— | \$ 732 | \$753 | \$(21) | \$— | \$ 732 | 0.24% | 0.25% |
| FHLB capital stock | 81 | — | — | — | 81 | 101 | (20) | — | 81 | 0.03 | 0.03 |
| On deposit with states | 18 | — | — | — | 18 | 18 | 0 | — | 18 | 0.01 | 0.01 |
| Pledged as collateral not captured in other categories | 332 | — | — | — | 332 | 79 | 253 | — | 332 | 0.11 | 0.11 |
| Other restricted assets | — | — | 42 | — | 42 | 46 | (4) | — | 42 | 0.01 | 0.01 |
| Total restricted assets | \$1,137 | \$— | \$68 | \$— | \$1,205 | \$997 | \$208 | \$— | \$1,205 | 0.40% | 0.41% |

The pledged as collateral not captured in other categories represents derivative collateral the Company has pledged, and collateral pledged for Regulation W requirements associated with forward loan purchase agreements.

The other restricted assets represents preferred stocks held within the general account for which the transfer of ownership was restricted by contractual requirements and real estate deposits held within separate accounts.

The following tables provide the collateral received and reflected as assets by the Company and the recognized obligation to return collateral assets as of December 31, (in millions):

| Collateral Assets | 2018 | | | |
|---|-------------------------------------|----------------|---|-----------------------------------|
| | Book/Adjusted Carrying Value (BACV) | Fair Value | BACV to Total G/A Assets (Admitted and Nonadmitted) | BACV to Total G/A Admitted Assets |
| Cash, cash equivalents and short-term investments | \$ 756 | \$ 756 | 0.28% | 0.29% |
| Securities lending collateral assets | 562 | 562 | 0.21 | 0.21 |
| Total collateral assets | \$1,318 | \$1,318 | 0.49% | 0.50% |

| | 2018 | |
|---|---------|---|
| | Amount | % of Liability to Total G/A Liabilities |
| Recognized obligation to return collateral assets | \$1,318 | 0.58% |

| Collateral Assets | 2017 | | | |
|---|-------------------------------------|--------------|---|-----------------------------------|
| | Book/Adjusted Carrying Value (BACV) | Fair Value | BACV to Total G/A Assets (Admitted and Nonadmitted) | BACV to Total G/A Admitted Assets |
| Cash, cash equivalents and short-term investments | \$ 34 | \$ 34 | 0.01% | 0.01% |
| Securities lending collateral assets | 706 | 706 | 0.27 | 0.27 |
| Total collateral assets | \$740 | \$740 | 0.28% | 0.28% |

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

| | 2017 | |
|---|--------|---|
| | Amount | % of Liability to Total G/A Liabilities |
| Recognized obligation to return collateral assets | \$740 | 0.33% |

The Company receives primarily cash collateral for derivatives. The Company reinvests the cash collateral or uses the cash for general corporate purposes.

Note 12—derivative financial instruments

The Company uses derivative instruments for economic hedging, income generation, and asset replication purposes. The Company does not engage in derivative financial instrument transactions for speculative purposes. The Company does not enter into derivative financial instruments with financing premiums.

Counterparty and Credit Risk: Derivative financial instruments used by the Company may be exchange-traded or contracted in the over-the-counter market (“OTC”). The Company’s OTC derivative transactions are cleared and settled through central clearing counterparties (“OTC-cleared”) or through bilateral contracts with other counterparties (“OTC-bilateral”). Should an OTC-bilateral counterparty fail to perform its obligations under contractual terms, the Company may be exposed to credit-related losses. The current credit exposure of the Company’s derivatives is limited to the net positive fair value of derivatives at the reporting date, after taking into consideration the existence of netting agreements and any collateral received. All of the credit exposure for the Company from OTC-bilateral contracts is with investment grade counterparties. The Company also monitors its counterparty credit quality on an ongoing basis.

The Company currently has International Swaps and Derivatives Association (“ISDA”) master swap agreements in place with each derivative counterparty relating to OTC transactions. In addition to the ISDA agreement, Credit Support Annexes (“CSA”), which are bilateral collateral agreements, are put in place with a majority of the Company’s derivative OTC-bilateral counterparties. The CSAs allow the Company’s mark-to-market exposure to a counterparty to be collateralized by the posting of cash or highly liquid U.S. government securities. The Company also exchanges cash and securities margin for derivatives traded through a central clearinghouse. As of December 31, 2018, counterparties pledged \$800 million of cash collateral and margin to the Company.

The Company must also post collateral or margin to the extent its net position with a given counterparty or clearinghouse is at a loss relative to the counterparty. As of December 31, 2018, the Company pledged the following collateral and margin to its counterparties, (in millions):

| | |
|----------------------------------|------|
| Cash collateral and margin | \$11 |
| Securities collateral and margin | \$ 5 |

The amount of accounting loss the Company will incur if any party to the derivative contract fails completely to perform according to the terms of the contract and the collateral or other security, if any, for the amount due proved to be of no value to the Company is equal to the gross asset value and accrued interest receivable of all derivative contracts which, as of December 31, 2018, is \$1,042 million.

Certain of the Company’s master swap agreements governing its derivative instruments contain provisions that require the Company to maintain a minimum credit rating from two of the major credit rating agencies. If the Company’s credit rating falls below the specified minimum, each of the counterparties to agreements with such requirements could terminate all outstanding derivative transactions between such counterparty and the Company. The termination requires immediate payment of amounts expected to approximate the net liability

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA

NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

positions of such transactions with such counterparty. The aggregate fair value of all derivative instruments with credit-risk-related contingent features in a liability position on December 31, 2018 is \$9 million for which the Company posted collateral of \$9 million in the normal course of business.

Derivative Types: The Company utilizes the following types of derivative financial instruments and strategies within its portfolio:

Commodity Forward Contracts: The Company enters into crude oil forward contracts to hedge against the effect of fluctuations in crude oil prices on certain equity investments. This type of derivative instrument is traded OTC- bilateral and the Company is exposed to both market and counterparty risk. The Company applies fair value accounting for these derivatives instruments.

Foreign Currency Swap Contracts: The Company enters into foreign currency swap contracts to exchange fixed and variable amounts of foreign currency at specified future dates and at specified rates (in U.S. dollars) as a cash flow hedge to manage currency risks on investments denominated in foreign currencies. This type of derivative instrument is traded OTC-bilateral, and the Company is exposed to both market and counterparty risk. The Company applies hedge accounting to certain of these derivatives instruments, and fair value accounting to those instruments that do not qualify for hedge accounting.

Foreign Currency Forward Contracts: The Company enters into foreign currency forward contracts to exchange foreign currency at specified future dates and at specified rates (in U.S. dollars) to manage currency risks on investments denominated in foreign currencies. This type of derivative instrument is traded OTC-bilateral, and the Company is exposed to both market and counterparty risk. The changes in the carrying value of foreign currency exchange rates are recognized as unrealized gains or losses. The Company applies fair value accounting for these derivatives instruments.

Interest Rate Swap Contracts: The Company enters into interest rate swap contracts to hedge against the effect of interest rate fluctuations on certain variable interest rate bonds. These contracts allow the Company to lock in a fixed interest rate and to mitigate the risk of fluctuating interest rates. This type of derivative instrument may be traded OTC-cleared or OTC-bilateral, and the Company is exposed to both market and counterparty risk. Generally, no cash is exchanged at the outset of the contract and no principal payments are made by either party. These transactions provide for a single net payment to be made by one counterparty at each due date. The Company applies fair value accounting for these derivatives instruments.

Asset Swaps: The Company enters into asset swap contracts to hedge against interest rate risk associated with its U.S. Treasury Inflation Protected Securities (TIPS). The Company also uses asset swap contracts in certain replication transactions. For hedges of its TIPS, the Company pays all cash flows received from the TIPS security to the counterparty in exchange for fixed interest rate coupon payments. This type of derivative instrument is traded OTC- bilateral, and the Company is exposed to both market and counterparty risk. The Company applies hedge accounting for asset swaps used in hedging transactions.

Total Return Swaps: The Company enters into total return swap contracts to exchange a cash flow based on a fixed or variable rate in return for the total economic exposure of an underlying asset, which includes cash flows, credit risk and market risk, or vice versa. This type of derivative instrument is traded OTC-bilateral, and is exposed to both market and counterparty risk. These derivative instruments may be held in hedging relationships or in replication transactions.

Purchased Credit Default Swap Contracts: The Company purchases credit default swaps to hedge against unexpected credit events on selective investments held in the Company's investment portfolio. This type of derivative is traded OTC-bilateral and is exposed to market and counterparty risk. The Company applies fair value accounting for these derivatives instruments.

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Written Credit Default Swaps used in Replication Transactions: A replication synthetic asset transaction is a derivative transaction (the derivative component) established concurrently with another fixed income instrument (the cash component) in order to replicate the investment characteristics of another instrument (the reference entity). As part of a strategy to replicate desired credit exposure in conjunction with high-rated host securities, the Company writes credit default swaps on either single name corporate or sovereign credits, credit indices, or credit index tranches and provides credit default protection to the buyer. This type of derivative instrument may be traded OTC-bilateral or OTC-cleared, and the Company is exposed to market, credit and counterparty risk.

The table below illustrates the effect of unrealized and realized gains and losses from derivative instruments in the Statements of Operations. Instruments utilizing hedge accounting treatment are shown as qualifying hedge relationships. Instruments that utilize fair value accounting are shown as non-qualifying hedge relationships. Derivatives used in replication strategies are shown as derivatives used for other than hedging purposes (in millions):

| | December 31, 2018 | | December 31, 2017 | |
|--|---|--|---|--|
| | Unrealized Gain (Loss) Recognized in Surplus | Gain (Loss) Recognized in Net Realized Capital Gain (Loss) | Unrealized Gain (Loss) Recognized in Surplus | Gain (Loss) Recognized in Net Realized Capital Gain (Loss) |
| Qualifying hedge relationships | | | | |
| Foreign currency swap contract | \$ 19 | \$ (2) | \$ (21) | \$ 6 |
| Total qualifying hedge relationships | 19 | (2) | (21) | 6 |
| Non-qualifying hedge relationships | | | | |
| Commodity forwards | 18 | (24) | (18) | (40) |
| Foreign currency swaps | 493 | 15 | (544) | 31 |
| Foreign currency forwards | 115 | 47 | (161) | (132) |
| Interest rate contracts | 1 | — | (1) | — |
| Purchased credit default swaps | 4 | (1) | 5 | — |
| Total non-qualifying hedge relationships | \$631 | \$ 37 | \$(719) | \$(141) |
| Derivatives used for other than hedging purposes | — | 23 | — | 5 |
| Total derivatives | \$650 | \$ 58 | \$(740) | \$(130) |

Events or circumstances that would require the Company to perform under a written credit derivative position may include, but are not limited to, bankruptcy, failure to pay, debt moratorium, debt repudiation, restructuring of debt and acceleration, or default. The maximum potential amount of future payments (undiscounted) the Company could be required to make under the credit derivative is represented by the notional amount of the contract. Should a credit event occur, the amounts owed to a counterparty by the Company may be subject to recovery provisions that include, but are not limited to:

1. Notional amount payment by the Company to Counterparty and/or delivery of physical security by Counterparty to the Company.
2. Notional amount payment by the Company to Counterparty net of contractual recovery fee.
3. Notional amount payment by the Company to Counterparty net of auction determined recovery fee.

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The Company will record an other-than-temporary impairment loss on a derivative position if an existing condition or set of circumstances indicates there is a limited ability to recover an unrealized loss. For the year ended December 31, 2018, there were no other-than-temporary impairment losses recorded for derivative positions.

The Company enters into replication transactions whereby credit default swaps have been written by the Company on credit indices, credit index tranches, or single name corporate or sovereign credits. Credit index positions represent replications where credit default swaps have been written by the Company on the Dow Jones North American Investment Grade Series of indexes (DJ.NA.IG). Each index is comprised of 125 liquid investment grade credits domiciled in North America and represents a broad exposure to the investment grade corporate market. Index positions also represent replications where credit default swaps have been written by the Company on the Dow Jones North American High Yield Series of indexes (DJ.NA.HY). Each index is comprised of 100 high yield credits domiciled in North America and represents a broad exposure to the high yield corporate market. The Company writes contracts on the Dow Jones North American Investment Grade Index Series 26 and 27 (DJ.NA.IG.26 and DJ.NA.IG.27, respectively), whereby the Company is obligated to perform should there be a default on any reference entity in the index.

The Company writes contracts on the “Senior” tranche of the Dow Jones North American Investment Grade Index Series 25, 27, 29, and 31 (DJ.NA.IG.25, DJ.NA.IG.27, DJ.NA.IG.29 and DJ.NA.IG.31, respectively), whereby the Company is obligated to perform should the default rates of each index fall between 7%-15%. The Company also writes contracts on the “Super Senior” tranche of the Dow Jones North American High Yield Index Series 27 and 31 (DJ.NA.HY.27 and DJ.NA.HY.31, respectively), whereby the Company is obligated to perform should the default rates of each index fall between 35%-100%. The maximum potential amount of future payments (undiscounted) the Company could be required to make under these positions is represented by the notional amount of the contracts.

Information related to the credit quality of replication positions involving credit default swaps appears below. The values below are listed in order of their NAIC credit designation, with a designation of 1 having the highest credit quality based on the underlying asset referenced by the credit default swap (in millions):

| | Referenced Credit Obligation | December 31, 2018 | | | December 31, 2017 | | |
|------------------------------|----------------------------------|---------------------|--------------------------|------------------------------------|---------------------|--------------------------|------------------------------------|
| | | CDS Notional Amount | CDS Estimated Fair Value | Weighted Average Years to Maturity | CDS Notional Amount | CDS Estimated Fair Value | Weighted Average Years to Maturity |
| RSAT NAIC Designation | | | | | | | |
| 1 Highest quality | Single name credit default swaps | \$ — | \$ — | — | \$ 5 | \$ — | 1 |
| | Credit default swaps on indices | 8,797 | 413 | 4 | 5,967 | 185 | 4 |
| | Subtotal | 8,797 | 413 | 4 | 5,972 | 185 | 4 |
| 2 High quality | Single name credit default swaps | 5 | — | 3 | 25 | — | 1 |
| | Credit default swaps on indices | — | — | — | 450 | 10 | 3 |
| | Subtotal | 5 | — | 3 | 475 | 10 | 3 |
| 3 Medium quality | Single name credit default swaps | — | — | — | 10 | — | 1 |
| | Credit default swaps on indices | — | — | — | — | — | — |
| | Subtotal | — | — | — | 10 | — | 1 |
| Total | | \$8,802 | \$413 | — | \$6,457 | \$195 | 4 |

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The table below illustrates derivative asset and liability positions held by the Company, including notional amounts, carrying values and estimated fair values. Instruments utilizing hedge accounting treatment are shown as qualifying hedge relationships. Hedging instruments that utilize fair value accounting are shown as non-qualifying hedge relationships. Derivatives used in replication strategies are shown as derivatives used for other than hedging purposes.

| | | Summary of Derivative Positions | | | | | |
|--|-------------|---------------------------------|----------------|--------------|-------------------|----------------|--------------|
| | | (in millions) | | | | | |
| | | December 31, 2018 | | | December 31, 2017 | | |
| Qualifying hedge relationships | | Notional | Carrying Value | Estimated FV | Notional | Carrying Value | Estimated FV |
| Asset swaps | Assets | \$ 1,210 | \$ — | \$ 39 | \$ 810 | \$ — | \$ (36) |
| | Liabilities | — | — | — | — | — | — |
| Foreign currency swap contracts | Assets | 124 | 6 | 2 | 37 | 3 | 4 |
| | Liabilities | 60 | (9) | (12) | 158 | (24) | (36) |
| Total qualifying hedge relationships | | \$ 1,394 | \$ (3) | \$ 29 | \$ 1,005 | \$ (21) | \$ (68) |
| Non-qualifying hedge relationships | | | | | | | |
| Commodity forwards | Assets | \$ — | \$ — | \$ — | \$ — | \$ — | \$ — |
| | Liabilities | — | — | — | 115 | (18) | (18) |
| Interest rate contracts | Assets | 116 | 4 | 4 | 66 | 3 | 3 |
| | Liabilities | — | — | — | — | — | — |
| Foreign currency swaps | Assets | 4,729 | 424 | 424 | 1,980 | 123 | 123 |
| | Liabilities | 2,200 | (148) | (148) | 3,449 | (341) | (341) |
| Foreign currency forwards | Assets | 1,676 | 48 | 48 | 129 | 2 | 2 |
| | Liabilities | 521 | (4) | (4) | 2,453 | (73) | (73) |
| Purchased credit default swaps | Assets | 3 | — | — | — | — | — |
| | Liabilities | 301 | (3) | (3) | 521 | (14) | (14) |
| Total non-qualifying hedge relationships | | \$ 9,546 | \$ 321 | \$ 321 | \$ 8,713 | \$(318) | \$(318) |
| Derivatives used for other than hedging purposes | | | | | | | |
| Written credit default swaps | Assets | \$ 8,797 | \$ 486 | \$ 413 | \$ 6,417 | \$ 113 | \$ 195 |
| | Liabilities | 5 | — | — | 40 | — | — |
| Asset swaps and total return swaps | Assets | 10 | — | — | 35 | — | — |
| | Liabilities | — | — | — | — | — | — |
| Total derivatives used for other than hedging purposes | | \$ 8,812 | \$ 486 | \$ 413 | \$ 6,492 | \$ 113 | \$ 195 |
| Total derivatives | | \$19,752 | \$ 804 | \$ 763 | \$16,210 | \$ (226) | \$ (191) |

For the year ended December 31, 2018, the average fair value of derivatives used for other than hedging purposes, was \$239 million.

Note 13—separate accounts

The TIAA Separate Account VA-1 (“VA-1”) is a segregated investment account established on February 16, 1994 under the insurance laws of the State of New York for the purpose of issuing and funding after-tax variable annuity contracts for employees of non-profit institutions organized in the United States, including governmental institutions. VA-1 is registered with the Securities and Exchange Commission, (the “Commission”) effective November 1, 1994 as an open-end, diversified management investment company under the Investment Company Act of 1940. VA-1 consists of a single investment portfolio, the Stock Index

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Account (“SIA”). The SIA was established on October 3, 1994 and invests in a diversified portfolio of equity securities selected to track the overall market for common stocks publicly traded in the United States.

The TIAA Real Estate Account (“REA” or “VA-2”) is a segregated investment account organized on February 22, 1995, under the insurance laws of the State of New York for the purpose of providing an investment option to TIAA’s pension customers to direct investments to an investment vehicle that invests primarily in real estate. VA-2 is registered with the Commission under the Securities Act of 1933 effective October 2, 1995. VA-2’s target is to invest between 75% and 85% of its assets directly in real estate or in real estate-related investments, with the remainder of its assets invested in publicly-traded securities and other instruments easily converted to cash to maintain adequate liquidity.

The TIAA Separate Account VA-3 (“VA-3”) is a segregated investment account organized on May 17, 2006 under the laws of the State of New York for the purposes of funding individual and group variable annuities for retirement plans of employees of colleges, universities, other educational and research organizations, and other governmental and non-profit institutions. VA-3 is registered with the Commission as an investment company under the Investment Company Act of 1940, effective September 29, 2006, and operates as a unit investment trust.

The TIAA Stable Value Separate Account (“TSV”) is an insulated, non-unitized separate account established on March 31, 2010 qualifying under New York Insurance Law 4240(a)(5)(ii). The Separate Account supports a flexible premium group deferred fixed annuity contract intended to be offered to employer sponsored retirement plans. The assets of this account are carried at book value.

In accordance with the domiciliary state procedures for approving items within the separate accounts, the separate accounts classification of the following items are supported by a specific state statute:

| Product Identification | Product Classification | State Statute Reference |
|-------------------------------|-------------------------------|--|
| TIAA Separate Account VA-1 | Variable annuity | Section 4240 of the New York Insurance Law |
| TIAA Real Estate Account | Variable annuity | Section 4240 of the New York Insurance Law |
| TIAA Separate Account VA-3 | Variable annuity | Section 4240 of the New York Insurance Law |
| TIAA Stable Value | Group deferred fixed annuity | Section 4240(a)(5)(ii) of the New York Insurance Law |

The legal insulation of the separate account assets prevents such assets from being generally available to satisfy claims resulting from the general account.

The Company’s separate account statement includes legally insulated assets as of December 31 attributed to the following products (in millions):

| Product | 2018 | 2017 |
|----------------------------|-----------------|-----------------|
| TIAA Real Estate Account | \$26,180 | \$25,175 |
| TIAA Separate Account VA-3 | 9,935 | 10,381 |
| TIAA Separate Account VA-1 | 928 | 1,075 |
| TIAA Stable Value | 1,245 | 965 |
| Total | \$38,288 | \$37,596 |

In accordance with the products recorded within the separate accounts, some separate account liabilities are guaranteed by the general account. In accordance with the guarantees provided, if the investment proceeds are insufficient to cover the rate of return guaranteed for the product, the policyholder proceeds will be remitted by the general account.

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The general account provides the REA with a liquidity guarantee to ensure it has funds available to meet participant transfer or cash withdrawal requests. When the REA cannot fund participant requests, the general account will fund the requests by purchasing accumulation units in the REA. Under this agreement, the Company guarantees participants will be able to redeem their accumulation units at their accumulation unit value determined after the transfer or withdrawal request is received in good order.

Additional information regarding separate accounts of the Company is as follows for the years ended December 31, (in millions):

| | 2018 | | | Total |
|--|--|---|---|-----------------|
| | Non-indexed Guarantee less than/equal to 4% | Non-indexed Guarantee more than 4% | Non-guaranteed Separate Accounts | |
| Premiums, considerations or deposits | \$ 459 | \$— | \$ 4,376 | \$ 4,835 |
| Reserves | | | | |
| For accounts with assets at: | | | | |
| Fair value | \$ — | \$— | \$36,703 | \$36,703 |
| Amortized cost | 1,205 | — | — | 1,205 |
| Total reserves | \$1,205 | \$— | \$36,703 | \$37,908 |
| By withdrawal characteristics: | | | | |
| Subject to discretionary withdrawal: | | | | |
| At book value without market value adjustment and with current surrender charge of 5% or less* | \$1,205 | \$— | \$ — | \$ 1,205 |
| At fair value | — | — | 36,703 | 36,703 |
| Total reserves | \$1,205 | \$— | \$36,703 | \$37,908 |

* Withdrawable at book value without adjustment or charge.

| | 2017 | | | Total |
|--|--|---|---|-----------------|
| | Non-indexed Guarantee less than/equal to 4% | Non-indexed Guarantee more than 4% | Non-guaranteed Separate Accounts | |
| Premiums, considerations or deposits | \$ 460 | \$— | \$ 4,547 | \$ 5,007 |
| Reserves | | | | |
| For accounts with assets at: | | | | |
| Fair value | \$ — | \$— | \$36,388 | \$36,388 |
| Amortized cost | 932 | — | — | 932 |
| Total reserves | \$ 932 | \$— | \$36,388 | \$37,320 |
| By withdrawal characteristics: | | | | |
| Subject to discretionary withdrawal: | | | | |
| At book value without market value adjustment and with current surrender charge of 5% or less* | \$ 932 | \$— | \$ — | \$ 932 |
| At fair value | — | — | 36,388 | 36,388 |
| Total reserves | \$ 932 | \$— | \$36,388 | \$37,320 |

* Withdrawable at book value without adjustment or charge.

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

| | 2016 | | | Total |
|--|---|--|-------------------------------------|-----------------|
| | Non-indexed Guarantee less than/equal to 4% | Non-indexed Guarantee more than 4% | Non-guaranteed Separate Accounts | |
| Premiums, considerations or deposits | \$280 | \$— | \$ 4,491 | \$ 4,771 |
| Reserves | | | | |
| For accounts with assets at: | | | | |
| Fair value | \$ — | \$— | \$32,811 | \$32,811 |
| Amortized cost | 614 | — | — | 614 |
| Total reserves | \$614 | \$— | \$32,811 | \$33,425 |
| By withdrawal characteristics: | | | | |
| Subject to discretionary withdrawal: | | | | |
| At book value without market value adjustment and with current surrender charge of 5% or less* | \$614 | \$— | \$ — | \$ 614 |
| At fair value | — | — | 32,811 | 32,811 |
| Total reserves | \$614 | \$— | \$32,811 | \$33,425 |

* Withdrawable at book value without adjustment or charge.

The following is a reconciliation of transfers to (from) the Company to the Separate Accounts for the years ended December 31, (in millions):

| | 2018 | 2017 | 2016 |
|--|----------|----------|----------|
| Transfers reported in the Summary of Operations of the separate accounts statement: | | | |
| Transfers to separate accounts | \$ 5,124 | \$ 5,296 | \$ 5,092 |
| Transfers from separate accounts | (4,682) | (4,173) | (3,241) |
| Reconciling adjustments: | | | |
| Fund transfer exchange gain (loss) | — | — | — |
| Transfers reported in the Summary of Operations of the Life, Accident & Health Annual Statement | \$ 442 | \$ 1,123 | \$ 1,851 |

Note 14—policy and contract reserves

Policy and contract reserves are determined in accordance with standard valuation methods approved by the Department and are computed in accordance with standard actuarial methodology. The reserves are based on assumptions for interest, mortality and other risks insured.

For annuities and supplementary contracts, policy and contract reserves are calculated using Commissioner’s Annuity Reserve Valuation Method (“CARVM”) in accordance with New York State Regulation 151, Actuarial Guideline 43 for variable annuity products and Actuarial Guideline 33 for all other products.

The Company has established policy reserves on deferred and payout annuity contracts issued January 1, 2001 and later that exceed the minimum amounts determined under Appendix A-820, “Minimum Life and Annuity Reserve Standards” of NAIC SAP. The excess above the minimum is as follows (in millions):

| | December 31, 2018 | December 31, 2017 |
|---|-------------------|-------------------|
| Deferred and payout annuity contracts issued after 2000 | 4,160 | 4,159 |

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The Company performed asset adequacy analysis in order to test the adequacy of its reserves in light of the assets supporting such reserves, and determined that its reserves are sufficient to meet its obligations.

For ordinary and collective life insurance, reserves for all policies are calculated in accordance with New York State Insurance Regulation 147. Reserves for regular life insurance policies are computed by the Net Level Premium method for issues prior to January 1, 1990, and by the Commissioner's Reserve Valuation Method for the vast majority of issues on and after such date. Five-year renewable term policies issued on or after January 1, 1994 use the greater of unitary and segmented reserves, where each segment is equal to the term period. Annual renewable term policies and cost of living riders issued on and after January 1, 1994 uses the segmented reserves, where each segment is equal to one year in length.

Liabilities for incurred but not reported life insurance claims and disability waiver of premium claims are based on historical experience and set equal to a percentage of paid claims. Reserves for amounts not yet due for incurred but not reported disability waiver of premium claims are a percentage of the total active lives disability waiver of premium reserve.

As of December 31, 2018 and 2017, the Company had \$320 million and \$364 million, respectively, of insurance in force for which the gross premiums were less than the net premiums according to the standard of valuation set by the Department.

The Tabular Interest, Tabular Less Actual Reserve Released and Tabular Cost are determined by formulae as prescribed by the NAIC except for deferred annuities, for which tabular interest is determined from the basic data.

Withdrawal characteristics of annuity actuarial reserves and deposit-type contract funds for the years ended December 31, are as follows (in millions):

| | 2018 | | | | |
|---|------------------------|---|---------------------------------------|------------------|-------------------|
| | General Account | Separate Account with Guarantees | Separate Account Nonguaranteed | Total | % of Total |
| Subject to discretionary withdrawal: | | | | | |
| At fair value | \$ — | \$ — | \$36,703 | \$ 36,703 | 14.7% |
| At book value without adjustment | | | | | |
| (minimal or no charge or adjustment) | 58,671 | 1,205 | — | 59,876 | 24.0% |
| Not subject to discretionary withdrawal | 153,247 | — | — | 153,247 | 61.3% |
| Total (gross) | \$211,918 | \$1,205 | \$36,703 | \$249,826 | 100.0% |
| Reinsurance ceded | — | — | — | — | |
| Total (net) | \$211,918 | \$1,205 | \$36,703 | \$249,826 | |

| | 2017 | | | | |
|---|------------------------|---|---------------------------------------|------------------|-------------------|
| | General Account | Separate Account with Guarantees | Separate Account Nonguaranteed | Total | % of Total |
| Subject to discretionary withdrawal: | | | | | |
| At fair value | \$ — | \$ — | \$36,388 | \$ 36,388 | 14.9% |
| At book value without adjustment | | | | | |
| (minimal or no charge or adjustment) | 56,466 | 932 | — | 57,398 | 23.5% |
| Not subject to discretionary withdrawal | 150,005 | — | — | 150,005 | 61.6% |
| Total (gross) | \$206,471 | \$ 932 | \$36,388 | \$243,791 | 100.0% |
| Reinsurance ceded | — | — | — | — | |
| Total (net) | \$206,471 | \$ 932 | \$36,388 | \$243,791 | |

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Note 15—management agreements

Under Cash Disbursement and Reimbursement Agreements, the Company serves as the common pay-agent for certain subsidiaries and affiliates. Under management agreements, the Company provides investment advisory and administrative services for TIAA Life and administrative services to TIAA, FSB and VA-1. Additionally, effective December 26, 2016, the Company entered into a General Service and Facilities Agreements with its wholly-owned subsidiary, Nuveen, LLC, for the Company to provide and receive general services at cost inclusive of charges for overhead.

The Company allocated expenses of \$2,459 million, \$2,252 million and \$2,080 million to its various subsidiaries and affiliates for the years ended December 31, 2018, 2017 and 2016, respectively. These allocated expenses are not included in the Company's net operating expenses. The expense allocation process determines the portion of the total investment and operating expenses attributable to each legal entity and each line of business within an entity. Every month the Company allocates incurred expenses to each line of business and its affiliates. As part of this allocation process, every department with personnel and every vendor related expense is allocated to lines of business based on defined allocation methodologies. These methodologies represent either shared or direct costs depending on the nature of the service provided. At the completion of the allocation process all expenses are assigned to a line of business and legal entity.

Activities necessary for the operation of the College Retirement Equities Fund ("CREF"), a companion organization, are provided at-cost by the Company and two of its subsidiaries. Such services are provided in accordance with an Investment Management Services Agreement, updated and amended annually as of May 1, between CREF and TIAA-CREF Investment Management, LLC ("Investment Management"), and in accordance with a Principal Underwriting and Distribution Services Agreement for CREF, updated and amended annually as of May 1, between CREF and TIAA-CREF Individual and Institutional Services, LLC ("Services"). The Company also performs administrative services for CREF, on an at-cost basis in accordance with an Administrative Service Agreement, updated and amended annually as of May 1. The management fees collected under these agreements and the equivalent allocated expenses, which amounted to approximately \$731 million, \$808 million, and \$860 million for the years ended December 31, 2018, 2017 and 2016, respectively, are not included in the statement of operations and have no effect on the Company's operations.

Teachers Advisors, LLC ("Advisors") provides investment advisory services for VA-1, certain proprietary funds and other separately managed portfolios in accordance with investment management agreements. Teachers Personal Investors Services, Inc. ("TPIS") and Services distribute variable annuity contracts for VA-1, REA and VA-3 as well as registered securities for certain proprietary funds and non-proprietary mutual funds.

January 1, 2018, the Company entered into Investment Management Agreements with Advisors and Nuveen Alternatives Advisors, LLC, wholly-owned subsidiaries of TIAA's wholly-owned subsidiary Nuveen, LLC, to manage, at a negotiated fee, investments held within the Company's General Account including investments owned by investment subsidiaries of the Company. The Company paid \$219 million and \$203 million to Advisors and Nuveen Alternatives Advisors, LLC, respectively, for the year ended December 31, 2018.

January 1, 2018, the Company entered into an Omnibus Service Agreement with its wholly-owned subsidiary Nuveen, LLC, pursuant to which Nuveen, LLC directly or through its subsidiaries agreed to provide services complementary to investment management to the Company at cost, inclusive of charges for overhead. The Company paid \$7 million to Nuveen, LLC for the year ended December 31, 2018.

All services necessary for the operation of REA are provided at-cost by the Company and Services. The Company provides investment management and administrative services for REA. Distribution services for REA are provided in accordance with a Distribution Agreement among Services, the Company and REA. The Company and Services receive fee payments from REA on a daily basis according to formulae established

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

annually and adjusted periodically. The daily fee is based on an estimate of the at-cost expenses necessary to operate REA and is based on projected REA expense and asset levels, with the objective of keeping the fees as close as possible to actual expenses attributable to operating REA. At the end of each quarter, any differences between the daily fees paid and actual expenses for the quarter are added to or deducted from REA's fee in equal daily installments over the remaining days in the immediately following quarter.

Effective February 6, 2018, the Company entered into a Service Agreement with the Bank to provide general services in support of the Company's and its subsidiaries' activities at cost inclusive of charges for overhead. The Company paid \$6 million to the Bank during the year ended December 31, 2018.

The Bank services certain residential mortgage loans held by the Company. As of December 31, 2018 and 2017, the Company held \$825 million and \$907 million of residential mortgage loans serviced by the Bank, respectively.

Note 16—federal income taxes

By charter, the Company is a stock life insurance company operating on a non-profit basis. However, the Company has been fully subject to federal income taxation as a stock life insurance company since January 1, 1998.

The application of SSAP No. 101 requires a company to evaluate the recoverability of DTAs and to establish a valuation allowance if necessary to reduce the DTA to an amount which is more likely than not to be realized. Based on the weight of all available evidence, the Company has not recorded a valuation allowance on DTAs at December 31, 2018 or December 31, 2017.

Components of the net deferred tax asset/(liability) are as follows (in millions):

| | 12/31/2018 | | | 12/31/2017 | | | Change | | |
|---|-----------------|----------------|---------------------------|-----------------|----------------|---------------------------|------------------------------|-----------------------------|---------------------------|
| | (1) Ordinary | (2) Capital | (3) (Col 1+2) Total | (4) Ordinary | (5) Capital | (6) (Col 4+5) Total | (7) (Col 1-4) Ordinary | (8) (Col 2-5) Capital | (9) (Col 7+8) Total |
| a) Gross deferred tax assets | \$6,115 | \$391 | \$6,506 | \$6,586 | \$ 205 | \$6,791 | \$(471) | \$ 186 | \$(285) |
| b) Statutory valuation allowance adjustments | — | — | — | — | — | — | — | — | — |
| c) Adjusted gross deferred tax assets (a-b) | 6,115 | 391 | 6,506 | 6,586 | 205 | 6,791 | (471) | 186 | (285) |
| d) Deferred tax assets non-admitted | 3,135 | — | 3,135 | 3,720 | — | 3,720 | (585) | — | (585) |
| e) Subtotal net admitted deferred tax asset (c-d) | 2,980 | 391 | 3,371 | 2,866 | 205 | 3,071 | 114 | 186 | 300 |
| f) Deferred tax liabilities | 499 | 470 | 969 | 413 | 694 | 1,107 | 86 | (224) | (138) |
| g) Net admitted deferred tax assets/ (net deferred tax liability) (e-f) | \$2,481 | \$(79) | \$2,402 | \$2,453 | \$(489) | \$1,964 | \$ 28 | \$ 410 | \$ 438 |

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

| | 12/31/2018 | | | 12/31/2017 | | | Change | | |
|--|-----------------|----------------|---------------------------|-----------------|----------------|---------------------------|------------------------------|-----------------------------|---------------------------|
| | (1) Ordinary | (2) Capital | (3) (Col 1+2) Total | (4) Ordinary | (5) Capital | (6) (Col 4+5) Total | (7) (Col 1-4) Ordinary | (8) (Col 2-5) Capital | (9) (Col 7+8) Total |
| Admission calculation components | | | | | | | | | |
| SSAP No. 101 | | | | | | | | | |
| a) Federal income taxes paid in prior years recoverable through loss carrybacks | \$ — | \$ — | \$ — | \$ — | \$ — | \$ — | \$ — | \$ — | \$ — |
| b) Adjusted gross DTA expected to be realized (excluding the amount of DTA from (a) above after application of the threshold limitation. (The lesser of (b)1 and (b)2 below) | 2,365 | 37 | 2,402 | 1,921 | 43 | 1,964 | 444 | (6) | 438 |
| 1. Adjusted gross DTA expected to be realized following the balance sheet date | 2,365 | 37 | 2,402 | 1,921 | 43 | 1,964 | 444 | (6) | 438 |
| 2. Adjusted gross DTA Allowed per limitation threshold | XXX | XXX | 5,355 | XXX | XXX | 5,151 | XXX | XXX | 204 |
| c) Adjusted gross DTA (excluding the amount of DTA from (a) and (b) above) offset by gross DTL | 615 | 354 | 969 | 945 | 162 | 1,107 | (330) | 192 | (138) |
| d) DTA admitted as the result of application of SSAP No. 101. | | | | | | | | | |
| Total ((a)+(b)+(c)) | \$2,980 | \$ 391 | \$3,371 | \$2,866 | \$ 205 | \$3,071 | \$ 114 | \$ 186 | \$ 300 |

| | 2018 | 2017 |
|---|----------|----------|
| Ratio Percentage Used to Determine Recovery Period and Threshold Limitation Amount | 828% | 812% |
| Amount Of Adjusted Capital And Surplus Used To Determine The Threshold Limitation In (b)2 Above (in millions) | \$35,697 | \$34,340 |

| | 12/31/2018 | | 12/31/2017 | | Change | |
|---|-----------------|----------------|-----------------|----------------|------------------------------|-----------------------------|
| | (1) Ordinary | (2) Capital | (3) Ordinary | (4) Capital | (5) (Col 1-3) Ordinary | (6) (Col 2-4) Capital |
| Impact of Tax Planning Strategies: (in millions) | | | | | | |
| Determination of adjusted gross DTAs and net admitted DTAs, by tax character as a percentage | | | | | | |
| Adjusted gross DTAs amount from above | \$6,115 | \$391 | \$6,586 | \$205 | \$ (471) | \$186 |
| Percentage of adjusted gross DTAs by tax character attributable to the impact of tax planning strategies | —% | —% | —% | —% | —% | —% |
| Net admitted adjusted gross DTAs amount from above | \$2,980 | \$391 | \$2,866 | \$205 | \$ 114 | \$186 |
| Percentage of net admitted adjusted gross DTAs by tax character admitted because of the impact of tax planning strategies | —% | —% | 7.33% | —% | (7.33)% | —% |

The Company does not have tax-planning strategies that include the use of reinsurance.

The Company has no temporary differences for which DTLs are not recognized.

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Income taxes incurred consist of the following major components (in millions):

| | 12/31/2018 | 12/31/2017 | 12/31/2016 |
|--|-------------------|-------------------|---------------|
| Current income tax: | | | |
| Federal income tax expense (benefit) | \$ (330) | \$ (698) | \$ (484) |
| Foreign taxes | — | — | — |
| Subtotal | \$ (330) | \$ (698) | \$ (484) |
| Federal income taxes expense on net capital gains | 431 | 619 | 1,089 |
| Generation/(utilization) of loss carry-forwards | (101) | 79 | (605) |
| Intercompany tax sharing expense/(benefit) | (6) | 11 | 17 |
| Other | (17) | (15) | (1) |
| Federal and foreign income tax expense / (benefit) | \$ (23) | \$ (4) | \$ 16 |
| | 12/31/2018 | 12/31/2017 | Change |
| Deferred tax assets: | | | |
| Ordinary: | | | |
| Policyholder reserves | \$ 572 | \$ 543 | \$ 29 |
| Investments | 726 | 772 | (46) |
| Policyholder dividends accrual | 395 | 395 | — |
| Fixed assets | 188 | 257 | (69) |
| Compensation and benefits accrual | 174 | 168 | 6 |
| Net operating loss carry-forward | 661 | 816 | (155) |
| Other (including items < 5% of total ordinary tax assets) | 510 | 560 | (50) |
| Intangible assets – business in force and software | 2,889 | 3,075 | (186) |
| Subtotal | \$6,115 | \$6,586 | \$ (471) |
| Statutory valuation allowance adjustment | — | — | — |
| Non-admitted | 3,135 | 3,720 | (585) |
| Admitted ordinary deferred tax assets | \$2,980 | \$2,866 | \$ 114 |
| Capital: | | | |
| Investments | \$ 371 | \$ 186 | \$ 185 |
| Real estate | 20 | 19 | 1 |
| Subtotal | \$ 391 | \$ 205 | \$ 186 |
| Statutory valuation allowance adjustment | — | — | — |
| Non-admitted | — | — | — |
| Admitted capital deferred tax assets | 391 | 205 | 186 |
| Admitted deferred tax assets | \$3,371 | \$3,071 | \$ 300 |
| Deferred tax liabilities: | | | |
| Ordinary: | | | |
| Investments | \$ 138 | \$ — | \$ 138 |
| Reserves transition adjustment | 359 | 410 | (51) |
| Other (including items < 5% of total ordinary tax liabilities) | 2 | 3 | (1) |
| Subtotal | \$ 499 | \$ 413 | \$ 86 |
| Capital: | | | |
| Investments | 470 | 694 | (224) |
| Subtotal | \$ 470 | \$ 694 | \$ (224) |
| Deferred tax liabilities | \$ 969 | \$1,107 | \$ (138) |
| Net deferred tax: | | | |
| Assets/Liabilities | \$2,402 | \$1,964 | \$ 438 |

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The provision for federal and foreign income taxes incurred differs from the amount obtained by applying the statutory federal income tax rate to income before income taxes. The significant items causing this difference at December 31, 2018 are as follows (in millions):

| Description | Tax Effect | Effective Tax Rate |
|---|---------------|--------------------|
| Provision computed at statutory rate | \$ 357 | 21.00% |
| Dividends received deduction | (50) | (2.96) |
| Amortization of interest maintenance reserve | (54) | (3.20) |
| Statutory impairment of affiliated common stock | 9 | 0.55 |
| Tax effect of change in net unrealized capital gains & losses | (153) | (8.99) |
| Other | 15 | 0.90 |
| Total statutory income taxes | \$ 124 | 7.30% |
| Federal and foreign income tax incurred (benefit) expense | \$ (23) | (1.35)% |
| Change in net deferred income tax charge (benefit) | 147 | 8.65 |
| Total statutory income taxes | \$ 124 | 7.30% |

At December 31, 2018, the Company has net operating loss carry forwards with expiration dates through the year 2032 (in millions):

| Year Incurred | Operating Loss | Year of Expiration |
|---------------|----------------|--------------------|
| 2008 | \$ 634 | 2023 |
| 2012 | 1,268 | 2027 |
| 2014 | 279 | 2029 |
| 2015 | 807 | 2030 |
| 2016 | 1 | 2031 |
| 2017 | 159 | 2032 |
| Total | \$3,148 | |

As of December 31, 2018, the Company had no foreign tax credit carry forwards.

At December 31, 2018, and 2017, the Company has no capital loss carry forwards.

At December 31, 2018, the Company has general business credits of \$32 million generated during the years 2004 to 2017 and expiring between 2024 to 2037.

Due to the Tax Cuts and Jobs Act, carryback of NOL's generated after December 31, 2017 are disallowed. Consequentially, ordinary income tax paid in years 2017 and prior may not be recouped in the event of future net losses.

The Company does not have any protective tax deposits on deposit with the Internal Revenue Service under IRC Section 6603.

Beginning in 1998, the Company filed a consolidated federal income tax return with its includable affiliates (the "consolidating companies"). The consolidating companies participate in tax-sharing agreements. Under the general agreement, which applies to all of the below listed entities except those denoted with an asterisk (*), current federal income tax expense (benefit) is computed on a separate return basis and provides that members shall make payments or receive reimbursements to the extent their income (loss) contributes to or

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

reduces consolidated federal tax expense. The consolidating companies are reimbursed for net operating losses or other tax attributes they have generated when utilized in the consolidated return.

- 1) 730 Texas Forest Holdings, Inc.
- 2) AMC Holding, Inc.
- 3) Business Property Lending, Inc.
- 4) Covariance Capital Management, Inc.
- 5) CustomerOne Financial Network, Inc.
- 6) Elite Lender Services, Inc.
- 7) TIAA Commercial Finance, Inc f/k/a EverBank Commercial Finance, Inc.
- 8) EverBank Wealth Management, Inc.
- 9) EverTrade Direct Brokerage, Inc.
- 10) Greenwood Resources, Inc.
- 11) JWL Properties, Inc.
- 12) MyVest Corporation
- 13) ND Properties, Inc.
- 14) NIS/R&T, Inc. f/k/a Nuveen Investment Solutions, Inc.*
- 15) Nuveen Holdings, Inc.*
- 16) Nuveen Holdings I, Inc. *
- 17) Nuveen Investments, Inc.*
- 18) Nuveen Investments Holdings, Inc.*
- 19) Nuveen Securities, LLC*
- 20) Oleum Holding Company, Inc.
- 21) T-C Europe Holdings, Inc.
- 22) T-C SP, Inc.
- 23) T-Investment Properties Corp.
- 24) TCT Holdings, Inc.
- 25) Teachers Personal Investors Services, Inc.
- 26) Terra Land Company
- 27) TIAA-CREF Life Insurance Company
- 28) TIAA Board of Overseers
- 29) TIAA-CREF Tuition Financing, Inc.
- 30) TIAA FSB Holdings, Inc.
- 31) TIAA, FSB fka Everbank
- 32) Tygris Asset Finance, Inc.
- 33) Tygris Commercial Finance Group, Inc.
- 34) Westchester Group Asset Management, Inc.
- 35) Westchester Group Farm Management, Inc.
- 36) Westchester Group Investment Management Holding Company, Inc.
- 37) Westchester Group Investment Management, Inc.
- 38) Westchester Group Real Estate, Inc.

The companies denoted with an asterisk above (collectively, “Nuveen subgroup”), are subject to a separate tax sharing agreement, under which current federal income tax expense (benefit) is computed on a separate subgroup return basis. Under the Agreement, Nuveen Holdings I, Inc. makes payments to TIAA for amounts equal to the federal income payments that the Nuveen subgroup would be obliged to pay the federal government if the Nuveen subgroup had actually filed a separate consolidated tax return. Nuveen Holdings I, Inc. is reimbursed for the subgroup losses to the extent that the subgroup tax return reflects a tax benefit that the Nuveen subgroup could have carried back to a prior consolidated return year.

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Amounts receivable from / (payable to) the Company’s subsidiaries for federal income taxes are (\$45) million and (\$17) million at December 31, 2018 and 2017, respectively.

The Company’s tax years 2014 through 2018 are open to examination by the IRS.

The 2017 Tax Cuts and Jobs Act (the “Act”) reduces the U.S. corporate tax rate from 35% to 21%, includes several base broadening provisions, and reforms the US international tax system. With a few exceptions, key provisions were effective for tax years beginning January 1, 2018.

The Company’s DTAs and DTLs as of December 31, 2017 reflect the enacted tax rate of 21% which is expected to apply when the DTAs and DTLs will be settled or realized. The Company’s federal income tax incurred for the year ended December 31, 2018 is computed using the enacted tax rate of 21%.

In February 2018, INT 18-01: Updated Tax Estimates under the Tax Cuts and Jobs Act was issued to address the application of statutory accounting principles when a reporting entity does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Act.

As of December 31, 2017, the Company noted that the impact of the Act to DTA admissibility under SSAP 101 was under evaluation. Our net admitted DTA as of December 31, 2017 was computed based on reasonable estimates and guidance available as of the date of this filing.

Additionally, in evaluating the impact of reform to the US international tax system, the Company had estimated that no material liability would be due for the repatriation transition tax provided in the Act.

As of the close of the measurement period allowed under INT 18-01 (one year from the date of the Act), no significant changes in reasonable estimates reported in December 31, 2017 have occurred.

Note 17—pension plan and post-retirement benefits

The Company maintains a qualified, non-contributory defined contribution money purchase plan covering substantially all employees. All employee plan liabilities are fully funded through retirement annuity contracts. Contributions are made to each participant’s contract based on a percentage of salary, with the applicable percentage varying by attained age. All contributions are fully vested after three years of service. Forfeitures arising from terminations prior to vesting are used to reduce future employer contributions. The statements of operations include contributions to the plan of approximately \$53 million, \$58 million and \$55 million for the years ended December 31, 2018, 2017 and 2016, respectively. This includes supplemental contributions made to company-owned annuity contracts under a non-qualified deferred compensation plan.

The Company previously provided pension benefits through an unfunded Supplemental Executive Retirement Plan (“SERP”) to certain select executives and any TIAA associate deemed eligible by the Board of Trustees. The SERP provided an annual retirement benefit payable at normal retirement. The obligations of the Company under the SERP are unfunded, unsecured promises to make future payments. As such, the plan has no assets. Contributions for a given period are equal to the benefit payments for that period. The benefit obligation and net periodic benefit cost of this plan for the years ended December 31, are as follows (in millions):

| | SERP | | |
|-------------------------|-------------|-------------|-------------|
| | 2018 | 2017 | 2016 |
| Benefit obligation | \$37 | \$41 | \$42 |
| Net period benefit cost | \$ 2 | \$ 2 | \$ 2 |

TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

In addition to the defined contribution plan and SERP, the Company provides certain other post-retirement life and health insurance benefits to eligible retired employees who meet prescribed age and service requirements. The benefit obligation and net periodic benefit cost of this plan for the years ended December 31, are as follows (in millions):

| | <u>Post-retirement Benefits</u> | | |
|-------------------------|---------------------------------|-------|------|
| | 2018 | 2017 | 2016 |
| Benefit obligation | \$74 | \$102 | \$94 |
| Net period benefit cost | \$ 2 | \$ 1 | \$ 2 |

Note 18—reinsurance

Reinsurance transactions included in the statutory basis statements of operations “Insurance and annuity premiums and other considerations” are as follows (in millions):

| | <u>Years Ended December 31,</u> | | |
|-----------------|---------------------------------|----------|----------|
| | 2018 | 2017 | 2016 |
| Direct premiums | \$16,233 | \$16,657 | \$16,608 |
| Ceded premiums | (13) | (13) | (14) |
| Net premiums | \$16,220 | \$16,644 | \$16,594 |

The Company enters into reinsurance agreements in the normal course of its insurance business to reduce overall risk. The Company remains liable for reinsurance ceded if the reinsurer fails to meet its obligation on the business assumed. All reinsurance is placed with unaffiliated reinsurers. A liability is established for reserves ceded to unauthorized reinsurers which are not secured by or in excess of letters of credit or trust agreements. The Company does not have reinsurance agreements in effect under which the reinsurer may unilaterally cancel the agreement. Amounts shown in the financial statements are reported net of the impact of reinsurance.

Note 19—repurchase and securities lending programs

Repurchase Program

The Company has a repurchase program to sell and repurchase securities for the purposes of providing additional liquidity. For repurchase agreements, the Company’s policy requires a minimum of 95% of the fair value of securities transferred under repurchase agreements to be maintained as collateral.

The Company has procedures in place to monitor the value of the collateral held and the fair value of the securities transferred under the agreements. If at any time the value of the collateral received from the counterparty falls below 95% of the fair value of the securities transferred, the Company is entitled to receive additional collateral from its counterparty. The Company monitors the estimated fair value of the securities sold under the agreements on a daily basis with additional collateral sent/obtained a necessary. If the counterparty were to default on its obligation to return the securities sold under the agreement on the repurchase date, the Company has the right to retain the collateral.

During the years ended December 31, 2018 and 2017, the Company engaged in certain repurchase transactions as cash taker. These transactions were “bilateral” in nature and the Company did not engage in any “Tri-party” repurchase transactions during the year. Additionally, there were no securities sold during the years ended December 31, 2018 and 2017 that resulted in default.

As of December 31, 2018 and 2017, the Company had no outstanding repurchase agreements.

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Securities Lending Program

The Company has a securities lending program whereby it may lend securities to qualified institutional borrowers to earn additional income. The Company receives collateral (in the form of cash) against the loaned securities and maintains collateral in an amount not less than 102% of the market value of loaned securities during the period of the loan; any additional collateral required due to changes in security values is delivered to the Company the next business day. Cash collateral received by the Company will generally be invested in high-quality short-term instruments or bank deposits.

As of December 31, 2018, the estimated fair value of the Company’s securities on loan under the program was \$548 million. The estimated fair value of collateral held by the Company for the bonds on loan as of December 31, 2018, was reported in “Securities lending collateral assets” with an offsetting collateral liability of \$562 million included in “Payable for collateral for securities loaned”. This collateral received is cash and has not been sold or re-pledged as of December 31, 2018.

Of the cash collateral received from the program, \$392 million is held as cash as of December 31, 2018, with the remaining \$170 million invested in overnight Treasury reverse repurchase agreements. Thus, the collateral remains liquid and could be returned in the event of a collateral call. The amortized cost and fair value of the reinvested cash collateral by the maturity date of the invested asset is as follows (in millions):

| | Amortized Cost | Fair Value |
|------------------------------------|---------------------------|-----------------------|
| Open | \$392 | \$392 |
| 30 Days or less | 170 | 170 |
| Total collateral reinvested | \$562 | \$562 |

As of December 31, 2017 the estimated fair value of the Company’s securities on loan under the program was \$689 million. The estimated fair value of collateral held by the Company for the bonds on loan as of December 31, 2017, was reported in “Securities lending collateral assets” with an offsetting collateral liability of \$706 million included in “Payable for collateral for securities loaned.” This collateral received was cash and had not been sold or re-pledged as of December 31, 2017.

Of the cash collateral received from the program, \$516 million was held as cash as of December 31, 2017, with the remaining \$190 million invested in overnight Treasury reverse repurchase agreements. Thus, the collateral was liquid and could have been returned in the event of a collateral call. The amortized cost and fair value of the reinvested cash collateral by the maturity date of the invested asset is as follows (in millions):

| | Amortized Cost | Fair Value |
|------------------------------------|---------------------------|-----------------------|
| Open | \$516 | \$516 |
| 30 Days or less | 190 | 190 |
| Total collateral reinvested | \$706 | \$706 |

Note 20—federal home loan bank of new york membership and borrowings

The Company is a member of the FHLBNY. Through its membership, the Company has the ability to conduct business activity (“Advances”) with the FHLBNY. It is part of the Company’s strategy to utilize these funds to provide additional liquidity to supplement existing sources, and can also be a source of contingent liquidity to meet other requirements. The Company is required to pledge collateral to the FHLBNY in the form of eligible securities for all advances received. The Company considers the amount of collateral pledged to the FHLBNY

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

as the amount encumbered by advances from the FHLBNY at a point in time. The Company has determined the estimated maximum borrowing capacity as about \$15,164 million. The Company calculated this amount using 5% of total net admitted assets at the current reporting date.

The following table shows the FHLBNY capital stock held as of December 31, (in millions):

| | 2018 | | | 2017 | | |
|--------------------------|-------------|-----------------|------------------|-------------|-----------------|------------------|
| | Total | General Account | Separate Account | Total | General Account | Separate Account |
| Membership stock—class A | \$— | \$— | \$— | \$— | \$— | \$— |
| Membership stock—class B | 82 | 82 | — | 81 | 81 | — |
| Activity stock | — | — | — | — | — | — |
| Excess stock | — | — | — | — | — | — |
| Total | \$82 | \$82 | \$— | \$81 | \$81 | \$— |

Membership stock at December 31, 2018 and 2017, is not eligible for redemption.

The Company did not have any borrowings outstanding as of December 31, 2018 or 2017. Therefore, no collateral was pledged by the Company to the FHLBNY as of either year end.

The following table shows the maximum collateral pledged to FHLBNY during the year ending December 31, (in millions):

| | 2018 | | | 2017 | | |
|------------------|----------------|----------------|---|--------------|----------------|---|
| | Fair Value | Carrying Value | Amount Borrowed at Time of Maximum Collateral | Fair Value | Carrying Value | Amount Borrowed at Time of Maximum Collateral |
| General account | \$1,390 | \$1,359 | \$1,300 | \$670 | \$620 | \$615 |
| Separate account | — | — | — | — | — | — |
| Total | \$1,390 | \$1,359 | \$1,300 | \$670 | \$620 | \$615 |

The following table shows the maximum borrowing from FHLBNY during the year ending December 31, (in millions):

| | 2018 | | | 2017 | | |
|--------------------|----------------|-----------------|------------------|--------------|-----------------|------------------|
| | Total | General Account | Separate Account | Total | General Account | Separate Account |
| Debt | \$1,300 | \$1,300 | \$— | \$615 | \$615 | \$— |
| Funding agreements | — | — | — | — | — | — |
| Other | — | — | — | — | — | — |
| Total | \$1,300 | \$1,300 | \$— | \$615 | \$615 | \$— |

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

Note 21—capital and contingency reserves and shareholders’ dividends restrictions

The portion of contingency reserves represented or reduced by each item below for the years ended December 31 are as follows (in millions):

| | 2018 | 2017 |
|---|---------|----------|
| Change in net unrealized capital gains (losses) | \$(359) | \$ 1,070 |
| Change in asset valuation reserve | 129 | (1,221) |
| Change in net deferred income tax | (147) | (4,554) |
| Change in non-admitted assets | 708 | 3,402 |
| Change in post-retirement benefit liability | 7 | (5) |

As of December 31, 2018 and 2017, the portion of contingency reserves represented by cumulative net unrealized gains was \$2,498 million and \$2,857 million, gross of deferred taxes, respectively.

Capital: The Company has 2,500 shares of Class A common stock authorized, issued and outstanding. All of the outstanding common stock of the Company is held by the TIAA Board of Overseers, a not-for-profit corporation created for the purpose of holding the common stock of the Company. By charter, the Company operates without profit to its sole shareholder.

Surplus Notes: On May 8, 2017, the Company issued surplus notes in an aggregate principal amount of \$2,000 million. The notes bear interest at an annual rate of 4.270%, and have a maturity date of May 15, 2047. Proceeds from the issuance of the notes were \$1,994 million, net of issuance discount. Interest on the notes is scheduled to be paid semiannually on May 15 and November 15 of each year through the maturity date.

In May 2017, the Company completed a tender offer in which it extinguished \$950 million principal of its 6.850% surplus notes issued on December 16, 2009 and due to mature on December 16, 2039. The 2017 interest paid was \$26 million and total interest paid was \$481 million on the tendered notes. The Company paid a premium of \$373 million due to the early redemption of these surplus notes which is reported in net operating expenses.

The following table provides information related to the Company’s outstanding surplus notes as of December 31, 2018 (in millions):

| Date Issued | Interest Rate | Par Value (Face Amount of Notes) | Carrying Value of Note | Interest Paid Year to Date | Principal and/or Interest Paid Inception to Date | Date of Maturity |
|--------------|---------------|--|---------------------------|-------------------------------|---|---------------------|
| 12/16/2009 | 6.850% | \$1,050 | \$1,049 | \$ 72 | \$ 647 | 12/16/2039 |
| 09/18/2014 | 4.900% | 1,650 | 1,649 | 81 | 323 | 09/15/2044 |
| 09/18/2014 | 4.375%* | 350 | 349 | 15 | 61 | 09/15/2054 |
| 05/08/2017 | 4.270% | 2,000 | 1,994 | 85 | 130 | 05/15/2047 |
| Total | | \$5,050 | \$5,041 | \$253 | \$1,161 | |

* The Company will bear interest at a fixed annual rate of 4.375% from and including September 18, 2014 to but excluding September 15, 2024 payable semi-annually in arrears on March 15 and September 15 of each year, commencing March 15, 2015, then at an annual floating rate equal to Three-Month LIBOR plus 2.661% from and including September 15, 2024 to but excluding the date on which the Fixed-to-Floating Rate Notes are paid in full, payable quarterly, in arrears on March 15, June 15, September 15 and December 15 of each year, commencing December 15, 2024.

The instruments listed in the above table, are unsecured debt obligations of the type generally referred to as “surplus notes” and are issued in accordance with Section 1307 of the New York Insurance Law. The surplus

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

notes are subordinated in right of payment to all present and future indebtedness, policy claims and other creditor claims of the Company and rank *pari passu* with any future surplus notes of the Company and with any other similarly subordinated obligations.

The notes were issued in transactions pursuant to Rule 144A under the Securities Act of 1933, as amended, and the notes are evidenced by one or more global notes deposited with a custodian for, and registered in the name of a nominee of, The Depository Trust Company.

No subsidiary or affiliate of the Company is an obligor or guarantor of the notes, which are solely obligations of the Company. No affiliates of the Company hold any portion of the notes.

The notes are unsecured and subordinated to all present and future indebtedness, policy claims and other creditor claims of the Company. Under New York Insurance Law, the notes are not part of the legal liabilities of the Company. The notes are not scheduled to repay any principal prior to maturity. Each payment of interest and principal may be made only with the prior approval of the Superintendent and only out of the Company's surplus funds, which the Superintendent of the Department determines to be available for such payments under New York Insurance Law. In addition, provided that approval is granted by the Superintendent of the Department, the notes may be redeemed at the option of the Company at any time at the "make-whole" redemption price equal to the greater of the principal amount of the notes to be redeemed, or the sum of the present values of the remaining scheduled interest and principal payments, excluding accrued interest as of the redemption date, discounted to the redemption date on a semi-annual basis at the adjusted Treasury rate plus a pre-defined spread, plus in each case, accrued and unpaid interest payments on the notes to be redeemed to the redemption date.

Dividend Restrictions: Under the New York Insurance Law, the Company is permitted without prior insurance regulatory clearance to pay a stockholder dividend as long as the aggregated amount of all such dividends in any calendar year does not exceed the lesser of (i) 10% of its surplus to policyholders as of the immediately preceding calendar year and (ii) its net gain from operations for the immediately preceding calendar year (excluding realized investment gains). The Company has not paid dividends to its shareholder.

Note 22—contingencies and guarantees

SUBSIDIARY AND AFFILIATE GUARANTEES:

At December 31, 2018, the Company has a financial support agreement with TIAA Life. Under this agreement, the Company will provide support so TIAA Life will have the greater of (a) capital and surplus of \$250 million, (b) the amount of capital and surplus necessary to maintain TIAA Life's capital and surplus at a level not less than 150% of the NAIC Risk Based Capital model or (c) such other amount as necessary to maintain TIAA Life's financial strength rating at least the same as the Company's rating at all times. Since this obligation is not subject to limitations, the Company does not believe that it is possible to determine the maximum potential amount that could become due under these guarantees in the future. At December 31, 2018, the capital and surplus of TIAA Life was in excess of the minimum capital and surplus amount referenced, and its total adjusted capital was in excess of the referenced RBC-based amount calculated at December 31, 2018.

The Company has agreed that it will cause TIAA Life, a direct wholly owned subsidiary, to be sufficiently funded at all times in order to meet all its contractual obligations on a timely basis including, but not limited to, obligations to pay policy benefits and to provide policyholder services. This agreement is not an evidence of indebtedness or an obligation or liability of the Company and does not provide any creditor of TIAA Life with recourse to or against any of the assets of the Company.

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The Company has unconditionally guaranteed \$1,000 million in 4.0% senior unsecured notes issued by Nuveen, LLC due in 2028. The Company agrees to cause any such payment to be made punctually when and as the same shall become due and payable, whether at maturity, upon acceleration, redemption, repayment or otherwise, and as if such payment were made by Nuveen, LLC. The guarantee is made to/on behalf of a wholly-owned subsidiary, and as such the liability is excluded from recognition. The maximum potential amount of future payments the Company could be required to make under the guarantee as of December 31, 2018, is \$1,401 million, which includes the future undiscounted interest payments. Should action under the guarantee be required, the Company would contribute cash to Nuveen, LLC, to fund the obligation, thereby increasing the Company's investment in Nuveen, LLC, as reported in other invested assets. Based on Nuveen, LLC's financial position and operations, the Company views the risk of performance under this guarantee as remote.

Additionally, the Company has the following agreements and lines of credit with subsidiaries, affiliates, and other related parties:

Related to the 2014 acquisition of Nuveen Investments, Inc., Nuveen Finance, the Acquirer and an indirectly owned subsidiary of TIAA, recorded contingent purchase related liabilities which were payable based upon contractual terms during 2017 and 2018. The Company had agreed to fund these obligations in the event required payments to Windy City Investments Holdings, L.L.C. ("WCLLC"), the seller of Nuveen Investments, are not made by Nuveen Finance. Nuveen Finance paid \$112 million and \$169 million of the liability during 2018 and 2017, resulting in no remaining liability as of December 31, 2018. The \$112 million payment was related to an earn-out which had the potential to be up to \$278 million, pursuant to the terms of the Purchase and Sale Agreement, as amended. Subsequent to the earn-out payment, WCLLC filed a complaint in the Court of Chancery of the State of Delaware that generally alleges, among other things, that Nuveen, LLC improperly calculated the earn-out amount. Nuveen, LLC intends to defend against this lawsuit vigorously, but is unable to predict the outcome of this lawsuit or reasonably estimate a range of possible loss.

The Company provides a \$100 million unsecured 364-day revolving line of credit arrangement with TIAA-CREF Life. \$30 million of this facility is maintained on a committed basis with an expiration date of July 8, 2019. As of December 31, 2018, there were no balances outstanding.

The Company also provides a \$1,000 million uncommitted line of credit to certain accounts of CREF and certain TIAA-CREF Funds ("Funds"). Loans under this revolving credit facility are for a maximum of 60 days and are made solely at the discretion of the Company to fund shareholder redemption requests or other temporary or emergency needs of CREF and the Funds. As of December 31, 2018, there were no balances outstanding. It is the intent of the Company, CREF and the Funds to use this facility as a supplemental liquidity facility, which would only be used after CREF and the Funds have exhausted the availability of the current \$1,250 million committed credit facility maintained with a group of banks.

The Company guarantees CREF transfers to the Company for the immediate purchase of lifetime payout annuities will produce guaranteed payments that will never be less than the amounts calculated at the stipulated interest rate and mortality defined in the applicable CREF contract.

The Company also provides a \$300 million unsecured and uncommitted 364-day revolving line of credit arrangement with TIAA, FSB. This line has an expiration date of September 11, 2019. As of December 31, 2018, there were no balances outstanding.

The Company also provides a \$100 million committed 364-day revolving line of credit arrangement with Nuveen, LLC. This line has an expiration date of December 29, 2019. As of December 31, 2018, there were no balances outstanding.

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NOTES TO STATUTORY-BASIS FINANCIAL STATEMENTS – (continued)

The Company also provides a \$23 million committed line of credit to TIAA Charitable Inc. This line has an expiration date of June 28, 2047. As of December 31, 2018, there was an outstanding balance of \$15 million.

Separate Account Guarantees: The Company provides mortality and expense guarantees to VA-1, for which it is compensated. The Company guarantees, at death, the total death benefit payable from the fixed and variable accounts will be at least a return of total premiums paid less any previous withdrawals. The Company also guarantees expense charges to VA-1 participants will never rise above the maximum amount stipulated in the contract.

The Company provides mortality, expense and liquidity guarantees to REA and is compensated for these guarantees. The Company guarantees once REA participants begin receiving lifetime annuity income benefits, monthly payments will never be reduced as a result of adverse mortality experience. The Company also guarantees expense charges to REA participants will never rise above the maximum amount stipulated in the contract. The Company provides REA with a liquidity guarantee to ensure it has funds available to meet participant transfer or cash withdrawal requests. If REA cannot fund participant requests, TIAA's general account will fund them by purchasing accumulation units. Under this agreement, TIAA guarantees that participants will be able to redeem their accumulation units at the accumulation unit value next determined after the transfer or withdrawal request is received in good order.

As of December 31, 2018, there are no outstanding liquidity units under the liquidity guarantee provided to REA by the Company.

The Company provides mortality and expense guarantees to VA-3 and is compensated for these guarantees. The Company guarantees once VA-3 participants begin receiving lifetime annuity income benefits, monthly payments will never be reduced as a result of adverse mortality experience. The Company also guarantees expense charges to VA-3 participants will never rise above the maximum amount stipulated in the contract.

OTHER CONTINGENCIES:

In the ordinary conduct of certain of its investment activities, the Company provides standard indemnities covering a variety of potential exposures. For instance, the Company provides indemnifications in connection with site access agreements relating to due diligence review for real estate acquisitions, and the Company provides indemnification to underwriters in connection with the issuance of securities by or on behalf of the Company or its subsidiaries. It is the Company management's opinion that the fair value of such indemnifications are negligible and do not materially affect the Company's financial position, results of operations or liquidity.

Other contingent liabilities arising from litigation and other matters over and above amounts already provided for in the financial statements or disclosed elsewhere in these notes are not considered material in relation to the Company's financial position or the results of its operations.

The Company receives and responds to subpoenas or other inquiries from state and federal regulators, including state insurance commissioners; state attorneys general and other state governmental authorities; the SEC; federal governmental authorities; and the Financial Industry Regulatory Authority ("FINRA"), seeking a broad range of information. The Company cooperates in connection with these inquiries and believes the ultimate liability that could result from litigation and proceedings would not have a material adverse effect on the Company's financial position.

Note 23—subsequent events

In preparing these financial statements, the Company has evaluated events and transactions for potential recognition or disclosure through March 14, 2019, the date the financial statements were available to be issued.

How to reach us

TIAA-CREF website

Account performance, personal account information and transactions, product descriptions, and information about investment choices and income options

www.tiaa.org

24 hours a day, 7 days a week

Administrative Office

877 694-0305

8:00 a.m. to 6:00 p.m. ET Monday-Friday



