

STATEMENT OF ADDITIONAL INFORMATION
FOR
CORNERSTONE VUL IV and DIVERSIFIED GROWTH VUL
each a flexible premium adjustable variable life insurance policy issued by
THE PENN MUTUAL LIFE INSURANCE COMPANY
and funded through
PENN MUTUAL VARIABLE LIFE ACCOUNT I
The Penn Mutual Life Insurance Company
PO Box 178, Philadelphia, PA 19105
800-523-0650

May 1, 2019

This Statement of Additional Information is not a prospectus. It should be read in conjunction with our Cornerstone VUL IV and Diversified Growth VUL prospectuses dated May 1, 2019. A copy of the prospectus for each Policy is available, without charge, by writing to The Penn Mutual Life Insurance Company, Customer Service Group — C3P, PO Box 178, Philadelphia, PA, 19105. Or, you may call, toll free, 1-800-523-0650.

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FEDERAL INCOME TAX CONSIDERATIONS

The following summary provides a general description of the federal income tax considerations associated with each Policy and does not purport to be complete or to cover all situations. This discussion is not intended as tax advice. Counsel or other competent tax advisers should be consulted for more complete information. This discussion is based on Penn Mutual's understanding of the present federal income tax laws as they are currently interpreted by the Internal Revenue Service (the "IRS"). No representation is made as to the likelihood of continuation of the present Federal income tax laws or of the current interpretations by the IRS.

Tax Status of Each Policy

To qualify as a life insurance contract for federal income tax purposes, a Policy must meet the definition of a life insurance contract which is set forth in Section 7702 of the Internal Revenue Code of 1986, as amended (the "Code"). Section 7702 was amended as a result of U.S. federal tax legislation that was enacted on December 22, 2017. It does not appear that these changes will materially change the definition of life insurance contracts; however, certain aspects of the legislation are currently uncertain and future administrative guidance or legislation may result in additional changes. The manner in which Section 7702 should be applied to certain features of a Policy offered in its prospectus is not directly addressed by Section 7702 or any guidance issued to date under Section 7702. Nevertheless, Penn Mutual believes it is reasonable to conclude that a Policy will meet the Section 7702 definition of a life insurance contract. In the absence of final regulations or other pertinent interpretations of Section 7702, however, there is necessarily some uncertainty as to whether a Policy will meet the statutory life insurance contract definition, particularly if it insures a substandard risk. If a Policy were determined not to be a life insurance contract for purposes of Section 7702, such contract would not provide most of the tax advantages normally provided by a life insurance contract.

If it is subsequently determined that a Policy does not satisfy Section 7702, we may take whatever steps are appropriate and reasonable to comply with Section 7702. For these reasons, we reserve the right to restrict policy transactions as necessary to attempt to qualify it as a life insurance contract under Section 7702.

Section 817(h) of the Code requires that the investments of each subaccount of the Separate Account must be "adequately diversified" in accordance with Treasury regulations in order for a Policy to qualify as a life insurance contract under Section 7702 of the Code (discussed above). The funds in which each subaccount of the Separate Account may invest are owned exclusively by the Separate Account and certain other qualified investors. As a result, the Separate Account expects to be able to look through to the funds' investments in order to establish that each subaccount is "adequately diversified". It is expected that each underlying fund will comply with the diversification requirement applicable to the subaccounts as though the requirement applied to that underlying fund. Penn Mutual believes that each Separate Account will meet the diversification requirement, and Penn Mutual will monitor continued compliance with this requirement.

The IRS has stated in published rulings that a variable contract owner will be considered the owner of the related separate account assets if the contract owner possesses incidents of ownership in those assets, such as the ability to exercise investment control over the assets. In circumstances where the variable contract owner is considered the owner of separate account assets, income and gain from the assets would be includable in the variable contract owner's gross income. The Treasury Department has indicated that in regulations or revenue rulings under Section 817(d), (relating to the definition of a variable contract), it will provide guidance on the extent to which contract owners may direct their investments to particular subaccounts without being treated as owners of the underlying shares. The Internal Revenue Service ("IRS") has issued Revenue Ruling 2003-91 in which it ruled that the ability to choose among as many as 20 subaccounts and make not more than one transfer per 30-day period without charge did not result in the owner of a policy being treated as the owner of the assets in the subaccount under the investment control doctrine.

The ownership rights under the Policies are similar to, but different in certain respects from, those described by the IRS in Revenue Ruling 2003-91 and other rulings in which it was determined that policy owners were not owners of the subaccount assets. Although we do not believe this to be the case, these differences could result in Policy owners being treated as the owners of the assets of the subaccounts under the Policies. We, therefore, reserve the right to modify the Policies as necessary to attempt to prevent the owners of the Policies from being considered the owners of a pro rata share of the assets of the subaccounts under the Policies. In addition, it is possible that if regulations or additional rulings are issued, the contracts may need to be modified to comply with them.

Tax Qualification

For a Cornerstone VUL IV or Diversified Growth VUL policy to be treated as a life insurance contract under the Internal Revenue Code, it must pass one of two tests — a cash value accumulation test or a guideline premium/cash value corridor test. At the time of issuance of a Policy, you choose which test you want to be applied. It may not thereafter be changed. If you do not choose the test to be applied to your Policy, the Guideline Premium/Cash Value Corridor Test will be applied.

- **Cash Value Accumulation Test** — Under the terms of a Policy, the policy value may not at any time exceed the net single premium cost (at any such time) for the benefits promised under the Policy.
- **Guideline Premium/Cash Value Corridor Test** — A Policy must at all times satisfy a guideline premium requirement *and* a cash value corridor requirement. Under the *guideline premium requirement*, the sum of the premiums paid under the Policy may not at any time exceed the greater of the guideline single premium or the sum of the guideline level premiums, for the benefits promised under a Policy. Under the *cash value corridor* requirement, the death benefit at any time must be equal to or greater than the applicable percentage of policy value specified in the Internal Revenue Code.

The Cash Value Accumulation Test does not limit the amount of premiums that may be paid under a Policy. If you desire to pay premiums in excess of those permitted under the Guideline Premium/Cash Value Corridor Test, you should consider electing to have your Policy qualify under the Cash Value Accumulation Test. However, any premium that would increase the net amount at risk is subject to evidence of insurability satisfactory to us. Required increases in the minimum death benefit due to growth in the policy value will generally be greater under the Cash Value Accumulation Test than under the Guideline Premium/Cash Value Corridor Test.

The Guideline Premium/Cash Value Corridor Test limits the amount of premium that may be paid under a Policy. If you do not desire to pay premiums in excess of those permitted under Guideline Premium/Cash Value Corridor Test limitations, you should consider electing to have your Policy qualify under the Guideline Premium/Cash Value Corridor Test.

The following discussion assumes that a Policy qualifies as a life insurance contract for federal income tax purposes.

We believe that the proceeds and cash value increases of a Policy should be treated in a manner consistent with a fixed-benefit life insurance policy for federal income tax purposes. Thus, the death benefit under a Policy should be excludable from the gross income of the beneficiary under Section 101(a)(1) of the Code.

Modified Endowment Contracts

The Internal Revenue Code establishes a class of life insurance contracts designated as “modified endowment contracts,” which applies to Policies entered into or materially changed after June 20, 1988.

Due to a Policy's flexibility, classification as a modified endowment contract will depend on the individual circumstances of each Policy. In general, a Policy will be a modified endowment contract if the accumulated premiums paid at any time during the first seven policy years exceeds the sum of the net level premiums which would have been paid on or before such time if a Policy provided for paid-up future benefits after the payment of seven level annual premiums. The determination of whether a Policy will be a modified endowment contract after a material change generally depends upon the relationship of the death benefit and policy value at the time of such change and the additional premiums paid in the seven years following the material change. At the time a premium is credited which would cause a Policy to become a modified endowment contract, we will notify you that unless a refund of the excess premium (with interest) is requested, your Policy will become a modified endowment contract. You will have 30 days after receiving such notification to request the refund.

All Policies that we or our affiliate issue to the same owner during any calendar year, which are treated as modified endowment contracts, are treated as one modified endowment contract for purposes of determining the amount includable in gross income under Section 72(e) of the Code.

The rules relating to whether a Policy will be treated as a modified endowment contract are complex and make it impracticable to adequately describe in the limited confines of this summary. Therefore, you should consult with a competent adviser to determine whether a policy transaction will cause a Policy to be treated as a modified endowment contract.

Distributions from Policies Classified as Modified Endowment Contracts

Policies classified as a modified endowment contract will be subject to the following tax rules. First, all distributions, including distributions upon surrender and partial withdrawals from such a Policy are treated as ordinary income subject to tax up to the amount equal to the excess (if any) of the policy value immediately before the distribution over the investment in the Policy (described below) at such time. Second, loans taken from, or secured by, such a Policy are treated as distributions from such a Policy and taxed accordingly. Past due loan interest that is added to the loan amount will be treated as a loan. Third, a 10 percent additional income tax is imposed on the portion of any distribution from, or loan taken from or secured by, such a Policy that is included in income except where the distribution or loan is made on or after the owner attains age 59^{1/2}, is attributable to the owner becoming disabled (as determined under the Code), or is part of a series of substantially equal periodic payments for the life (or life expectancy) of the owner or the joint lives (or joint life expectancies) of the owner and the owner's beneficiary.

Distributions from Policies Not Classified as Modified Endowment Contracts

Distributions from a Policy that is not classified as a modified endowment contract, are generally treated as first recovering the investment in the Policy (described below) and then, only after the return of all such investment in the Policy, as distributions of taxable income. Amounts borrowed under the Policy also are not generally subject to federal income tax at the time of the borrowing. An exception to this general rule occurs in the case of a decrease in a Policy's death benefit or any other change that reduces benefits under the Policy in the first 15 years after the Policy is issued and that results in a cash distribution to the owner in order for the Policy to continue complying with the Section 7702 definitional limits. The application of these rules may vary depending on whether the change occurs in the first five years after the Policy is issued. Such a cash distribution may be taxed in whole or in part as ordinary income (to the extent of any gain in a Policy) under rules prescribed in Section 7702.

Finally, neither distributions (including distributions upon surrender) nor loans from, or secured by, a Policy that is not classified as a modified endowment contract are subject to the 10 percent additional tax.

Policy Loan Interest

Generally, personal interest paid on a loan under a Policy which is owned by an individual is not deductible. In addition, interest on any loan under a Policy owned by a taxpayer and covering the life of any

individual will generally not be tax deductible. The deduction of interest on policy loans may also be subject to the restrictions of Section 264 of the Code. An owner should consult a competent tax adviser before deducting any interest paid in respect of a policy loan.

Investment in a Policy

Investment in a Policy means: (i) the aggregate amount of any premiums or other consideration paid for a Policy, minus (ii) the aggregate amount received under the Policy which is excluded from gross income of the owner (except that the amount of any loan from, or secured by, a Policy that is a modified endowment contract, to the extent such amount is excluded from gross income, will be disregarded), plus (iii) the amount of any loan from, or secured by, a Policy that is a modified endowment contract to the extent that such amount is included in the gross income of the owner.

Tax Consequences of the Guaranteed Option to Extend Maturity Date

The Guaranteed Option to Extend Maturity Date that we offer allows the policy owner to extend the original maturity date by 20 years. An extension of maturity could have adverse tax consequences. Before you exercise your rights under this option, you should consult with a competent tax adviser regarding the possible tax consequences of an extension of maturity.

Tax Consequences of the Guaranteed Withdrawal Benefit Agreement

The determination of whether your Policy will be treated as a life insurance contract for federal income tax purposes under either the Cash Value Accumulation Test or the Guideline Premium/Cash Value Corridor Test depends upon your Policy's cash value (or alternatively, cash surrender value). Similarly, the determination of the extent to which a distribution from a Policy that is treated as a modified endowment contract is taxable will depend upon the determination of the Policy's cash value.

There are no definitions for the terms "cash value" or "cash surrender value" in the Code and the other available authorities do not provide certainty in this area. If you add the Guaranteed Withdrawal Benefit Agreement to your base Policy, we intend to calculate the cash value (or cash surrender value) of your Policy without reflecting any additional amounts as a result of adding this rider to your base Policy. There is no published guidance from the IRS on this position. If future applicable authorities clarify that a position other than the one we have taken is applicable, then some policy owners who have added Guaranteed Withdrawal Benefit Agreements to their Policies may experience an increase in the taxable portion of certain distributions from such Policies. In addition, in the event of such a clarification, we will follow our normal procedures for keeping policies in compliance with Section 7702 (including increasing the face amount of the insurance under your base Policy to ensure that your base Policy continues to qualify as insurance under the Code). In addition, if there are remaining guaranteed withdrawal payments at the time when the Policy lapses, we will treat distributions of the remaining Benefit Base as taxable income. You are encouraged to consult your own tax adviser prior to adding a Guaranteed Withdrawal Benefit Agreement to your Policy.

Disposition of the Policy

The disposition of your Policy will likely have federal income tax consequences. The amount and character of any gain or income recognized in connection with a disposition may vary, depending on the nature of the disposition, your investment in the contract, premiums paid, and other factors. You should consult your tax adviser prior to any disposition.

Certain Information Reporting

As a result of U.S. federal tax legislation that was enacted on December 22, 2017, new Code section 6050Y creates a new information reporting requirement for certain life insurance policy transactions. A return must be filed by every person who acquires a life insurance contract or any interest in a life insurance contract in a reportable policy sale. A reportable policy sale is generally the acquisition of an interest in a life insurance

contract, directly or indirectly, if the acquirer has no substantial family, business, or financial relationship with the insured. The buyer must file the return required under Section 6050Y with the IRS and furnish copies of the return to the insurance company that issued the contract and the seller. The Internal Revenue Service has provided guidance to ensure efficient administration of new Code section 6050Y. Under this guidance, reporting will not be required until final regulations are issued. For reportable policy sales and payments of reportable death benefits occurring after December 31, 2017, and before the date final regulations are published in the Federal Register, Treasury and the Internal Revenue Service intend to allow additional time after the date final regulations are published to file the returns and furnish the written statements required by section 6050Y.

Other Tax Considerations

The transfer of a Policy or the designation of a beneficiary may have federal, state, and/or local transfer and inheritance tax consequences, including the imposition of gift, estate and generation-skipping transfer taxes. For example, the transfer of a Policy to, or the designation as beneficiary of, or the payment of proceeds to, a person who is assigned to a generation which is two or more generations below the generation of the owner, may have generation skipping transfer tax considerations under Section 2601 of the Code.

A 3.8% Medicare contribution tax generally applies to all or a portion of the net investment income of a taxpayer who is an individual and not a nonresident alien for federal income tax purposes and who has adjusted gross income (subject to certain adjustments) that exceeds a threshold amount (\$250,000 if married filing jointly or if considered a “surviving spouse” for federal income tax purposes, \$125,000 if married filing separately, and \$200,000 in other cases). For these purposes, amounts received under annuities or life insurance contracts that are includable in gross income are generally considered net investment income.

The individual situation of each owner or beneficiary will determine the extent, if any, to which federal, state and local transfer taxes may be imposed. Consult with your tax adviser for specific information in connection with these taxes.

The foregoing is a summary of the federal income (and, where noted, non-income) tax considerations associated with the Policy and does not purport to cover all possible situations. The summary is based on our understanding of the present federal income tax laws as they are currently interpreted by the Internal Revenue Service IRS. The summary is not intended as tax advice. No representation is made as to the likelihood of continuation of the present federal income tax laws or of the current interpretations by the IRS.

SALE OF THE POLICIES

Honor, Townsend & Kent, LLC (“HTK”), a wholly-owned subsidiary of Penn Mutual, acts as a principal underwriter of the Policies on a continuous basis. HTK, located at 600 Dresher Road, Horsham, Pennsylvania 19044, was organized as a Pennsylvania corporation on March 13, 1969. The offering is on a continuous basis. HTK also acts as principal underwriter for Penn Mutual Variable Annuity Account III, a separate account also established by Penn Mutual and for PIA Variable Annuity Account I, a separate account established by The Penn Insurance and Annuity Company, a wholly-owned subsidiary of Penn Mutual. HTK is a registered broker-dealer under the Securities Exchange Act of 1934 and a member of the Financial Industry Regulatory Authority.

With respect to Cornerstone VUL IV Policies, Penn Mutual compensated HTK in the approximate amounts of \$12,011, \$568 and \$520 for the years ending December 31, 2016, 2017 and 2018, respectively, for its services as principal underwriter.

With respect to Diversified Growth VUL Policies, Penn Mutual compensated HTK in the approximate amounts of \$44,736, \$3,120 and \$5,222 for the years ending December 31, 2016, 2017 and 2018, respectively, for its services as principal underwriter.

PERFORMANCE INFORMATION

We provide performance information for the investment funds offered as investment options under a Policy. The performance information for the funds does not reflect expenses that apply to the Separate Account or the Policies. Inclusion of these charges would reduce the performance information.

EXPERTS

The financial statements of the Company as of December 31, 2018 and 2017 and for each of the two years in the period ended December 31, 2018, and the financial statements and financial highlights of the Separate Account of the Company as of December 31, 2018 and for the periods indicated, included in this Statement of Additional Information constituting part of this Registration Statement, have been so included in reliance on the reports of PricewaterhouseCoopers LLP, independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

FINANCIAL STATEMENTS

The financial statements of the Separate Account and the consolidated financial statements of Penn Mutual appear on the following pages. The consolidated financial statements of Penn Mutual should be distinguished from any financial statements of the Separate Account and should be considered only as bearing upon Penn Mutual's ability to meet its obligations under the Policies.



The Penn Mutual Life Insurance Company
Variable Life Account I

Audited Financial Statements
as of December 31, 2018
and for the periods presented



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Report of Independent Registered Public Accounting Firm

To the Board of Trustees of The Penn Mutual Life Insurance Company
and Contract Owners of Penn Mutual Variable Life Account I

Opinions on the Financial Statements

We have audited the accompanying statements of assets and liabilities of Money Market Fund, Limited Maturity Bond Fund, Quality Bond Fund, High Yield Bond Fund, Flexibly Managed Fund, Balanced Fund, Large Growth Stock Fund, Large Cap Growth Fund, Large Core Growth Fund, Large Cap Value Fund, Large Core Value Fund, Index 500 Fund, Mid Cap Growth Fund, Mid Cap Value Fund, Mid Core Value Fund, SMID Cap Growth Fund, SMID Cap Value Fund, Small Cap Growth Fund, Small Cap Value Fund, Small Cap Index Fund, Developed International Index Fund, International Equity Fund, Emerging Markets Equity Fund, Real Estate Securities Fund, Aggressive Allocation Fund, Moderately Aggressive Allocation Fund, Moderate Allocation Fund, Moderately Conservative Allocation Fund, and Conservative Allocation Fund (constituting Penn Mutual Variable Life Account I, hereafter collectively referred to as the "Subaccounts") as of December 31, 2018, the related statements of operations for the year ended December 31, 2018, the statements of changes in net assets for each of the two years in the period ended December 31, 2018, including the related notes, and the financial highlights for each of the five years in the period ended December 31, 2018 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of each of the Subaccounts as of December 31, 2018, the results of each of their operations for the year then ended, the changes in each of their net assets for each of the two years in the period ended December 31, 2018 and each of the financial highlights for each of the five years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinions

These financial statements are the responsibility of the Subaccounts' management. Our responsibility is to express an opinion on the Subaccounts' financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Subaccounts in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our procedures included confirmation of securities owned as of December 31, 2018 by correspondence with the transfer agents. We believe that our audits provide a reasonable basis for our opinions.

PricewaterhouseCoopers LLP

Philadelphia,
April 9th, 2019

Pennsylvania

We have served as the auditor of one or more of the Subaccounts in Penn Mutual Variable Life Account I since 2004.

PENN MUTUAL VARIABLE LIFE ACCOUNT I
STATEMENTS OF ASSETS AND LIABILITIES — DECEMBER 31, 2018

	<u>Money Market Fund</u>	<u>Limited Maturity Bond Fund</u>	<u>Quality Bond Fund</u>	<u>High Yield Bond Fund</u>	<u>Flexibly Managed Fund</u>
Assets:					
Investments at fair value	\$17,963,708	\$8,466,122	\$26,574,912	\$16,868,654	\$266,325,180
Dividends receivable	25,356	—	—	—	—
Receivable for securities sold	—	350,590	1,191,198	339,228	957,181
Liabilities:					
Due to The Penn Mutual Life Insurance Company	\$ —	\$ —	\$ —	\$ —	\$ —
Payable for securities purchased	622,496	—	—	—	—
Total Net Assets	<u><u>\$17,366,568</u></u>	<u><u>\$8,816,712</u></u>	<u><u>\$27,766,110</u></u>	<u><u>\$17,207,882</u></u>	<u><u>\$267,282,361</u></u>
TOTAL NET ASSETS REPRESENTED BY:					
Net Assets of Contract owners:					
Cornerstone VUL	\$ 653,374	\$ 369,623	\$ 1,459,851	\$ 1,515,490	\$ 25,962,046
Cornerstone VUL II/Variable Estate Max/Variable Estate Max II	3,590,729	2,465,925	6,523,975	4,460,906	63,829,005
Cornerstone VUL III	2,074,448	608,601	1,739,175	1,154,286	17,986,404
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/ Survivorship Growth VUL	11,048,017	5,372,563	18,043,109	9,498,842	158,330,733
Momentum Builder	—	—	—	578,358	1,174,173
Total Net Assets	<u><u>\$17,366,568</u></u>	<u><u>\$8,816,712</u></u>	<u><u>\$27,766,110</u></u>	<u><u>\$17,207,882</u></u>	<u><u>\$267,282,361</u></u>
Accumulation of Unit Values:					
Cornerstone VUL	<u>\$ 14.89</u>	<u>\$ 19.44</u>	<u>\$ 30.11</u>	<u>\$ 46.59</u>	<u>\$ 112.30</u>
Cornerstone VUL II/Variable Estate Max/Variable Estate Max II	<u>\$ 13.80</u>	<u>\$ 18.15</u>	<u>\$ 27.91</u>	<u>\$ 41.94</u>	<u>\$ 90.24</u>
Cornerstone VUL III	<u>\$ 12.51</u>	<u>\$ 16.21</u>	<u>\$ 22.46</u>	<u>\$ 30.19</u>	<u>\$ 57.34</u>
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/ Survivorship Growth VUL	<u>\$ 12.46</u>	<u>\$ 15.93</u>	<u>\$ 21.13</u>	<u>\$ 32.22</u>	<u>\$ 50.58</u>
Momentum Builder	<u>\$ 20.83</u>	<u>\$ —</u>	<u>\$ 52.56</u>	<u>\$ 82.08</u>	<u>\$ 213.37</u>
Number of Shares	17,366,568	719,145	1,894,005	1,336,016	5,085,281
Cost of Investments	\$17,366,568	\$8,413,031	\$25,417,421	\$14,078,858	\$141,501,588

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I
STATEMENTS OF ASSETS AND LIABILITIES — DECEMBER 31, 2018
(continued)

	<u>Balanced Fund</u>	<u>Large Growth Stock Fund</u>	<u>Large Cap Growth Fund</u>	<u>Large Core Growth Fund</u>	<u>Large Cap Value Fund</u>
Assets:					
Investments at fair value	\$20,373,624	\$44,445,287	\$8,731,550	\$51,653,107	\$38,452,381
Dividends receivable	—	—	—	—	—
Receivable for securities sold	78,644	—	8,371	—	—
Liabilities:					
Due to The Penn Mutual Life Insurance Company	\$ —	\$ —	\$ —	\$ —	\$ —
Payable for securities purchased	—	316,420	—	145,588	94,090
Total Net Assets	<u>\$20,452,268</u>	<u>\$44,128,867</u>	<u>\$8,739,921</u>	<u>\$51,507,519</u>	<u>\$38,358,291</u>
TOTAL NET ASSETS REPRESENTED BY:					
Net Assets of Contract owners:					
Cornerstone VUL	\$ 1,315,670	\$ 4,425,385	\$ 135,820	\$ 3,452,362	\$ 4,427,687
Cornerstone VUL II/Variable Estate Max/Variable Estate Max II	7,926,047	12,338,251	831,352	24,021,558	16,157,491
Cornerstone VUL III	2,869,608	6,407,816	542,487	9,679,384	3,437,586
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/Survivorship Growth VUL	8,340,943	20,693,697	7,230,262	14,354,215	14,317,345
Momentum Builder	—	263,718	—	—	18,182
Total Net Assets	<u>\$20,452,268</u>	<u>\$44,128,867</u>	<u>\$8,739,921</u>	<u>\$51,507,519</u>	<u>\$38,358,291</u>
Accumulation of Unit Values:					
Cornerstone VUL	\$ 18.81	\$ 48.05	\$ 18.66	\$ 20.79	\$ 54.81
Cornerstone VUL II/Variable Estate Max/Variable Estate Max II	\$ 18.82	\$ 41.07	\$ 18.49	\$ 20.81	\$ 44.38
Cornerstone VUL III	\$ 19.41	\$ 15.99	\$ 19.62	\$ 21.45	\$ 22.06
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/Survivorship Growth VUL	\$ 20.33	\$ 24.93	\$ 21.14	\$ 22.47	\$ 24.31
Momentum Builder	\$ —	\$ 67.01	\$ —	\$ —	\$ 92.06
Number of Shares	1,047,223	1,104,602	488,264	2,298,417	1,462,940
Cost of Investments	\$13,038,293	\$25,070,252	\$6,002,454	\$24,294,433	\$24,343,059

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I
STATEMENTS OF ASSETS AND LIABILITIES — DECEMBER 31, 2018
(continued)

	Large Core Value Fund	Index 500 Fund	Mid Cap Growth Fund	Mid Cap Value Fund	Mid Core Value Fund
Assets:					
Investments at fair value	\$31,859,287	\$87,086,655	\$26,451,358	\$27,922,897	\$8,733,840
Dividends receivable	—	—	—	—	—
Receivable for securities sold	—	—	—	—	—
Liabilities:					
Due to The Penn Mutual Life Insurance Company	—	—	—	—	—
Payable for securities purchased	266,043	555,385	352,326	410,450	96,254
Total Net Assets	<u>\$31,593,244</u>	<u>\$86,531,270</u>	<u>\$26,099,032</u>	<u>\$27,512,447</u>	<u>\$8,637,586</u>
TOTAL NET ASSETS REPRESENTED BY:					
Net Assets of Contract owners:					
Cornerstone VUL	\$ 1,597,127	\$ 2,920,691	\$ 1,872,985	\$ 1,133,583	\$ 247,669
Cornerstone VUL II/Variable Estate Max/Variable Estate Max II	12,815,411	27,692,455	6,721,241	9,776,246	1,521,122
Cornerstone VUL III	3,482,958	11,504,881	3,634,079	3,000,286	1,255,708
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/ Survivorship Growth VUL	13,697,748	44,413,243	13,870,727	13,602,332	5,613,087
Momentum Builder	—	—	—	—	—
Total Net Assets	<u>\$31,593,244</u>	<u>\$86,531,270</u>	<u>\$26,099,032</u>	<u>\$27,512,447</u>	<u>\$8,637,586</u>
Accumulation of Unit Values:					
Cornerstone VUL	\$ 16.28	\$ 38.14	\$ 36.65	\$ 48.64	\$ 27.09
Cornerstone VUL II/Variable Estate Max/Variable Estate Max II	\$ 16.28	\$ 37.52	\$ 30.37	\$ 47.85	\$ 26.85
Cornerstone VUL III	\$ 16.79	\$ 22.54	\$ 17.40	\$ 34.85	\$ 28.48
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/Survivorship Growth VUL	\$ 17.59	\$ 29.29	\$ 29.47	\$ 36.18	\$ 30.70
Momentum Builder	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Shares	1,814,661	4,154,166	1,372,911	1,217,365	412,886
Cost of Investments	\$20,588,030	\$48,299,650	\$15,915,683	\$18,438,058	\$7,371,602

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I
STATEMENTS OF ASSETS AND LIABILITIES — DECEMBER 31, 2018
(continued)

	SMID Cap Growth Fund	SMID Cap Value Fund	Small Cap Growth Fund	Small Cap Value Fund	Small Cap Index Fund
Assets:					
Investments at fair value	\$2,899,432	\$2,912,130	\$26,516,508	\$44,131,373	\$2,569,721
Dividends receivable	—	—	—	—	—
Receivable for securities sold	—	—	—	—	—
Liabilities:					
Due to The Penn Mutual Life Insurance Company	—	—	—	—	—
Payable for securities purchased	34,269	41,725	462,675	657,946	24,497
Total Net Assets	\$2,865,163	\$2,870,405	\$26,053,833	\$43,473,427	\$2,545,224
TOTAL NET ASSETS REPRESENTED BY:					
Net Assets of Contract owners:					
Cornerstone VUL	\$ 68,565	\$ 107,645	\$ 1,053,118	\$ 2,375,329	\$ 45,609
Cornerstone VUL II/Variable Estate Max/ Variable Estate Max II	262,490	521,806	8,299,031	13,223,161	410,356
Cornerstone VUL III	391,770	241,907	6,439,401	5,338,381	103,380
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/Survivorship Growth VUL	2,142,338	1,999,047	10,262,283	22,536,556	1,985,879
Momentum Builder	—	—	—	—	—
Total Net Assets	\$2,865,163	\$2,870,405	\$26,053,833	\$43,473,427	\$2,545,224
Accumulation of Unit Values:					
Cornerstone VUL	\$ 23.07	\$ 22.02	\$ 49.78	\$ 74.29	\$ 18.86
Cornerstone VUL II/Variable Estate Max/ Variable Estate Max II	\$ 23.08	\$ 22.03	\$ 48.97	\$ 72.87	\$ 18.88
Cornerstone VUL III	\$ 23.79	\$ 22.71	\$ 16.96	\$ 50.34	\$ 19.46
Cornerstone VUL IV/Variable Estate Max III/ Diversified Growth VUL/Survivorship Growth VUL	\$ 24.93	\$ 23.80	\$ 19.98	\$ 49.82	\$ 20.39
Momentum Builder	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Shares	114,928	121,268	704,158	1,360,245	125,628
Cost of Investments	\$2,603,263	\$2,874,125	\$16,521,035	\$26,281,394	\$2,556,202

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I
STATEMENTS OF ASSETS AND LIABILITIES — DECEMBER 31, 2018
(continued)

	Developed International Index Fund	International Equity Fund	Emerging Markets Equity Fund	Real Estate Securities Fund	Aggressive Allocation Fund
Assets:					
Investments at fair value	\$3,040,229	\$54,468,627	\$16,811,784	\$15,206,498	\$2,541,475
Dividends receivable	—	—	—	—	—
Receivable for securities sold	—	—	273,686	230,436	1,864
Liabilities:					
Due to The Penn Mutual Life Insurance Company	—	—	—	—	—
Payable for securities purchased	17,826	2,700	—	—	—
Total Net Assets	<u>\$3,022,403</u>	<u>\$54,465,927</u>	<u>\$17,085,470</u>	<u>\$15,436,934</u>	<u>\$2,543,339</u>
TOTAL NET ASSETS REPRESENTED BY:					
Net Assets of Contract owners:					
Cornerstone VUL	\$ 94,186	\$ 4,082,659	\$ 427,421	\$ 270,822	\$ 26,750
Cornerstone VUL II/Variable Estate Max/Variable Estate Max II	734,356	15,815,542	4,504,947	2,722,440	297,967
Cornerstone VUL III	212,570	5,999,407	2,102,290	1,505,512	74,201
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/Survivorship Growth VUL	1,981,291	28,568,319	10,050,812	10,938,160	2,144,421
Momentum Builder	—	—	—	—	—
Total Net Assets	<u>\$3,022,403</u>	<u>\$54,465,927</u>	<u>\$17,085,470</u>	<u>\$15,436,934</u>	<u>\$2,543,339</u>
Accumulation of Unit Values:					
Cornerstone VUL	\$ 11.36	\$ 48.62	\$ 10.58	\$ 33.64	\$ 16.33
Cornerstone VUL II/Variable Estate Max/Variable Estate Max II	\$ 11.36	\$ 41.68	\$ 10.59	\$ 33.35	\$ 16.34
Cornerstone VUL III	\$ 11.71	\$ 24.37	\$ 10.92	\$ 35.37	\$ 16.85
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/Survivorship Growth VUL	\$ 12.27	\$ 30.29	\$ 11.44	\$ 38.13	\$ 17.65
Momentum Builder	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Shares	247,332	2,054,543	1,500,041	750,459	146,421
Cost of Investments	\$3,084,953	\$41,920,676	\$16,646,803	\$12,524,105	\$2,356,005

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I
STATEMENTS OF ASSETS AND LIABILITIES — DECEMBER 31, 2018
(continued)

	Moderately Aggressive Allocation Fund	Moderate Allocation Fund	Moderately Conservative Allocation Fund	Conservative Allocation Fund
Assets:				
Investments at fair value	\$10,117,734	\$13,339,676	\$3,154,888	\$3,698,979
Dividends receivable	—	—	—	—
Receivable for securities sold	—	2,472	1,090	12,229
Liabilities:				
Due to The Penn Mutual Life Insurance Company	—	—	—	—
Payable for securities purchased	18,999	—	—	—
Total Net Assets	<u>\$10,098,735</u>	<u>\$13,342,148</u>	<u>\$3,155,978</u>	<u>\$3,711,208</u>
TOTAL NET ASSETS REPRESENTED BY:				
Net Assets of Contract owners:				
Cornerstone VUL	\$ 156,963	\$ 41,074	\$ 114,308	\$ —
Cornerstone VUL II/Variable Estate Max/Variable Estate Max II	255,326	2,288,738	1,193,117	1,090,781
Cornerstone VUL III	292,318	820,935	284,078	69,403
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/Survivorship Growth VUL	9,394,128	10,191,401	1,564,475	2,551,024
Momentum Builder	—	—	—	—
Total Net Assets	<u>\$10,098,735</u>	<u>\$13,342,148</u>	<u>\$3,155,978</u>	<u>\$3,711,208</u>
Accumulation of Unit Values:				
Cornerstone VUL	\$ 17.11	\$ 15.62	\$ 14.59	\$ 13.36
Cornerstone VUL II/Variable Estate Max/Variable Estate Max II	\$ 17.12	\$ 15.63	\$ 14.60	\$ 13.37
Cornerstone VUL III	\$ 17.65	\$ 16.11	\$ 15.05	\$ 13.78
Cornerstone VUL IV/Variable Estate Max III/Diversified Growth VUL/Survivorship Growth VUL	\$ 18.49	\$ 16.88	\$ 15.77	\$ 14.44
Momentum Builder	\$ —	\$ —	\$ —	\$ —
Number of Shares	557,325	809,596	206,138	265,276
Cost of Investments	\$ 8,583,019	\$11,731,730	\$2,907,143	\$3,524,172

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

STATEMENTS OF OPERATIONS — FOR THE YEAR ENDED DECEMBER 31, 2018

	<u>Money Market Fund</u>	<u>Limited Maturity Bond Fund</u>	<u>Quality Bond Fund</u>	<u>High Yield Bond Fund</u>	<u>Flexibly Managed Fund</u>
Net Investment Income (Loss):					
Dividends	\$89,464	\$ —	\$ —	\$ —	\$ —
Expense:					
Mortality and expense risk charges	<u>31,003</u>	<u>16,072</u>	<u>46,782</u>	<u>41,088</u>	<u>571,782</u>
Net investment income (loss)	<u>58,461</u>	<u>(16,072)</u>	<u>(46,782)</u>	<u>(41,088)</u>	<u>(571,782)</u>
Net Realized and Unrealized Gains (Losses) on Investments:					
Realized gain (loss) from redemption of fund shares	—	93,855	601,720	1,087,851	13,392,976
Net change in unrealized gain (loss) of investments	—	<u>33,649</u>	<u>(641,319)</u>	<u>(1,500,963)</u>	<u>(11,676,270)</u>
Net realized and unrealized gain (loss) on investments	—	127,504	(39,599)	(413,112)	1,716,706
Net increase (decrease) in net assets resulting from operations	<u><u>\$58,461</u></u>	<u><u>\$111,432</u></u>	<u><u>\$ (86,381)</u></u>	<u><u>\$ (454,200)</u></u>	<u><u>\$ 1,144,924</u></u>

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

STATEMENTS OF OPERATIONS — FOR THE YEAR ENDED DECEMBER 31, 2018

(continued)

	<u>Balanced Fund</u>	<u>Large Growth Stock Fund</u>	<u>Large Cap Growth Fund</u>	<u>Large Core Growth Fund</u>	<u>Large Cap Value Fund</u>
Net Investment Income (Loss):					
Dividends	\$ —	\$ —	\$ —	\$ —	\$ —
Expense:					
Mortality and expense risk charges	<u>60,235</u>	<u>127,755</u>	<u>7,386</u>	<u>185,278</u>	<u>130,168</u>
Net investment income (loss)	<u>(60,235)</u>	<u>(127,755)</u>	<u>(7,386)</u>	<u>(185,278)</u>	<u>(130,168)</u>
Net Realized and Unrealized Gains (Losses) on Investments:					
Realized gain (loss) from redemption of fund shares	1,336,141	3,921,998	648,109	4,040,226	2,283,861
Net change in unrealized gain (loss) of investments	<u>(1,917,443)</u>	<u>(4,285,309)</u>	<u>(571,967)</u>	<u>(1,897,686)</u>	<u>(5,422,757)</u>
Net realized and unrealized gain (loss) on investments	<u>(581,302)</u>	<u>(363,311)</u>	<u>76,142</u>	<u>2,142,540</u>	<u>(3,138,896)</u>
Net increase (decrease) in net assets resulting from operations	<u><u>\$ (641,537)</u></u>	<u><u>\$ (491,066)</u></u>	<u><u>\$ 68,756</u></u>	<u><u>\$ 1,957,262</u></u>	<u><u>\$ (3,269,064)</u></u>

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

STATEMENTS OF OPERATIONS — FOR THE YEAR ENDED DECEMBER 31, 2018

(continued)

	<u>Large Core Value Fund</u>	<u>Index 500 Fund</u>	<u>Mid Cap Growth Fund</u>	<u>Mid Cap Value Fund</u>	<u>Mid Core Value Fund</u>
Net Investment Income (Loss):					
Dividends	\$ —	\$ —	\$ —	\$ —	\$ —
Expense:					
Mortality and expense risk charges	<u>89,963</u>	<u>207,759</u>	<u>64,884</u>	<u>75,245</u>	<u>14,833</u>
Net investment income (loss)	<u>(89,963)</u>	<u>(207,759)</u>	<u>(64,884)</u>	<u>(75,245)</u>	<u>(14,833)</u>
Net Realized and Unrealized Gains (Losses) on Investments:					
Realized gain (loss) from redemption of fund shares	2,106,542	5,826,758	2,219,744	2,205,481	549,057
Net change in unrealized gain (loss) of investments	<u>(4,253,540)</u>	<u>(9,907,109)</u>	<u>(2,000,402)</u>	<u>(7,025,548)</u>	<u>(1,803,913)</u>
Net realized and unrealized gain (loss) on investments	<u>(2,146,998)</u>	<u>(4,080,351)</u>	<u>219,342</u>	<u>(4,820,067)</u>	<u>(1,254,856)</u>
Net increase (decrease) in net assets resulting from operations	<u><u>\$(2,236,961)</u></u>	<u><u>\$(4,288,110)</u></u>	<u><u>\$ 154,458</u></u>	<u><u>\$(4,895,312)</u></u>	<u><u>\$(1,269,689)</u></u>

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

STATEMENTS OF OPERATIONS — FOR THE YEAR ENDED DECEMBER 31, 2018

(continued)

	<u>SMID Cap Growth Fund</u>	<u>SMID Cap Value Fund</u>	<u>Small Cap Growth Fund</u>	<u>Small Cap Value Fund</u>	<u>Small Cap Index Fund</u>
Net Investment Income (Loss):					
Dividends	\$ —	\$ —	\$ —	\$ —	\$ —
Expense:					
Mortality and expense risk charges	<u>3,919</u>	<u>5,060</u>	<u>81,327</u>	<u>112,594</u>	<u>3,162</u>
Net investment income (loss)	<u>(3,919)</u>	<u>(5,060)</u>	<u>(81,327)</u>	<u>(112,594)</u>	<u>(3,162)</u>
Net Realized and Unrealized Gains (Losses) on Investments:					
Realized gain (loss) from redemption of fund shares	147,370	248,285	2,175,811	3,588,571	194,314
Net change in unrealized gain (loss) of investments	<u>(321,834)</u>	<u>(757,935)</u>	<u>(3,282,546)</u>	<u>(10,428,794)</u>	<u>(548,696)</u>
Net realized and unrealized gain (loss) on investments	<u>(174,464)</u>	<u>(509,650)</u>	<u>(1,106,735)</u>	<u>(6,840,223)</u>	<u>(354,382)</u>
Net increase (decrease) in net assets resulting from operations	<u><u>\$ (178,383)</u></u>	<u><u>\$ (514,710)</u></u>	<u><u>\$ (1,188,062)</u></u>	<u><u>\$ (6,952,817)</u></u>	<u><u>\$ (357,544)</u></u>

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

STATEMENTS OF OPERATIONS — FOR THE YEAR ENDED DECEMBER 31, 2018

(continued)

	<u>Developed International Index Fund</u>	<u>International Equity Fund</u>	<u>Emerging Markets Equity Fund</u>	<u>Real Estate Securities Fund</u>	<u>Aggressive Allocation Fund</u>
Net Investment Income (Loss):					
Dividends	\$ —	\$ —	\$ —	\$ —	\$ —
Expense:					
Mortality and expense risk charges	<u>5,376</u>	<u>138,773</u>	<u>36,402</u>	<u>21,462</u>	<u>1,909</u>
Net investment income (loss)	<u>(5,376)</u>	<u>(138,773)</u>	<u>(36,402)</u>	<u>(21,462)</u>	<u>(1,909)</u>
Net Realized and Unrealized Gains (Losses) on Investments:					
Realized gain (loss) from redemption of fund shares	89,216	2,365,955	612,152	1,108,323	118,167
Net change in unrealized gain (loss) of investments	<u>(592,306)</u>	<u>(10,120,741)</u>	<u>(4,270,597)</u>	<u>(1,798,821)</u>	<u>(386,766)</u>
Net realized and unrealized gain (loss) on investments	<u>(503,090)</u>	<u>(7,754,786)</u>	<u>(3,658,445)</u>	<u>(690,498)</u>	<u>(268,599)</u>
Net increase (decrease) in net assets resulting from operations	<u>\$(508,466)</u>	<u>\$(7,893,559)</u>	<u>\$(3,694,847)</u>	<u>\$(711,960)</u>	<u>\$(270,508)</u>

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

STATEMENTS OF OPERATIONS — FOR THE YEAR ENDED DECEMBER 31, 2018

(continued)

	Moderately Aggressive Allocation Fund	Moderate Allocation Fund	Moderately Conservative Allocation Fund	Conservative Allocation Fund
Net Investment Income (Loss):				
Dividends	\$ —	\$ —	\$ —	\$ —
Expense:				
Mortality and expense risk charges	3,931	13,278	7,439	5,118
Net investment income (loss)	<u>(3,931)</u>	<u>(13,278)</u>	<u>(7,439)</u>	<u>(5,118)</u>
Net Realized and Unrealized Gains (Losses) on Investments:				
Realized gain (loss) from redemption of fund shares	935,922	322,964	118,240	42,709
Net change in unrealized gain (loss) of investments	<u>(1,780,746)</u>	<u>(1,149,854)</u>	<u>(238,127)</u>	<u>(93,802)</u>
Net realized and unrealized gain (loss) on investments	<u>(844,824)</u>	<u>(826,890)</u>	<u>(119,887)</u>	<u>(51,093)</u>
Net increase (decrease) in net assets resulting from operations	<u><u>\$ (848,755)</u></u>	<u><u>\$ (840,168)</u></u>	<u><u>\$(127,326)</u></u>	<u><u>\$(56,211)</u></u>

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

STATEMENTS OF CHANGES IN NET ASSETS — FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017

	Money Market Fund		Limited Maturity Bond Fund		Quality Bond Fund	
	2018	2017	2018	2017	2018	2017
Operations:						
Net investment income (loss)	\$ 58,461	\$ (34,361)	\$ (16,072)	\$ (16,221)	\$ (46,782)	\$ (48,974)
Net realized gain (loss) from investment transactions	—	—	93,855	55,893	601,720	587,820
Net change in unrealized gain (loss) of investments	—	—	33,649	97,825	(641,319)	748,226
Net increase (decrease) in net assets resulting from operations	58,461	(34,361)	111,432	137,497	(86,381)	1,287,072
Variable Life Activities:						
Purchase payments	14,170,281	8,172,288	538,025	545,563	1,628,426	1,705,128
Death benefits	(17,264)	(46,524)	(68,469)	(56,431)	(336,098)	(291,237)
Cost of insurance	(2,000,550)	(2,107,436)	(463,685)	(507,381)	(1,327,559)	(1,378,585)
Net transfers	(9,888,192)	(5,060,695)	(449,906)	963,689	(950,347)	(473,865)
Transfer of policy loans	226,310	177,998	49,559	38,143	157,856	119,416
Mortality and expense risk charges	(128,847)	(93,674)	(38,746)	(49,064)	(71,836)	(104,636)
Contract administration charges	(37,741)	(42,819)	(14,165)	(15,244)	(53,628)	(59,704)
Surrender benefits	(2,326,441)	(3,702,314)	(285,742)	(529,948)	(1,186,646)	(1,295,817)
Net increase (decrease) in net assets resulting from variable life activities	(2,444)	(2,703,176)	(733,129)	389,327	(2,139,832)	(1,779,300)
Total increase (decrease) in net assets	56,017	(2,737,537)	(621,697)	526,824	(2,226,213)	(492,228)
Net Assets:						
Beginning of year	17,310,551	20,048,088	9,438,409	8,911,585	29,992,323	30,484,551
End of year	<u>\$17,366,568</u>	<u>\$17,310,551</u>	<u>\$ 8,816,712</u>	<u>\$ 9,438,409</u>	<u>\$27,766,110</u>	<u>\$29,992,323</u>

	High Yield Bond Fund		Flexibly Managed Fund		Balanced Fund	
	2018	2017	2018	2017	2018	2017
Operations:						
Net investment income (loss)	\$ (41,088)	\$ (42,790)	\$ (571,782)	\$ (559,781)	\$ (60,235)	\$ (60,101)
Net realized gain (loss) from investment transactions	1,087,851	995,577	13,392,976	11,482,104	1,336,141	1,004,419
Net change in unrealized gain (loss) of investments	(1,500,963)	412,018	(11,676,270)	25,849,272	(1,917,443)	1,872,717
Net increase (decrease) in net assets resulting from operations	(454,200)	1,364,805	1,144,924	36,771,595	(641,537)	2,817,035
Variable Life Activities:						
Purchase payments	889,991	1,026,881	13,053,333	13,665,708	800,295	827,368
Death benefits	(63,351)	(219,666)	(2,355,417)	(1,647,064)	(224,006)	(195,317)
Cost of insurance	(867,065)	(963,921)	(10,831,820)	(10,751,110)	(1,074,470)	(1,106,319)
Net transfers	(648,478)	(752,496)	(2,807,887)	(1,895,144)	74,903	239,595
Transfer of policy loans	196,145	107,063	2,224,051	1,519,119	89,195	66,408
Mortality and expense risk charges	(59,954)	(88,249)	(1,157,740)	(1,311,859)	(35,080)	(37,662)
Contract administration charges	(33,727)	(37,864)	(492,734)	(514,729)	(37,582)	(40,263)
Surrender benefits	(1,282,578)	(807,714)	(10,529,636)	(11,126,544)	(1,066,773)	(592,484)
Net increase (decrease) in net assets resulting from variable life activities	(1,869,017)	(1,735,966)	(12,897,850)	(12,061,623)	(1,473,518)	(838,674)
Total increase (decrease) in net assets	(2,323,217)	(371,161)	(11,752,926)	24,709,972	(2,115,055)	1,978,361
Net Assets:						
Beginning of year	19,531,099	19,902,260	279,035,287	254,325,315	22,567,323	20,588,962
End of year	<u>\$17,207,882</u>	<u>\$19,531,099</u>	<u>\$267,282,361</u>	<u>\$279,035,287</u>	<u>\$20,452,268</u>	<u>\$22,567,323</u>

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

STATEMENTS OF CHANGES IN NET ASSETS — FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017

(continued)

	Large Growth Stock Fund		Large Cap Growth Fund		Large Core Growth Fund		Large Cap Value Fund	
	2018	2017	2018	2017	2018	2017	2018	2017
Operations:								
Net investment income (loss)	\$ (127,755)	\$ (118,055)	\$ (7,386)	\$ (6,814)	\$ (185,278)	\$ (165,568)	\$ (130,168)	\$ (129,418)
Net realized gain (loss) from investment transactions	3,921,998	3,566,497	648,109	469,054	4,040,226	3,535,303	2,283,861	1,883,304
Net change in unrealized gain (loss) of investments	(4,285,309)	8,614,553	(571,967)	1,512,771	(1,897,686)	10,680,839	(5,422,757)	3,910,831
Net increase (decrease) in net assets resulting from operations	(491,066)	12,062,995	68,756	1,975,011	1,957,262	14,050,574	(3,269,064)	5,664,717
Variable Life Activities:								
Purchase payments	2,273,801	2,288,955	582,146	560,955	2,382,862	2,502,221	2,022,703	1,996,673
Death benefits	(152,939)	(121,107)	(129)	(62,756)	(340,462)	(247,806)	(300,168)	(192,144)
Cost of insurance	(1,996,258)	(1,875,296)	(353,378)	(325,509)	(2,819,260)	(2,760,802)	(1,929,966)	(1,973,703)
Net transfers	(1,567,306)	(1,121,658)	(238,288)	132,208	(1,331,125)	(1,794,771)	(1,074,697)	(251,852)
Transfer of policy loans	693,353	411,457	133,302	82,650	179,110	249,357	368,970	284,227
Mortality and expense risk charges	(208,706)	(198,551)	(56,204)	(46,671)	(66,778)	(69,383)	(97,745)	(102,109)
Contract administration charges	(83,813)	(83,266)	(18,218)	(18,010)	(131,620)	(131,376)	(78,882)	(84,633)
Surrender benefits	(1,719,903)	(1,653,370)	(324,112)	(464,429)	(2,698,103)	(2,603,309)	(1,936,730)	(1,651,034)
Net increase (decrease) in net assets resulting from variable life activities	(2,761,771)	(2,352,836)	(274,881)	(141,562)	(4,825,376)	(4,855,869)	(3,026,515)	(1,974,575)
Total increase (decrease) in net assets	(3,252,837)	9,710,159	(206,125)	1,833,449	(2,868,114)	9,194,705	(6,295,579)	3,690,142
Net Assets:								
Beginning of year	47,381,704	37,671,545	8,946,046	7,112,597	54,375,633	45,180,928	44,653,870	40,963,728
End of year	<u>\$44,128,867</u>	<u>\$47,381,704</u>	<u>\$ 8,739,921</u>	<u>\$ 8,946,046</u>	<u>\$51,507,519</u>	<u>\$54,375,633</u>	<u>\$38,358,291</u>	<u>\$44,653,870</u>
	Large Core Value Fund		Index 500 Fund		Mid Cap Growth Fund		Mid Cap Value Fund	
	2018	2017	2018	2017	2018	2017	2018	2017
Operations:								
Net investment income (loss)	\$ (89,963)	\$ (87,274)	\$ (207,759)	\$ (197,980)	\$ (64,884)	\$ (57,040)	\$ (75,245)	\$ (77,224)
Net realized gain (loss) from investment transactions	2,106,542	2,348,167	5,826,758	4,638,847	2,219,744	1,579,751	2,205,481	2,688,750
Net change in unrealized gain (loss) of investments	(4,253,540)	2,504,224	(9,907,109)	12,545,746	(2,000,402)	4,398,109	(7,025,548)	2,674,208
Net increase (decrease) in net assets resulting from operations	(2,236,961)	4,765,117	(4,288,110)	16,986,613	154,458	5,920,820	(4,895,312)	5,285,734
Variable Life Activities:								
Purchase payments	1,787,273	1,846,498	4,095,057	4,163,932	1,373,131	1,314,108	1,586,965	1,629,295
Death benefits	(340,866)	(148,923)	(367,191)	(425,251)	(175,705)	(123,466)	(221,761)	(358,173)
Cost of insurance	(1,726,241)	(1,742,352)	(3,690,730)	(3,768,470)	(1,101,132)	(1,052,774)	(1,420,644)	(1,457,798)
Net transfers	(719,176)	(699,423)	(1,728,822)	2,356,650	(380,859)	(414,604)	(776,347)	(1,359,351)
Transfer of policy loans	537,064	398,513	616,797	673,502	299,686	254,347	211,672	337,323
Mortality and expense risk charges	(93,631)	(93,184)	(324,724)	(361,039)	(95,523)	(89,879)	(140,206)	(155,759)
Contract administration charges	(67,524)	(70,922)	(143,526)	(150,068)	(59,277)	(57,759)	(62,483)	(67,235)
Surrender benefits	(1,520,013)	(1,530,967)	(3,365,322)	(3,772,190)	(1,101,255)	(1,091,738)	(1,141,330)	(1,588,998)
Net increase (decrease) in net assets resulting from variable life activities	(2,143,114)	(2,040,760)	(4,908,461)	(1,282,934)	(1,240,934)	(1,261,765)	(1,964,134)	(3,020,696)
Total increase (decrease) in net assets	(4,380,075)	2,724,357	(9,196,571)	15,703,679	(1,086,476)	4,659,055	(6,859,446)	2,265,038
Net Assets:								
Beginning of year	35,973,319	33,248,962	95,727,841	80,024,162	27,185,508	22,526,453	34,371,893	32,106,855
End of year	<u>\$31,593,244</u>	<u>\$35,973,319</u>	<u>\$86,531,270</u>	<u>\$95,727,841</u>	<u>\$26,099,032</u>	<u>\$27,185,508</u>	<u>\$27,512,447</u>	<u>\$34,371,893</u>

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

STATEMENTS OF CHANGES IN NET ASSETS — FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017

(continued)

	Mid Core Value Fund		SMID Cap Growth Fund		SMID Cap Value Fund		Small Cap Growth Fund	
	2018	2017	2018	2017	2018	2017	2018	2017
Operations:								
Net investment income (loss)	\$ (14,833)	\$ (13,682)	\$ (3,919)	\$ (4,115)	\$ (5,060)	\$ (6,194)	\$ (81,327)	\$ (74,563)
Net realized gain (loss) from investment transactions	549,057	1,346,498	147,370	146,333	248,285	519,148	2,175,811	1,893,591
Net change in unrealized gain (loss) of investments	(1,803,913)	(281,813)	(321,834)	500,654	(757,935)	(63,159)	(3,282,546)	4,021,097
Net increase (decrease) in net assets resulting from operations	(1,269,689)	1,051,003	(178,383)	642,872	(514,710)	449,795	(1,188,062)	5,840,125
Variable Life Activities:								
Purchase payments	400,942	445,890	210,700	167,583	246,073	283,563	1,520,372	1,566,287
Death benefits	(18,461)	(55,645)	(231)	(11,194)	(225)	(229,823)	(109,389)	(87,578)
Cost of insurance	(334,959)	(329,041)	(80,580)	(70,165)	(102,422)	(115,814)	(1,369,880)	(1,379,232)
Net transfers	(277,527)	196,864	108,407	78,881	(416,787)	(349,064)	(268,636)	(473,086)
Transfer of policy loans	331,588	95,614	24,531	62,083	17,780	83,931	222,967	297,064
Mortality and expense risk charges	(35,671)	(43,636)	(36,287)	(36,156)	(31,233)	(40,096)	(84,490)	(73,159)
Contract administration charges	(18,728)	(20,357)	(4,721)	(4,012)	(6,520)	(7,095)	(72,123)	(73,891)
Surrender benefits	(414,445)	(590,676)	(80,474)	(136,903)	(90,636)	(161,321)	(1,307,285)	(1,392,808)
Net increase (decrease) in net assets resulting from variable life activities	(367,261)	(300,987)	141,345	50,117	(383,970)	(535,719)	(1,468,464)	(1,616,403)
Total increase (decrease) in net assets	(1,636,950)	750,016	(37,038)	692,989	(898,680)	(85,924)	(2,656,526)	4,223,722
Net Assets:								
Beginning of year	10,274,536	9,524,520	2,902,201	2,209,212	3,769,085	3,855,009	28,710,359	24,486,637
End of year	\$ 8,637,586	\$10,274,536	\$2,865,163	\$2,902,201	\$2,870,405	\$3,769,085	\$ 26,053,833	\$28,710,359

	Small Cap Value Fund		Small Cap Index Fund		Developed International Index Fund		International Equity Fund	
	2018	2017	2018	2017	2018	2017	2018	2017
Operations:								
Net investment income (loss)	\$ (112,594)	\$ (112,058)	\$ (3,162)	\$ (3,175)	\$ (5,376)	\$ (5,175)	\$ (138,773)	\$ (141,129)
Net realized gain (loss) from investment transactions	3,588,571	4,286,799	194,314	135,164	89,216	39,574	2,365,955	2,992,309
Net change in unrealized gain (loss) of investments	(10,428,794)	1,575,757	(548,696)	184,221	(592,306)	599,468	(10,120,741)	13,128,359
Net increase (decrease) in net assets resulting from operations	(6,952,817)	5,750,498	(357,544)	316,210	(508,466)	633,867	(7,893,559)	15,979,539
Variable Life Activities:								
Purchase payments	2,047,484	2,211,362	287,488	250,169	243,195	177,843	2,954,742	3,080,234
Death benefits	(254,177)	(277,100)	—	(5,543)	—	(463)	(302,844)	(413,779)
Cost of insurance	(1,865,719)	(1,922,702)	(108,685)	(100,917)	(115,311)	(98,892)	(2,362,239)	(2,448,053)
Net transfers	(640,262)	(1,346,474)	178,622	280,537	154,961	15,413	(501,967)	(816,806)
Transfer of policy loans	683,338	452,197	7,151	19,641	22,174	24,171	838,596	581,337
Mortality and expense risk charges	(149,085)	(169,908)	(54,466)	(43,127)	(40,468)	(31,763)	(148,606)	(219,047)
Contract administration charges	(90,615)	(97,007)	(4,185)	(3,855)	(4,654)	(4,533)	(103,297)	(111,012)
Surrender benefits	(1,998,379)	(1,886,282)	(144,598)	(35,211)	(130,795)	(68,095)	(2,376,816)	(2,477,630)
Net increase (decrease) in net assets resulting from variable life activities	(2,267,415)	(3,035,914)	161,327	361,694	129,102	13,681	(2,002,431)	(2,824,756)
Total increase (decrease) in net assets	(9,220,232)	2,714,584	(196,217)	677,904	(379,364)	647,548	(9,895,990)	13,154,783
Net Assets:								
Beginning of year	52,693,659	49,979,075	2,741,441	2,063,537	3,401,767	2,754,219	64,361,917	51,207,134
End of year	\$ 43,473,427	\$52,693,659	\$2,545,224	\$2,741,441	\$3,022,403	\$3,401,767	\$ 54,465,927	\$64,361,917

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

STATEMENTS OF CHANGES IN NET ASSETS — FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017

(continued)

	Emerging Markets Equity Fund		Real Estate Securities Fund		Aggressive Allocation Fund		Moderately Aggressive Allocation Fund	
	2018	2017	2018	2017	2018	2017	2018	2017
Operations:								
Net investment income (loss)	\$ (36,402)	\$ (37,035)	\$ (21,462)	\$ (25,413)	\$ (1,909)	\$ (2,932)	\$ (3,931)	\$ (4,198)
Net realized gain (loss) from investment transactions	612,152	473,530	1,108,323	1,190,161	118,167	223,975	935,922	564,777
Net change in unrealized gain (loss) of investments	(4,270,597)	5,192,813	(1,798,821)	69,522	(386,766)	276,838	(1,780,746)	1,321,156
Net increase (decrease) in net assets resulting from operations	(3,694,847)	5,629,308	(711,960)	1,234,270	(270,508)	497,881	(848,755)	1,881,735
Variable Life Activities:								
Purchase payments	1,160,281	1,219,894	935,992	1,066,071	354,349	338,227	939,977	1,070,343
Death benefits	(14,637)	(46,387)	(15,999)	(48,150)	—	(2,734)	(99,010)	(132,126)
Cost of insurance	(791,393)	(834,053)	(555,047)	(593,462)	(76,710)	(83,445)	(356,445)	(398,099)
Net transfers	39,674	(689,321)	(1,283,261)	(1,040,242)	(30,879)	(81,472)	(888,862)	(553,077)
Transfer of policy loans	240,211	346,215	252,130	251,469	4,604	31,756	20,819	41,761
Mortality and expense risk charges	(73,310)	(94,087)	(70,014)	(102,167)	(60,715)	(62,316)	(181,141)	(200,045)
Contract administration charges	(37,137)	(39,747)	(30,358)	(33,529)	(11,676)	(11,536)	(25,630)	(27,091)
Surrender benefits	(833,889)	(751,471)	(543,380)	(722,206)	(172,698)	(244,999)	(815,012)	(161,395)
Net increase (decrease) in net assets resulting from variable life activities	(310,200)	(888,957)	(1,309,937)	(1,222,216)	6,275	(116,519)	(1,405,304)	(359,729)
Total increase (decrease) in net assets	(4,005,047)	4,740,351	(2,021,897)	12,054	(264,233)	381,362	(2,254,059)	1,522,006
Net Assets:								
Beginning of year	21,090,517	16,350,166	17,458,831	17,446,777	2,807,572	2,426,210	12,352,794	10,830,788
End of year	<u>\$17,085,470</u>	<u>\$21,090,517</u>	<u>\$15,436,934</u>	<u>\$17,458,831</u>	<u>\$2,543,339</u>	<u>\$2,807,572</u>	<u>\$10,098,735</u>	<u>\$12,352,794</u>

	Moderate Allocation Fund		Moderately Conservative Allocation Fund		Conservative Allocation Fund	
	2018	2017	2018	2017	2018	2017
Operations:						
Net investment income (loss)	\$ (13,278)	\$ (12,588)	\$ (7,439)	\$ (7,204)	\$ (5,118)	\$ (3,555)
Net realized gain (loss) from investment transactions	322,964	583,917	118,240	161,805	42,709	90,424
Net change in unrealized appreciation (depreciation) of investments	(1,149,854)	1,063,766	(238,127)	143,441	(93,802)	129,042
Net increase (decrease) in net assets resulting from operations	(840,168)	1,635,095	(127,326)	298,042	(56,211)	215,911
Variable Life Activities:						
Purchase payments	808,835	885,594	135,004	208,738	85,362	151,777
Death benefits	(415)	(28,882)	—	(13,670)	—	(1,905)
Cost of insurance	(465,250)	(371,966)	(265,582)	(257,133)	(127,784)	(124,652)
Net transfers	1,090,264	384,729	466,362	(206,025)	45,633	508,552
Transfer of policy loans	23,597	5,082	2,942	27,453	1,174	2,351
Mortality and expense risk charges	(75,843)	(68,299)	(8,177)	(8,725)	(9,266)	(10,539)
Contract administration charges	(16,442)	(16,732)	(4,075)	(4,321)	(5,999)	(6,421)
Surrender benefits	(503,329)	(1,022,096)	(350,162)	(157,486)	(201,070)	(68,959)
Net increase (decrease) in net assets resulting from variable life activities	861,417	(232,570)	(23,688)	(411,169)	(211,950)	450,204
Total increase (decrease) in net assets	21,249	1,402,525	(151,014)	(113,127)	(268,161)	666,115
Net Assets:						
Beginning of year	13,320,899	11,918,374	3,306,992	3,420,119	3,979,369	3,313,254
End of year	<u>\$13,342,148</u>	<u>\$13,320,899</u>	<u>\$ 3,155,978</u>	<u>\$ 3,306,992</u>	<u>\$3,711,208</u>	<u>\$3,979,369</u>

The accompanying notes are an integral part of these financial statements.

PENN MUTUAL VARIABLE LIFE ACCOUNT I

Notes to Financial Statements — December 31, 2018

Note 1. Organization

Penn Mutual Variable Life Account I (“Account I”) was established by The Penn Mutual Life Insurance Company (“Penn Mutual”) under the provisions of the Pennsylvania Insurance Law. Account I is registered under the Investment Company Act of 1940, as amended, as a unit investment trust. Account I offers units to variable life contract owners to provide for the accumulation of value and for the payment of benefits. Account I contains contracts of the Cornerstone VUL, Cornerstone VUL II, Cornerstone VUL III, Cornerstone VUL IV, Diversified Growth VUL, Variable EstateMax, Variable EstateMax II, Variable EstateMax III, Survivorship Growth VUL and Momentum Builder variable life products. Contract owners may borrow up to a specified amount depending on the policy value at any time by submitting a written request for a policy loan. Under applicable insurance law, the assets and liabilities of Account I are legally segregated from Penn Mutual’s other assets and liabilities.

Note 2. Significant Accounting Policies

The preparation of the accompanying financial statements and notes in accordance with accounting principles generally accepted in the United States of America, which requires management to make estimates and assumptions that affect the reported values of assets and liabilities and the reported amounts from operations and variable life activities during the reporting period. Actual results could differ significantly with those estimates.

The significant accounting policies of Account I are as follows:

Investments — Assets of Account I are invested into subaccounts, which invest in the shares of Penn Series Funds, Inc. (“Penn Series”), an affiliate of Penn Mutual: Money Market, Limited Maturity Bond, Quality Bond, High Yield Bond, Flexibly Managed, Balanced, Large Growth Stock, Large Cap Growth, Large Core Growth, Large Cap Value, Large Core Value, Index 500, Mid Cap Growth, Mid Cap Value, Mid Core Value, SMID Cap Growth, SMID Cap Value, Small Cap Growth, Small Cap Value, Small Cap Index, Developed International Index, International Equity, Emerging Markets Equity, Real Estate Securities, Aggressive Allocation, Moderately Aggressive Allocation, Moderate Allocation, Moderately Conservative Allocation and Conservative Allocation.

Penn Series is an open-end diversified management investment company.

The investment in shares of these funds or portfolios is carried at fair market value as determined by the underlying net asset value of the respective funds or portfolios. Investment transactions are accounted for on a trade date basis. The resulting net unrealized gains (losses) are reflected in the Statements of Operations. Realized gains (losses) from securities transactions are determined for federal income tax and for financial reporting purposes on the FIFO cost basis.

The amounts shown as receivable for securities sold and payable for securities purchased on the Statements of Assets and Liabilities reflect transactions that occurred on the last business day of the reporting period. These amounts will be deposited to or withdrawn from the separate account in accordance with the contract owners’ instructions on the first business day subsequent to the close of the period presented.

All dividend distributions received from the underlying Penn Series Funds are reinvested in additional shares of these Funds and are recorded by Account I on the ex-dividend date. The Penn Series Funds have utilized consent dividends to effectively distribute income for income tax purposes. Account I consents to treat these amounts as dividend income for tax purposes although they are not paid by the underlying Penn Series Funds. Therefore, no dividend income is recorded in the statements of operations related to such consent dividends.

For the year ended December 31, 2018, consent dividends in Account I were:

	<u>Consent Dividends</u>
Money Market Fund	\$ —
Limited Maturity Bond Fund	238,688
Quality Bond Fund	885,135
High Yield Bond Fund	957,492
Flexibly Managed Fund	22,407,379

Note 2. Significant Accounting Policies (continued)

	<u>Consent Dividends</u>
Balanced Fund	\$ 3,235,228
Large Growth Stock Fund	5,738,700
Large Cap Growth Fund	877,073
Large Core Growth Fund	6,988,256
Large Cap Value Fund	10,323,315
Large Core Value Fund	4,323,232
Index 500 Fund	8,583,845
Mid Cap Growth Fund	2,502,159
Mid Cap Value Fund	3,900,712
Mid Core Value Fund	1,105,640
SMID Cap Growth Fund	422,450
SMID Cap Value Fund	395,879
Small Cap Growth Fund	2,843,307
Small Cap Value Fund	4,757,912
Small Cap Index Fund	254,750
Developed International Index Fund	90,583
International Equity Fund	8,071,536
Emerging Markets Equity Fund	1,712,748
Real Estate Securities Fund	919,035
Aggressive Allocation Fund	526,152
Moderately Aggressive Allocation Fund	2,258,613
Moderate Allocation Fund	2,399,923
Moderately Conservative Allocation Fund	461,914
Conservative Allocation Fund	382,733

Federal Income Taxes — The operations of Account I are included in the federal income tax return of Penn Mutual, which is taxed as a life insurance company under the provision of the Internal Revenue Code (“IRC”). Under the current provisions of the IRC, Penn Mutual does not expect to incur federal income taxes on the earnings of Account I to the extent the earnings are credited under contracts. Based on this, there is no charge to Account I for federal income taxes. Penn Mutual will review, as needed, the status of this policy in the event of changes in the tax law. A charge may be made in future years for any federal income taxes that would be attributable to the contracts.

Under the provisions of Section 817(h) of the IRC, a variable life contract will not be treated as a life contract for federal tax purposes for any period for which the investments of the segregated asset account on which the contract is based are not adequately diversified. The IRC provides that the “adequately diversified” requirement may be met if the underlying investments satisfy either a statutory safe harbor test or diversification requirements set forth in regulations issued by the Secretary of Treasury. Account I satisfies the current requirements of the regulations, and Penn Mutual intends that Account I will continue to meet such requirements.

Fair Value Measurement — Fair value is defined as 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 value measurement is based on assumptions market participants would make in pricing an asset or liability. The inputs to valuation techniques used to measure fair value are prioritized by establishing a three-level fair value hierarchy. The fair value hierarchy gives the highest priority to quoted prices in active markets and the lowest priority to prices derived from unobservable inputs. An asset or liability’s classification within the fair value hierarchy is based on the lowest level of significant input to its fair value measurement. Account I has categorized its assets and liabilities into the three-level fair value hierarchy based upon the priority of the inputs. The following summarizes the types of assets and liabilities included within the three-level hierarchy:

Level 1 — Fair value is based on unadjusted quoted market prices in active markets for identical assets or liabilities that are accessible at the measurement date. These generally provide the most reliable evidence and are used to measure fair value whenever available. Active markets are defined as having the following for the measured asset/liability: i) many transactions, ii) current prices, iii) price quotes not varying substantially among market makers. iv) narrow bid/ask spreads and v) most information publicly available. Prices are obtained from readily available sources for market transactions involving identical assets or liabilities.

Note 2. Significant Accounting Policies (continued)

Level 2 — Fair value is based on significant inputs, other than quoted prices included in Level 1, that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability through corroboration with observable market data. In circumstances where prices from pricing services are reviewed for reasonability but cannot be validated to observable market data as noted above, these security values are recorded in Level 3 in our fair value hierarchy.

Level 3 — Fair value is based on significant inputs that are unobservable for the asset or liability. These inputs reflect the Penn Mutual's assumptions about the assumptions market participants would use in pricing the asset or liability. These are typically less liquid fixed maturity securities with very limited trading activity. Prices are determined using valuation methodologies such as option pricing models, discounted cash flow models and other similar techniques. Prices may also be based upon non-binding quotes from brokers or other market makers that are reviewed for reasonableness, based on the Penn Mutual's understanding of the market.

The fair value of all the investments in Account I, are at net asset values and the investments are considered actively traded and fall within Level 1.

Note 3. Purchases and Sales of Investments

The following table shows aggregate cost of shares purchased and proceeds of shares sold for each fund or portfolio for the period ended December, 31, 2018:

	<u>Purchases</u>	<u>Sales</u>
Money Market Fund	\$15,676,606	\$15,710,238
Limited Maturity Bond Fund	807,089	1,556,380
Quality Bond Fund	2,197,271	4,384,152
High Yield Bond Fund	984,674	2,895,010
Flexibly Managed Fund	8,675,019	22,147,792
Balanced Fund	714,059	2,248,150
Large Growth Stock Fund	2,367,751	5,257,961
Large Cap Growth Fund	785,125	1,067,431
Large Core Growth Fund	1,048,459	6,060,084
Large Cap Value Fund	1,241,167	4,398,592
Large Core Value Fund	1,394,463	3,628,046
Index 500 Fund	3,049,694	8,167,064
Mid Cap Growth Fund	1,686,048	2,992,203
Mid Cap Value Fund	1,474,636	3,514,440
Mid Core Value Fund	672,639	1,054,819
SMID Cap Growth Fund	590,194	452,789
SMID Cap Value Fund	403,774	792,835
Small Cap Growth Fund	1,699,368	3,249,591
Small Cap Value Fund	2,251,267	4,631,915
Small Cap Index Fund	735,518	577,372
Developed International Index Fund	584,540	460,844
International Equity Fund	2,798,726	4,940,741
Emerging Markets Equity Fund	2,072,607	2,419,427
Real Estate Securities Fund	1,125,147	2,456,671
Aggressive Allocation Fund	343,324	338,968
Moderately Aggressive Allocation Fund	744,822	2,154,080
Moderate Allocation Fund	1,726,863	878,793
Moderately Conservative Allocation Fund	567,966	599,134
Conservative Allocation Fund	187,225	404,322

Note 4. Related Party Transactions and Contract Charges

Penn Mutual received \$48,076,320 and \$48,795,471 from Account I for mortality and risk expense, cost of insurance, contract administration and certain other charges for the years ended December 31, 2018 and 2017. These amounts charged include those assessed through a reduction in unit value, as well as those assessed through redemption of units.

Note 4. Related Party Transactions and Contract Charges (continued)

The following products assess mortality and expense charges as a reduction in the unit values. These are stated as a percentage of the account value as follows:

<u>Products</u>	<u>Mortality & Risk Expense</u>	<u>Guaranteed Maximum Rate</u>
Cornerstone VUL	0.75% of account value.	0.90% of account value.
Cornerstone VUL II	0.90% of account value. The rate has been lowered on a non-guaranteed basis to 0.40% of account value.	0.90% of account value.
Cornerstone VUL III	0.45% of account value.	0.90% of account value.
Momentum Builder	0.65% of account value.	0.65% of account value.
Variable Estate Max	0.90% of account value. The rate has been lowered on a non-guaranteed basis to 0.40% of account value.	0.90% of account value.
Variable Estate Max II	0.90% of account value. The rate has been lowered on a non-guaranteed basis to 0.40% of account value.	0.90% of account value.

The following products assess mortality and expense charges as a redemption of units held by the contract owner. They are as follows:

<u>Products</u>	<u>Mortality & Risk Expense</u>	<u>Guaranteed Maximum Rate</u>
Cornerstone VUL IV	0.45% on the first \$25,000 of account value; 0.15% on account value in excess of \$25,000; and a monthly expense charge per \$1,000 of specified amount during the first 10 years varying by issue age and rate class. The same load will apply for the first 10 years following an increase in specified amount.	0.60% on the first \$50,000 of account value; 0.30% on account value in excess of \$50,000; and a monthly expense charge per \$1,000 of specified amount during the first 10 years varying by issue age and rate class. The same load will apply for the first 10 years following an increase in specified amount.
Diversified Growth VUL	0.35% on the first \$25,000 of account value; 0.05% on account value in excess of \$25,000; and a monthly expense charge per \$1,000 of specified amount during the first 10 years varying by issue age and rate class. The same load will apply for the first 10 years following an increase in specified amount.	0.60% on the first \$50,000 of account value; 0.30% on account value in excess of \$50,000; and a monthly expense charge per \$1,000 of specified amount during the first 10 years varying by issue age and rate class. The same load will apply for the first 10 years following an increase in specified amount.
Survivorship Growth VUL	0.60% of account value (policy years 1 - 10); 0.05% of account value thereafter; and a monthly expense charge per \$1,000 of specified amount during the first 10 years. The same load will apply for the first 10 years following an increase in specified amount.	0.90% of account value (policy years 1 - 10); 0.35% of account value thereafter; and a monthly expense charge per \$1,000 of specified amount during the first 10 years. The same load will apply for the first 10 years following an increase in specified amount.
Variable Estate Max III	0.60% of account value (policy years 1 - 10); 0.05% of account value thereafter; and a monthly expense charge per \$1,000 of specified amount during the first 10 years. The same load will apply for the first 10 years following an increase in specified amount.	0.90% of account value (policy years 1 - 10); 0.35% of account value thereafter; and a monthly expense charge per \$1,000 of specified amount during the first 10 years. The same load will apply for the first 10 years following an increase in specified amount.

Note 4. Related Party Transactions and Contract Charges (continued)

Certain charges of the products are reflected as a redemption of units held by the policyholder. These are as follows:

<u>Products</u>	<u>Annual Contract Charge</u>
Cornerstone VUL	Maximum charge of 100% of purchase payments received. Charges do not apply after 11 years.
Cornerstone VUL II	Maximum charge of 100% of purchase payments received. Charges do not apply after 11 years.
Cornerstone VUL III	Maximum charge of 100% of purchase payments received. Charges do not apply after 11 years.
Cornerstone VUL IV	Maximum charge of 100% of purchase payments received. Charges do not apply after 11 years.
Diversified Growth VUL	Maximum charge of 100% of purchase payments received. Charges do not apply after 9 years.
Momentum Builder	Maximum charge of 100% of purchase payments received. Charges do not apply after 10 years.
Survivorship Growth VUL	Maximum charge of 100% of purchase payments received. Charges do not apply after 14 years.
Variable Estate Max	Maximum charge of 100% of purchase payments received. Charges do not apply after 16 years.
Variable Estate Max II	Maximum charge of 100% of purchase payments received. Charges do not apply after 16 years.
Variable Estate Max III	Maximum charge of 100% of purchase payments received. Charges do not apply after 14 years.

Premium charges on purchase payments are withdrawn from payments prior to the purchase of units. Currently, state premium taxes on purchase payments range from 0.00% to 3.50%. Sales and distribution expense charges on purchase payments range from 1.50% to 5.00%.

For each Cornerstone VUL, Cornerstone VUL II, Cornerstone VUL III, Cornerstone VUL IV, Variable Estate Max, Variable EstateMax II, Variable EstateMax III, Survivorship Growth VUL and Diversified Growth VUL policy, on the date of issue and each monthly anniversary, a monthly deduction is made from the policy value. The monthly deduction consists of cost of insurance charges, administrative charges and any charges for additional benefits added by supplemental agreement to a policy.

For each Momentum Builder policy, each month on the date specified in the contract (or on the date the contract is withdrawn in full if other than the date specified), a \$4 contract administration charge, or a lesser amount under state insurance laws, is deducted from the contract value.

Additionally, Penn Series pays Penn Mutual and its affiliates fees for investment advisory and administrative services.

Note 5. Accumulation Units

<u>Subaccount</u>	<u>December 31, 2018</u>			<u>December 31, 2017</u>		
	<u>Units Issued</u>	<u>Units Redeemed</u>	<u>Ending Unit Balance</u>	<u>Units Issued</u>	<u>Units Redeemed</u>	<u>Ending Unit Balance</u>
Money Market Fund	1,242,318	(1,233,867)	1,356,428	627,967	(844,134)	1,347,977
Limited Maturity Bond Fund	50,192	(93,893)	529,734	87,348	(62,072)	573,435
Quality Bond Fund	101,427	(195,993)	1,213,398	87,401	(166,932)	1,307,964
High Yield Bond Fund	28,939	(81,788)	479,038	25,742	(75,736)	531,887
Flexibly Managed Fund	160,958	(352,052)	4,387,947	149,338	(326,560)	4,579,041
Balanced Fund	35,147	(108,295)	1,049,138	50,201	(96,318)	1,122,286
Large Growth Stock Fund	91,616	(168,315)	1,627,183	89,593	(178,289)	1,703,882
Large Cap Growth Fund	35,344	(48,149)	421,830	43,216	(51,435)	434,635
Large Core Growth Fund	46,865	(261,408)	2,410,446	68,820	(331,409)	2,624,989
Large Cap Value Fund	42,922	(119,660)	1,189,809	61,363	(114,302)	1,266,547

Note 5. Accumulation Units (continued)

Subaccount	December 31, 2018			December 31, 2017		
	Units Issued	Units Redeemed	Ending Unit Balance	Units Issued	Units Redeemed	Ending Unit Balance
Large Core Value Fund	77,778	(193,131)	1,871,261	115,054	(239,852)	1,986,614
Index 500 Fund	98,737	(242,081)	2,841,593	193,907	(226,887)	2,984,937
Mid Cap Growth Fund	55,365	(98,888)	951,870	40,679	(94,533)	995,393
Mid Cap Value Fund	34,059	(73,303)	689,696	24,965	(91,956)	728,940
Mid Core Value Fund	21,318	(30,716)	292,742	68,770	(77,536)	302,140
SMID Cap Growth Fund	21,517	(16,528)	116,744	28,375	(25,689)	111,755
SMID Cap Value Fund	14,914	(29,064)	123,238	41,975	(64,020)	137,388
Small Cap Growth Fund	69,183	(119,903)	1,083,876	63,135	(127,280)	1,134,596
Small Cap Value Fund	39,704	(69,301)	771,881	49,539	(96,492)	801,478
Small Cap Index Fund	30,763	(25,432)	126,875	41,982	(24,666)	121,544
Developed International Index Fund	42,350	(34,274)	252,508	44,595	(46,249)	244,432
International Equity Fund	86,269	(133,821)	1,652,777	138,550	(204,982)	1,700,329
Emerging Markets Equity Fund	165,239	(193,148)	1,537,143	136,611	(207,437)	1,565,052
Real Estate Securities Fund	29,758	(64,646)	419,149	33,736	(69,064)	454,037
Aggressive Allocation Fund	17,775	(17,421)	145,765	34,682	(42,146)	145,411
Moderately Aggressive Allocation Fund	37,528	(107,301)	548,722	60,143	(79,217)	618,495
Moderate Allocation Fund	99,351	(49,755)	803,626	91,980	(109,136)	754,030
Moderately Conservative Allocation Fund	35,172	(37,352)	207,631	28,768	(56,832)	209,811
Conservative Allocation Fund	13,455	(28,679)	263,249	114,871	(80,335)	278,473

Note 6. Financial Highlights

Account I is a funding vehicle for a number of variable life products, which have unique combinations of features and fees that are charged against the contract owner's account balance. Differences in the fee structures result in a variety of unit values, expense ratios and total returns.

The following table was developed by determining which products offered within Account I have the lowest and highest total return. Only product designs within each subaccount that had units outstanding during the respective periods were considered when determining the lowest and highest total return. The summary may not reflect the minimum and maximum contract charges offered within Account I as contract owners may not have selected all available and applicable contract options.

Subaccount	January 1, 2018		December 31, 2018		For the Year ended December 31, 2018		
	Unit Value	Units	Unit Value	Net Assets	Investment Income Ratio* (%)	Expense Ratio** (%)	Total Return *** (%)
Money Market Fund	\$12.39 to \$20.85	1,356,428	\$12.46 to \$20.83	\$ 17,366,568	0.55	0.40 to 0.90	(0.20) to 0.55
Limited Maturity Bond Fund	15.71 to 19.32	529,734	15.93 to 19.44	8,816,712	—	0.40 to 0.90	0.64 to 1.41
Quality Bond Fund	21.15 to 52.94	1,213,398	21.13 to 52.56	27,766,110	—	0.40 to 0.90	(0.82) to (0.07)
High Yield Bond Fund	31.03 to 84.55	479,038	30.19 to 82.08	17,207,882	—	0.40 to 0.90	(3.01) to (2.28)
Flexibly Managed Fund	50.34 to 213.74	4,387,947	50.58 to 213.37	267,282,361	—	0.40 to 0.90	(0.28) to 0.48
Balanced Fund	19.46 to 20.94	1,049,138	18.81 to 20.33	20,452,268	—	0.40 to 0.90	(3.61) to (2.88)
Large Growth Stock Fund	16.28 to 68.35	1,627,183	15.99 to 67.01	44,128,867	—	0.40 to 0.90	(2.05) to (1.31)
Large Cap Growth Fund	18.44 to 21.00	421,830	18.49 to 21.14	8,739,921	—	0.40 to 0.90	(0.08) to 0.67
Large Core Growth Fund	20.20 to 21.73	2,410,446	20.79 to 22.47	51,507,519	—	0.40 to 0.90	2.64 to 3.41
Large Cap Value Fund	24.02 to 100.41	1,189,809	22.06 to 92.06	38,358,291	—	0.40 to 0.90	(8.40) to (7.71)
Large Core Value Fund	17.51 to 18.83	1,871,261	16.28 to 17.59	31,593,244	—	0.40 to 0.90	(7.30) to (6.60)
Index 500 Fund	23.77 to 40.34	2,841,593	22.54 to 38.14	86,531,270	—	0.40 to 0.90	(5.47) to (4.76)
Mid Cap Growth Fund	17.44 to 36.83	951,870	17.40 to 36.65	26,099,032	—	0.40 to 0.90	(0.49) to 0.26
Mid Cap Value Fund	41.28 to 57.79	689,696	34.85 to 48.64	27,512,447	—	0.40 to 0.90	(15.83) to (15.20)
Mid Core Value Fund	31.00 to 35.30	292,742	26.85 to 30.70	8,637,586	—	0.40 to 0.90	(13.70) to (13.05)
SMID Cap Growth Fund	24.52 to 26.38	116,744	23.07 to 24.93	2,865,163	—	0.40 to 0.90	(6.21) to (5.50)
SMID Cap Value Fund	26.07 to 28.05	123,238	22.02 to 23.80	2,870,405	—	0.40 to 0.90	(15.80) to (15.16)
Small Cap Growth Fund	17.87 to 52.60	1,083,876	16.96 to 49.78	26,053,833	—	0.40 to 0.90	(5.36) to (4.64)
Small Cap Value Fund	57.84 to 86.92	771,881	49.82 to 74.29	43,473,427	—	0.40 to 0.90	(14.53) to (13.88)
Small Cap Index Fund	21.38 to 23.00	126,875	18.86 to 20.39	2,545,224	—	0.40 to 0.90	(12.04) to (11.37)

Note 6. Financial Highlights (continued)

Subaccount	January 1, 2018		December 31, 2018		For the Year ended December 31, 2018		
	Unit Value	Units	Unit Value	Net Assets	Investment Income Ratio* (%)	Expense Ratio** (%)	Total Return *** (%)
Developed International Index Fund	\$13.28 to \$14.28	252,508	\$11.36 to \$12.27	\$ 3,022,403	—	0.40 to 0.90	(14.71) to (14.06)
International Equity Fund	27.95 to 55.91	1,652,777	24.37 to 48.62	54,465,927	—	0.40 to 0.90	(13.05) to (12.39)
Emerging Markets Equity Fund	12.88 to 13.86	1,537,143	10.58 to 11.44	17,085,470	—	0.40 to 0.90	(18.08) to (17.46)
Real Estate Securities Fund	34.95 to 39.79	419,149	33.35 to 38.13	15,436,934	—	0.40 to 0.90	(4.91) to (4.19)
Aggressive Allocation Fund	18.14 to 19.51	145,765	16.33 to 17.65	2,543,339	—	0.40 to 0.90	(10.21) to (9.53)
Moderately Aggressive Allocation Fund	18.65 to 20.06	548,722	17.11 to 18.49	10,098,735	—	0.40 to 0.90	(8.53) to (7.83)
Moderate Allocation Fund	16.67 to 17.94	803,626	15.62 to 16.88	13,342,148	—	0.40 to 0.90	(6.59) to (5.88)
Moderately Conservative Allocation Fund	15.19 to 16.34	207,631	14.59 to 15.77	3,155,978	—	0.40 to 0.90	(4.19) to (3.47)
Conservative Allocation Fund	13.61 to 14.64	263,249	13.36 to 14.44	3,711,208	—	0.40 to 0.90	(2.08) to (1.34)

Subaccount	January 1, 2017		December 31, 2017		For the Year ended December 31, 2017		
	Unit Value	Units	Unit Value	Net Assets	Investment Income Ratio* (%)	Expense Ratio** (%)	Total Return *** (%)
Money Market Fund	\$12.39 to \$20.99	1,347,977	\$12.39 to \$20.85	\$ 17,310,736	0.01	0.40 to 0.90	(0.74) to 0.01
Limited Maturity Bond Fund	15.45 to 19.14	573,435	15.71 to 19.32	9,438,500	—	0.40 to 0.90	0.92 to 1.68
Quality Bond Fund	20.23 to 50.96	1,307,964	21.15 to 52.94	29,992,590	—	0.40 to 0.90	3.78 to 4.56
High Yield Bond Fund	29.02 to 79.22	531,887	31.03 to 84.55	19,531,331	—	0.40 to 0.90	6.62 to 7.42
Flexibly Managed Fund	43.78 to 187.08	4,579,041	50.34 to 213.74	279,038,429	—	0.40 to 0.90	14.14 to 14.99
Balanced Fund	17.10 to 18.32	1,122,286	19.46 to 20.94	22,567,661	—	0.40 to 0.90	13.41 to 14.26
Large Growth Stock Fund	12.28 to 51.66	1,703,882	16.28 to 68.35	47,382,388	—	0.40 to 0.90	32.17 to 33.16
Large Cap Growth Fund	14.45 to 16.38	434,635	18.44 to 21.00	8,946,085	—	0.40 to 0.90	27.24 to 28.19
Large Core Growth Fund	15.27 to 16.37	2,624,989	20.20 to 21.73	54,376,605	—	0.40 to 0.90	31.79 to 32.78
Large Cap Value Fund	21.05 to 88.18	1,266,547	24.02 to 100.41	44,654,612	—	0.40 to 0.90	13.75 to 14.60
Large Core Value Fund	15.26 to 16.35	1,986,614	17.51 to 18.83	35,973,824	—	0.40 to 0.90	14.35 to 15.20
Index 500 Fund	19.65 to 33.45	2,984,937	23.77 to 40.34	95,728,991	—	0.40 to 0.90	20.60 to 21.50
Mid Cap Growth Fund	13.78 to 29.20	995,393	17.44 to 36.83	27,185,844	—	0.40 to 0.90	26.13 to 27.08
Mid Cap Value Fund	35.30 to 49.57	728,940	41.28 to 57.79	34,372,318	—	0.40 to 0.90	16.58 to 17.45
Mid Core Value Fund	27.91 to 31.65	302,140	31.00 to 35.30	10,274,621	—	0.40 to 0.90	10.71 to 11.54
SMID Cap Growth Fund	19.30 to 20.68	111,755	24.52 to 26.38	2,902,222	—	0.40 to 0.90	26.61 to 27.56
SMID Cap Value Fund	23.16 to 24.82	137,388	26.07 to 28.05	3,769,116	—	0.40 to 0.90	12.16 to 13.00
Small Cap Growth Fund	14.38 to 42.45	1,134,596	17.87 to 52.60	28,710,791	—	0.40 to 0.90	23.91 to 24.84
Small Cap Value Fund	51.53 to 78.01	801,478	57.84 to 86.92	52,694,299	—	0.40 to 0.90	11.41 to 12.25
Small Cap Index Fund	18.87 to 20.22	121,544	21.38 to 23.00	2,741,460	—	0.40 to 0.90	12.94 to 13.79
Developed International Index Fund	10.70 to 11.47	244,432	13.28 to 14.28	3,401,798	—	0.40 to 0.90	23.59 to 24.52
International Equity Fund	21.32 to 42.78	1,700,329	27.95 to 55.91	64,362,728	—	0.40 to 0.90	30.70 to 31.68
Emerging Markets Equity Fund	9.58 to 10.26	1,565,052	12.88 to 13.86	21,090,735	—	0.40 to 0.90	34.02 to 35.03
Real Estate Securities Fund	32.67 to 37.05	454,037	34.95 to 39.79	17,458,956	—	0.40 to 0.90	6.60 to 7.40
Aggressive Allocation Fund	15.16 to 16.25	145,411	18.14 to 19.51	2,807,582	—	0.40 to 0.90	19.18 to 20.07
Moderately Aggressive Allocation Fund	15.92 to 17.06	618,495	18.65 to 20.06	12,352,817	—	0.40 to 0.90	16.71 to 17.58
Moderate Allocation Fund	14.69 to 15.74	754,030	16.67 to 17.94	13,320,968	—	0.40 to 0.90	13.15 to 14.00
Moderately Conservative Allocation Fund	13.86 to 14.85	209,811	15.19 to 16.34	3,307,033	—	0.40 to 0.90	9.17 to 9.99
Conservative Allocation Fund	12.84 to 13.76	278,473	13.61 to 14.64	3,979,398	—	0.40 to 0.90	5.58 to 6.38

Subaccount	January 1, 2016		December 31, 2016		For the Year ended December 31, 2016		
	Unit Value	Units	Unit Value	Net Assets	Investment Income Ratio* (%)	Expense Ratio** (%)	Total Return *** (%)
Money Market Fund	\$12.39 to \$21.12	1,564,144	\$12.39 to \$20.99	\$ 20,048,088	0.01	0.40 to 0.90	(0.74) to 0.01
Limited Maturity Bond Fund	15.06 to 18.80	548,159	15.45 to 19.14	8,911,585	—	0.40 to 0.90	1.82 to 2.59
Quality Bond Fund	19.39 to 49.17	1,387,495	20.23 to 50.96	30,484,551	—	0.40 to 0.90	3.54 to 4.31
High Yield Bond Fund	25.21 to 68.95	581,881	29.02 to 79.22	19,902,260	—	0.40 to 0.90	14.78 to 15.65
Flexibly Managed Fund	40.47 to 174.06	4,756,263	43.78 to 187.08	254,325,315	—	0.40 to 0.90	7.37 to 8.18
Balanced Fund	15.84 to 16.91	1,168,403	17.10 to 18.32	20,588,962	—	0.40 to 0.90	7.57 to 8.37
Large Growth Stock Fund	12.20 to 51.43	1,792,578	12.28 to 51.66	37,671,545	—	0.40 to 0.90	0.34 to 1.10

Note 6. Financial Highlights (continued)

Subaccount	January 1, 2016		December 31, 2016		For the Year ended December 31, 2016		
	Unit Value	Units	Unit Value	Net Assets	Investment Income Ratio* (%)	Expense Ratio** (%)	Total Return *** (%)
Large Cap Growth Fund	\$13.69 to \$15.46	442,854	\$14.45 to \$16.38	\$ 7,112,597	—	0.40 to 0.90	5.17 to 5.96
Large Core Growth Fund	15.32 to 16.35	2,887,578	15.27 to 16.37	45,180,928	—	0.40 to 0.90	(0.62) to 0.12
Large Cap Value Fund	18.94 to 79.52	1,319,486	21.05 to 88.18	40,963,728	—	0.40 to 0.90	10.78 to 11.62
Large Core Value Fund	13.98 to 14.92	2,111,412	15.26 to 16.35	33,248,962	—	0.40 to 0.90	8.73 to 9.55
Index 500 Fund	17.70 to 30.22	3,017,917	19.65 to 33.45	80,024,162	—	0.40 to 0.90	10.69 to 11.52
Mid Cap Growth Fund	13.01 to 27.64	1,049,247	13.78 to 29.20	22,526,453	—	0.40 to 0.90	5.63 to 6.42
Mid Cap Value Fund	30.26 to 42.61	795,931	35.30 to 49.57	32,106,855	—	0.40 to 0.90	16.33 to 17.20
Mid Core Value Fund	22.82 to 25.78	310,906	27.91 to 31.65	9,524,520	—	0.40 to 0.90	21.85 to 22.77
SMID Cap Growth Fund	18.23 to 19.46	109,069	19.30 to 20.68	2,209,212	—	0.40 to 0.90	5.48 to 6.27
SMID Cap Value Fund	18.57 to 19.82	159,433	23.16 to 24.82	3,855,009	—	0.40 to 0.90	24.27 to 25.20
Small Cap Growth Fund	13.29 to 39.34	1,198,741	14.38 to 42.45	24,486,636	—	0.40 to 0.90	7.90 to 8.71
Small Cap Value Fund	41.31 to 63.00	848,431	51.53 to 78.01	49,979,075	—	0.40 to 0.90	23.83 to 24.75
Small Cap Index Fund	15.74 to 16.80	104,228	18.87 to 20.22	2,063,537	—	0.40 to 0.90	19.48 to 20.37
Developed International Index Fund	10.71 to 11.43	246,086	10.70 to 11.47	2,754,219	—	0.40 to 0.90	(0.40) to 0.35
International Equity Fund	22.58 to 45.45	1,766,761	21.32 to 42.78	51,207,134	—	0.40 to 0.90	(5.87) to (5.16)
Emerging Markets Equity Fund	9.09 to 9.70	1,635,878	9.58 to 10.26	16,350,166	—	0.40 to 0.90	5.01 to 5.80
Real Estate Securities Fund	31.09 to 35.12	489,365	32.67 to 37.05	17,446,777	—	0.40 to 0.90	4.70 to 5.49
Aggressive Allocation Fund	14.17 to 15.12	152,875	15.16 to 16.25	2,426,210	—	0.40 to 0.90	6.66 to 7.46
Moderately Aggressive Allocation Fund	14.87 to 15.87	637,569	15.92 to 17.06	10,830,789	—	0.40 to 0.90	6.72 to 7.52
Moderate Allocation Fund	13.78 to 14.71	771,186	14.69 to 15.74	11,918,374	—	0.40 to 0.90	6.17 to 6.96
Moderately Conservative Allocation Fund	13.13 to 14.01	237,875	13.86 to 14.85	3,420,119	—	0.40 to 0.90	5.24 to 6.03
Conservative Allocation Fund	12.31 to 13.14	243,937	12.84 to 13.76	3,313,254	—	0.40 to 0.90	3.93 to 4.71

Subaccount	January 1, 2015		December 31, 2015		For the Year ended December 31, 2015		
	Unit Value	Units	Unit Value	Net Assets	Investment Income Ratio* (%)	Expense Ratio** (%)	Total Return *** (%)
Money Market Fund	\$12.39 to \$21.26	1,693,550	\$12.39 to \$21.12	\$ 21,772,650	0.01	0.40 to 0.90	(0.77) to 0.01
Limited Maturity Bond Fund	14.94 to 18.79	549,371	15.06 to 18.80	8,705,548	—	0.40 to 0.90	(0.01) to 0.78
Quality Bond Fund	19.32 to 49.30	1,538,502	19.39 to 49.17	33,110,647	—	0.40 to 0.90	(0.41) to 0.37
High Yield Bond Fund	26.20 to 71.82	627,838	25.21 to 68.95	18,703,652	—	0.40 to 0.90	(4.13) to (3.37)
Flexibly Managed Fund	38.54 to 166.86	5,014,999	40.47 to 174.06	250,374,066	—	0.40 to 0.90	4.17 to 4.99
Balanced Fund	15.86 to 16.79	1,279,225	15.84 to 16.91	20,859,167	—	0.40 to 0.90	(0.11) to 0.68
Large Growth Stock Fund	11.09 to 46.85	2,019,773	12.20 to 51.43	41,655,495	—	0.40 to 0.90	9.65 to 10.51
Large Cap Growth Fund	13.82 to 15.49	455,663	13.69 to 15.46	6,898,835	—	0.40 to 0.90	(0.93) to (0.15)
Large Core Growth Fund	15.18 to 16.08	3,177,366	15.32 to 16.35	49,806,898	—	0.40 to 0.90	0.89 to 1.68
Large Cap Value Fund	19.89 to 83.68	1,458,901	18.94 to 79.52	40,492,844	—	0.40 to 0.90	(5.10) to (4.35)
Large Core Value Fund	14.21 to 15.04	2,342,677	13.98 to 14.92	33,751,483	—	0.40 to 0.90	(1.58) to (0.81)
Index 500 Fund	17.61 to 30.15	3,284,970	17.70 to 30.22	78,458,085	—	0.40 to 0.90	0.21 to 1.00
Mid Cap Growth Fund	13.87 to 29.56	1,177,448	13.01 to 27.64	23,728,275	—	0.40 to 0.90	(6.52) to (5.78)
Mid Cap Value Fund	33.03 to 46.66	905,329	30.26 to 42.61	31,231,806	—	0.40 to 0.90	(8.71) to (7.98)
Mid Core Value Fund	23.36 to 26.18	304,567	22.82 to 25.78	7,613,985	—	0.40 to 0.90	(2.29) to (1.51)
SMID Cap Growth Fund	18.66 to 19.76	130,073	18.23 to 19.46	2,474,012	—	0.40 to 0.90	(2.29) to (1.52)
SMID Cap Value Fund	19.85 to 21.02	133,198	18.57 to 19.82	2,569,471	—	0.40 to 0.90	(6.43) to (5.69)
Small Cap Growth Fund	13.30 to 39.50	1,351,025	13.29 to 39.34	25,309,430	—	0.40 to 0.90	(0.44) to 0.35
Small Cap Value Fund	43.69 to 67.14	950,383	41.31 to 63.00	45,001,273	—	0.40 to 0.90	(6.20) to (5.46)
Small Cap Index Fund	16.72 to 17.70	93,563	15.74 to 16.80	1,542,536	—	0.40 to 0.90	(5.86) to (5.12)
Developed International Index Fund	10.95 to 11.59	246,402	10.71 to 11.43	2,755,625	—	0.40 to 0.90	(2.16) to (1.39)
International Equity Fund	21.89 to 44.20	1,931,118	22.58 to 45.45	59,083,432	—	0.40 to 0.90	2.78 to 3.59
Emerging Markets Equity Fund	10.28 to 10.89	1,811,038	9.09 to 9.70	17,129,573	—	0.40 to 0.90	(11.58) to (10.89)
Real Estate Securities Fund	29.78 to 33.38	507,826	31.09 to 35.12	17,175,167	—	0.40 to 0.90	4.40 to 5.22
Aggressive Allocation Fund	14.51 to 15.36	154,040	14.17 to 15.12	2,275,149	—	0.40 to 0.90	(2.36) to (1.59)
Moderately Aggressive Allocation Fund	15.16 to 16.05	616,898	14.87 to 15.87	9,746,104	—	0.40 to 0.90	(1.92) to (1.14)
Moderate Allocation Fund	13.97 to 14.79	775,938	13.78 to 14.71	11,223,057	—	0.40 to 0.90	(1.33) to (0.55)
Moderately Conservative Allocation Fund	13.26 to 14.04	258,011	13.13 to 14.01	3,490,679	—	0.40 to 0.90	(1.00) to (0.22)
Conservative Allocation Fund	12.40 to 13.13	236,654	12.31 to 13.14	3,071,183	—	0.40 to 0.90	(0.71) to 0.08

Note 6. Financial Highlights (continued)

Subaccount	January 1, 2014		December 31, 2014		For the Year ended December 31, 2014		
	Unit Value	Units	Unit Value	Net Assets	Investment Income Ratio* (%)	Expense Ratio** (%)	Total Return *** (%)
Money Market Fund	\$12.39 to \$21.39	1,725,647	\$12.39 to \$21.26	\$ 22,375,727	0.01	0.45 to 0.90	(0.89) to (0.04)
Limited Maturity Bond Fund	14.92 to 18.90	580,215	14.94 to 18.79	9,165,304	—	0.45 to 0.90	(0.72) to 0.12
Quality Bond Fund	18.38 to 47.22	1,668,114	19.32 to 49.30	35,527,886	—	0.45 to 0.90	4.16 to 5.05
High Yield Bond Fund	25.84 to 70.97	636,847	26.20 to 71.82	19,765,361	—	0.45 to 0.90	0.94 to 1.80
Flexibly Managed Fund	34.37 to 149.79	5,378,418	38.54 to 166.86	260,085,433	—	0.45 to 0.90	11.12 to 12.07
Balanced Fund	14.59 to 15.31	1,370,004	15.86 to 16.79	22,256,923	—	0.45 to 0.90	8.67 to 9.60
Large Growth Stock Fund	10.28 to 43.51	2,164,016	11.09 to 46.85	40,779,931	—	0.45 to 0.90	7.39 to 8.31
Large Cap Growth Fund	12.53 to 13.92	485,262	13.82 to 15.49	7,367,660	—	0.45 to 0.90	10.29 to 11.24
Large Core Growth Fund	14.22 to 14.92	3,507,782	15.18 to 16.08	54,343,752	—	0.45 to 0.90	6.76 to 7.68
Large Cap Value Fund	17.95 to 75.66	1,520,552	19.89 to 83.68	44,552,100	—	0.45 to 0.90	10.32 to 11.26
Large Core Value Fund	12.88 to 13.52	2,562,580	14.21 to 15.04	37,372,439	—	0.45 to 0.90	10.29 to 11.23
Index 500 Fund	15.62 to 26.82	3,511,843	17.61 to 30.15	83,353,816	—	0.45 to 0.90	12.24 to 13.20
Mid Cap Growth Fund	12.72 to 27.20	1,259,079	13.87 to 29.56	27,019,440	—	0.45 to 0.90	8.51 to 9.44
Mid Cap Value Fund	29.19 to 41.36	933,597	33.03 to 46.66	35,321,366	—	0.45 to 0.90	12.65 to 13.62
Mid Core Value Fund	20.25 to 22.49	364,140	23.36 to 26.18	9,254,616	—	0.45 to 0.90	15.33 to 16.32
SMID Cap Growth Fund	18.72 to 19.64	142,809	18.66 to 19.76	2,752,860	—	0.45 to 0.90	(0.29) to 0.56
SMID Cap Value Fund	18.34 to 19.24	140,529	19.85 to 21.02	2,866,683	—	0.45 to 0.90	8.27 to 9.20
Small Cap Growth Fund	12.39 to 36.90	1,402,811	13.30 to 39.50	26,384,935	—	0.45 to 0.90	6.87 to 7.78
Small Cap Value Fund	40.78 to 63.13	1,030,171	43.69 to 67.14	52,147,139	—	0.45 to 0.90	6.19 to 7.10
Small Cap Index Fund	16.19 to 16.99	98,073	16.72 to 17.70	1,710,425	—	0.45 to 0.90	3.27 to 4.15
Developed International Index Fund	11.76 to 12.34	209,098	10.95 to 11.59	2,376,135	—	0.45 to 0.90	(6.94) to (6.15)
International Equity Fund	21.36 to 43.26	2,053,404	21.89 to 44.20	61,199,238	—	0.45 to 0.90	2.03 to 2.90
Emerging Markets Equity Fund	10.91 to 11.45	1,854,765	10.28 to 10.89	19,726,661	—	0.45 to 0.90	(5.76) to (4.96)
Real Estate Securities Fund	23.08 to 25.63	571,605	29.78 to 33.38	18,368,152	—	0.45 to 0.90	29.06 to 30.17
Aggressive Allocation Fund	13.71 to 14.39	212,290	14.51 to 15.36	3,156,580	—	0.45 to 0.90	5.82 to 6.73
Moderately Aggressive Allocation Fund	14.39 to 15.10	668,359	15.16 to 16.05	10,686,907	—	0.45 to 0.90	5.33 to 6.23
Moderate Allocation Fund	13.35 to 14.00	727,818	13.97 to 14.79	10,587,656	—	0.45 to 0.90	4.69 to 5.58
Moderately Conservative Allocation Fund	12.74 to 13.37	244,653	13.26 to 14.04	3,332,007	—	0.45 to 0.90	4.07 to 4.96
Conservative Allocation Fund	12.06 to 12.66	255,681	12.40 to 13.13	3,313,684	—	0.45 to 0.90	2.82 to 3.70

* These ratios represent the dividends, excluding distributions of capital gains, received by the subaccounts within Account I from the underlying mutual funds, net of management fees and expenses assessed by the fund manager, divided by the average net assets of the respective subaccounts. These ratios exclude those expenses, such as mortality and expense charges, that result in direct reductions in the unit values. The recognition of investment income by the subaccount is affected by the timing of the declaration of dividends by the underlying funds in which the subaccount invests and, to the extent the underlying fund utilizes consent dividend rather than paying dividends in cash or reinvested shares, Account I does not record investment income.

** These ratios represent the annualized contract expenses of the subaccount, consisting primarily of mortality and expense charges, for the period indicated. The ratios include only those expenses that result in a direct reduction to unit values. Charges made directly to contract owner accounts through the redemption of units and expenses of the underlying subaccount are excluded, as in Cornerstone VUL IV, Variable Estate Max III, Diversified Growth VUL and Survivorship Growth VUL (which would have an expense ratio of 0.00% since all contract charges are assessed through a reduction in units held).

*** These ratios represent the total return for the periods indicated, including changes in the value of the underlying subaccount, and reflect deductions for all items included in the expense ratio. The total return also includes any expenses assessed through the redemption of units. The total return is calculated for the period indicated or from the effective date through the end of the reporting period.

Note 7. Subsequent Events

Management has evaluated events subsequent to December 31, 2018 and through the Account I Financial Statement date of issuance of April 9, 2019 and has determined that there were no subsequent events requiring recognition of disclosure in the financial statements.

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The Penn Mutual Life Insurance Company



2018 Statutory Financial Statements



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Report of Independent Auditors

To the Board of Trustees of
The Penn Mutual Life Insurance Company

We have audited the accompanying statutory financial statements of The Penn Mutual Life Insurance Company (the "Company"), which comprise the statutory statements of admitted assets, liabilities and surplus as of December 31, 2018 and 2017, and the related statutory statements of income and changes in surplus, and of cash flows for the years then ended.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with the accounting practices prescribed or permitted by the Insurance Department of the Commonwealth of Pennsylvania. Management is also responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on 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 1 to the financial statements, the financial statements are prepared by the Company on the basis of the accounting practices prescribed or permitted by the Insurance Department of the Commonwealth of Pennsylvania, which is a basis of accounting other than accounting principles generally accepted in the United States of America.



The effects on the financial statements of the variances between the statutory basis of accounting described in Note 1 and accounting principles generally accepted in the United States of America are 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 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 the years then ended.

Opinion on Statutory Basis of Accounting

In our opinion, the financial statements referred to above present fairly, in all material respects, the admitted assets, liabilities and surplus of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for the years then ended, in accordance with the accounting practices prescribed or permitted by the Insurance Department of the Commonwealth of Pennsylvania described in Note 1.

A handwritten signature in cursive script, appearing to read "PricewaterhouseCoopers USA".

Philadelphia, PA
2/15/19

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(\$ in Thousands)

Statements of Admitted Assets, Liabilities and Surplus

As of December 31,	2018	2017
ADMITTED ASSETS		
Bonds	\$ 9,968,033	\$ 9,209,554
Stocks:		
Preferred	112,090	112,008
Common — affiliated	559,797	503,949
Common — unaffiliated	70,398	64,362
Real estate	33,157	34,547
Policy loans	355,265	330,687
Cash and short-term investments	270,846	299,313
Alternative assets	693,130	528,493
Derivatives	249,283	95,569
Other invested assets	642,045	557,474
TOTAL INVESTMENTS	12,954,044	11,735,956
Investment income due and accrued	123,168	104,559
Premiums due and deferred	100,727	89,731
Deferred tax asset	214,419	218,068
Corporate owned life insurance	215,530	221,652
Amounts recoverable from reinsurers	46,202	29,720
Other assets	104,994	240,148
Separate account assets	7,289,426	8,029,575
TOTAL ASSETS	\$21,048,510	\$20,669,409
LIABILITIES		
Reserves and funds for payment of insurance and annuity benefits	\$ 9,756,743	\$ 8,885,673
Dividends to policyholders payable in the following year	88,562	96,395
Policy claims in process	61,604	51,629
Interest maintenance reserve	163,650	160,106
Asset valuation reserve	165,053	141,481
Drafts outstanding	57,392	36,896
Funds held under coinsurance	925,972	849,354
Federal income taxes payable	26,567	—
Other liabilities	325,572	386,999
Derivatives	334,393	333,901
Separate account liabilities	7,289,426	8,029,575
TOTAL LIABILITIES	19,194,934	18,972,009
SURPLUS		
Surplus notes	390,041	389,816
Unassigned surplus	1,463,535	1,307,584
TOTAL SURPLUS	1,853,576	1,697,400
TOTAL LIABILITIES AND SURPLUS	\$21,048,510	\$20,669,409

The accompanying notes are an integral part of these financial statements.

(\$ in Thousands)

Statements of Income and Changes in Surplus

For the Years Ended December 31,	2018	2017
REVENUE		
Premium and annuity considerations	\$ 993,852	\$ 830,599
Net investment income	607,535	553,138
Other revenue	700,066	676,785
TOTAL REVENUE	2,301,453	2,060,522
BENEFITS AND EXPENSES		
Benefits paid to policyholders and beneficiaries	1,317,178	1,108,084
Increase in reserves for payment of future insurance and annuity benefits	647,994	408,268
Commissions	154,759	146,628
Operating expenses	300,148	306,622
Other expenses	50,122	254,450
Net transfer (from) separate accounts	(300,539)	(200,019)
TOTAL BENEFITS AND EXPENSES	2,169,662	2,024,033
GAIN FROM OPERATIONS BEFORE DIVIDENDS AND FEDERAL INCOME TAX BENEFITS	131,791	36,489
Dividends to policyholders	86,793	96,924
GAIN/(LOSS) FROM OPERATIONS BEFORE FEDERAL INCOME TAX EXPENSE	44,998	(60,435)
Federal income tax (benefit)	(4,038)	(87,848)
GAIN FROM OPERATIONS	49,036	27,413
Net realized capital (losses), net of tax	(11,519)	(67,901)
NET INCOME/(LOSS)	\$ 37,517	\$ (40,488)
SURPLUS		
Net income/(loss)	\$ 37,517	\$ (40,488)
Opening surplus adjustment	(10,629)	—
Change due to reinsurance	(11,656)	53,080
Change in asset valuation reserve	(23,572)	(22,955)
Change in net unrealized capital losses, net of tax	139,491	(38,974)
Change in net deferred income tax	19,810	(90,706)
Change in funded status of postretirement plans, net of tax	(3,071)	(83)
Change in surplus notes	225	210
Change in nonadmitted assets	8,061	96,700
Change in surplus	156,176	(43,216)
Surplus, beginning of year	1,697,400	1,740,616
Surplus, end of year	\$1,853,576	\$1,697,400

The accompanying notes are an integral part of these financial statements.

(\$ in Thousands)

Statements of Cash Flows

For the Years Ended December 31,	2018	2017
OPERATIONS		
Premium and annuity considerations	\$ 1,385,642	\$1,341,507
Net investment income	621,310	624,375
Other revenue	253,307	259,755
CASH PROVIDED BY OPERATIONS	2,260,259	2,225,637
Benefits paid	1,404,229	1,062,133
Commissions and operating expenses	509,169	679,538
Net transfers (from)/to separate accounts	(316,455)	(218,787)
Dividends to policyholders	37,022	14,578
Taxes (refunded) on operating income and realized investment losses	(66,823)	(4,316)
CASH USED IN OPERATIONS	1,567,142	1,533,146
NET CASH PROVIDED BY OPERATIONS	693,117	692,491
INVESTMENT ACTIVITIES		
Investments sold, matured or repaid:		
Bonds	1,164,644	1,318,097
Preferred and common stocks	44,499	71,032
Limited partnerships, real estate and other invested assets	69,616	108,246
Net (losses)/gains on cash, cash equivalents short-term investments	5	(2)
Derivatives	3,635	4,655
NET PROCEEDS FROM INVESTMENTS SOLD, MATURED OR REPAID	1,282,399	1,502,028
Cost of investments acquired:		
Bonds	1,957,616	1,899,406
Preferred and common stock	107,258	71,789
Limited partnerships, real estate and other invested assets	307,031	214,240
Derivatives	(2,484)	(7,964)
TOTAL COST OF INVESTMENTS ACQUIRED	2,369,421	2,177,471
Net increase in policy loans	(15,676)	(4,069)
NET CASH USED IN INVESTMENT ACTIVITIES	(1,102,698)	(679,512)
FINANCING AND MISCELLANEOUS		
Net withdrawals on deposit-type contracts	213,730	38,349
Other cash applied, net	167,384	34,812
NET CASH PROVIDED BY FINANCING AND MISCELLANEOUS	381,114	73,161
NET CHANGE IN CASH AND SHORT-TERM INVESTMENTS	(28,467)	86,140
Cash and short-term investments:		
Beginning of year	299,313	213,173
End of year	\$ 270,846	\$ 299,313

... continued -

(\$ in Thousands)

Statements of Cash Flows (cont')

For the Years Ended December 31,	2018	2017
Supplemental Disclosure of Cash Flow Information for Non-Cash Transactions:		
Common stock acquired as a return of capital/dividend	\$ 7,998	\$ 5,753
Premiums paid from benefits	25,137	16,447
Premiums paid by dividend	57,605	44,255
Premiums paid by policy loan	8,902	7,811
Capitalized interest	1,046	1,059
Bond exchange	70,996	46,985
Other	3,991	10,226

The accompanying notes are an integral part of these financial statements.

Notes to Financial Statements

Note 1. NATURE OF OPERATIONS AND BASIS OF PRESENTATION

NATURE OF OPERATIONS The Penn Mutual Life Insurance Company (the “Company”) is a mutual life insurance company, domiciled in Pennsylvania, which concentrates primarily in the sale of individual life insurance and annuity products. The primary products that the Company currently markets are traditional whole life, one year non-renewable and level term, universal life, indexed universal life, variable universal life, immediate annuities and deferred annuities, both fixed and variable. The Company markets its products through a network of career advisers, and independent advisers. The Company is licensed to write business in all fifty states and the District of Columbia.

BASIS OF PRESENTATION The accompanying financial statements of the Company have been prepared in conformity with the National Association of Insurance Commissioner’s (“NAIC”) Practices and Procedures manual and with statutory accounting practices prescribed or permitted by the Insurance Department of the Commonwealth of Pennsylvania (collectively “SAP” or “statutory accounting principles”). Prescribed statutory accounting practices include publications of the NAIC, state laws, regulations, and general administrative rules. Permitted statutory accounting practices encompass all accounting practices not so prescribed. The Company currently has no permitted practices.

Statutory accounting principles are different in some respects from U.S. Generally Accepted Accounting Principles (“GAAP”). The more significant differences between statutory accounting principles and GAAP are as follows:

- (a) certain acquisition costs, such as commissions and other variable costs, that are directly related to the successful acquisition of new business, are charged to current operations as incurred, whereas GAAP would generally capitalize these expenses and amortize them based on profit emergence over the expected life of the policies or over premium payment period;
- (b) statutory policy reserves are based upon the Commissioners’ Reserve Valuation Method (“CRVM”) or net level premium method and prescribed statutory mortality, morbidity and interest assumptions, whereas GAAP reserves would generally be based upon the net level premium method or the estimated gross margin method, with estimates of future mortality, morbidity, and interest assumptions;
- (c) bonds are generally carried at amortized cost, whereas GAAP would generally report bonds at fair value;
- (d) undistributed earnings from alternative assets are included in unrealized gains and losses, whereas GAAP would treat these changes as net investment income;
- (e) deferred income taxes, which provide for book versus tax temporary differences, are subject to limitation and are charged to surplus, whereas GAAP would generally include the change in deferred taxes in net income;
- (f) payments received for universal and variable life insurance products and variable annuities are reported as premium income and changes in reserves, whereas GAAP would treat these payments as deposits to policyholders’ account balances;
- (g) assets are reported at “admitted asset” value, and “nonadmitted assets” are excluded through a charge against surplus, whereas GAAP would record these assets net of any valuation allowance;
- (h) majority-owned subsidiaries are accounted for using the equity method. The Penn Insurance and Annuity Company (“PIA”), Hornor Townsend & Kent, Inc. (“HTK”), Vantis Life Insurance Company (“Vantis”), Penn Mutual Asset Management, LLC (“PMAM”), and certain assets of Independence Square Properties, LLC (“ISP”) are admitted assets. myWorth, LLC, and certain assets of ISP are nonadmitted assets. Under GAAP, these majority-owned subsidiaries would be consolidated;
- (i) the Company’s investment in PMAM’s Private Funds, (PMAM Global Unconstrained Bond Fund (“GUBF”), the Credit Opportunities Fund (“Credit Ops”), and the Unconstrained Bond Fund (“PMUBX”)) is accounted for using the equity method. Under GAAP, the Company’s investment would be treated as a variable interest entity and consolidated, with noncontrolling interest portions separately reported.
- (j) surplus notes are reported in surplus, whereas GAAP would report these notes as debt. Costs associated with these notes are expensed, whereas GAAP would capitalize these expenses and amortize them into income over the life of the notes;
- (k) reinsurance reserve credits are reported as a reduction of policyholders’ reserves and liabilities for deposit-type contracts, whereas GAAP would report these balances as an asset;

- (l) an asset valuation reserve (“AVR”) is reported as a contingency reserve to stabilize surplus against fluctuations in the carrying value of stocks, real estate investments, partnerships, limited liability companies (“LLCs”), low income housing tax credit (“LIHTC”) investments, and certain credit related derivative instruments as well as credit-related declines in the value of bonds, whereas GAAP would not record this reserve;
- (m) after-tax realized capital gains and losses which result from changes in the overall level of interest rates for all types of fixed-income investments and interest-related hedging activities are deferred into the interest maintenance reserve (“IMR”) and amortized into investment income over the remaining life of the investment sold, whereas GAAP would report these gains and losses as revenue at time of sale;
- (n) changes in the fair value of the derivative financial instruments are recorded as changes in surplus, unless deemed an effective hedge when it is carried at amortized cost with no resulting changes in fair value. Changes in fair value for GAAP would be reported as income for ineffective cash flow hedges and effective fair value hedges; changes in fair value for GAAP would be reported as other comprehensive income for effective cash flow hedges;
- (o) comprehensive income is not presented, whereas GAAP would present changes in unrealized capital gains and losses, changes in funded status of pension and postretirement plans, and foreign currency translations as other comprehensive income;
- (p) embedded derivatives are recorded as part of the underlying contract, whereas GAAP would identify and bifurcate certain embedded derivatives from the underlying contract or security and account for them separately;
- (q) policyholder dividends are recognized when declared, whereas GAAP would recognize these over the term of the related policies;
- (r) identification of other-than-temporary impairment (“OTTI”) uses an “intent and ability to hold” criteria, whereas GAAP would use an “intent and ability not to sell” criteria; and
- (s) investments in Federal Home Loan Bank stock are reported as an investment in common stock, unaffiliated, whereas GAAP would report these within other invested assets.

The Company’s net income, excluding net income related to non-controlling interest, as presented in its consolidated financial statements prepared in conformity with GAAP was \$333,392 and \$593,974 the years ended December 31, 2018 and 2017, respectively. The Company’s equity, as presented in its consolidated financial statements prepared in conformity with GAAP was \$3,963,053 and \$4,188,492 as of December 31, 2018 and 2017, respectively.

Note 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

USE OF ESTIMATES The preparation of financial statements requires management to make estimates and assumptions that impact the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities as of the date of the financial statements, and the reported amounts of revenue and expenses during the reporting periods. Those estimates are inherently subject to change and actual results could differ from those estimates. Included among the material reported amounts and disclosures that require extensive use of estimates are:

- ◇ Carrying value of certain invested assets and derivatives
- ◇ Liabilities for reserves and funds for payment of insurance and annuity benefits
- ◇ Accounting for income taxes and valuation of deferred income tax assets and liabilities and unrecognized tax benefits
- ◇ Litigation and other contingencies
- ◇ Pension and other postretirement and postemployment benefits

INVESTMENTS Bonds with an NAIC designation of 1 to 5 are valued at amortized cost. All other bonds are valued at the lower of cost or fair value. Fair value is determined using an external pricing service or management’s pricing models.

For fixed income securities that do not have a fixed schedule of payments, including asset-backed and mortgage-backed securities, the effect on amortization or accretion is revalued periodically based on the current estimated cash flows. Prepayment assumptions are based on borrower constraints and economic incentives such as original

term, age, and coupon of the loan as affected by the interest rate environment. Cash flow assumptions for structured securities are obtained from broker dealer survey values or internal estimates. These assumptions are consistent with the current interest rate and economic environment.

Preferred Stock with an NAIC designation of 1 to 3 is valued at amortized cost. All other preferred stock is valued at the lower of cost or market. Fair value is determined using an external pricing service or management's pricing model.

Common Stock of the Company's insurance affiliates, with the exception of Vantis, is carried at its underlying audited statutory equity. The Company's investment in Vantis is carried at underlying audited statutory equity plus the unamortized goodwill related to the Company's purchase of Vantis. The goodwill is being amortized over 10 years. Common stock of audited non-insurance affiliates is admitted at the GAAP-basis equity. Common stock of unaudited non-insurance affiliates is nonadmitted. Unaffiliated common stock is carried at fair value. Dividends are recognized in net investment income on the ex-dividend date. Other changes in the carrying value of affiliates, including amortization of goodwill related to the Company's purchase of Vantis, are recognized as changes in unrealized gains or losses in surplus. The investment in capital stock of the Federal Home Loan Bank of Pittsburgh ("FHLB-PGH") is carried at par, which approximates fair value. See the "Federal Home Loan Bank Borrowings" caption within this footnote for additional information on FHLB-PGH.

Real Estate occupied by the Company is carried at depreciated cost. Depreciated cost is adjusted for impairments whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable, with the impairment being included in realized capital losses. Depreciation is calculated using the straight-line method over the estimated useful life of the real estate holding, not to exceed 40 years. Depreciation expense is included in net investment income. The Company obtains an external appraisal on a tri-annual basis. The most recent appraisal was obtained in 2016.

Policy Loans are carried at the aggregate balance of unpaid principal and interest.

Cash, Cash Equivalents and Short-term investments Cash Equivalents include investments purchased with maturities of three months or less and money market mutual funds. Short-term investments, which are carried at amortized cost and approximate fair value, consist of investments purchased with maturities greater than three months and less than or equal to 12 months.

Alternative Assets consists primarily of limited partnerships. The Company accounts for the value of its investments at their underlying GAAP equity. Dividends and income distributions from limited partnerships are recorded as investment income. Undistributed earnings are included in the unrealized gains and losses balance and are reflected in surplus, net of deferred taxes. Distributions that are recorded as a return of capital reduce the carrying value of the limited partnership investment. Due to the timing of the valuation data received from the partnership, these investments are reported in accordance with the most recent valuations received, which are primarily on a one quarter lag. Refer to Note 3 for additional information regarding investments in alternative assets.

Derivatives The Company may utilize derivative financial instruments in the normal course of business to manage risk, in conjunction with its management of assets and liabilities and interest rate risk. The accounting treatment of specific derivatives depends on whether the financial instrument is designated and qualifies as a highly effective hedge. Derivatives used in hedging transactions that meet the criteria of a highly effective hedge are reported and valued in a manner that is consistent with the assets hedged. The change in fair value of these derivatives is recognized as an unrealized capital gain/ (loss) until they are closed, at which time they are recorded in realized capital gains/(losses). Derivatives used in risk management transactions that do not meet the criteria of an effective hedge are accounted for at fair value, with changes in fair value recorded in unrealized capital gains/(losses). Derivatives with a positive fair value or carrying value are reported as admitted assets. Derivatives with a negative fair value or carrying value are reported in Other liabilities. Realized gains and losses that are recognized upon termination or maturity of the derivatives used in economic hedges of interest rate and currency risk of the fixed income portfolio, regardless of accounting treatment, are transferred, net of taxes, to the IMR. All other realized gains and losses are recognized in net income upon maturity or termination of the derivative contracts.

The Company may enter into interest rate swaps, total return swaps, inflation swaps, financial futures and equity options to hedge risks associated with the offering of equity market-based guarantees in the Company's annuity and indexed universal life insurance product portfolio, which do not meet the criteria of an effective hedge.

Credit default swaps, and receiver swaps, a type of interest rate swap, are carried at fair value. The Company's use of interest rate caps is designed to manage risk associated with rising interest rates. Credit default swaps protect the Company from a decline in credit quality of a specified security. Receiver swaps protect the Company from credit risk in the fixed income portfolio. These do not meet the criteria of an effective hedge.

Investment income is recorded on an accrual basis. Amounts payable or receivable under total return, currency, credit default, interest rate and inflation swap agreements are recognized as investment income or expense when incurred. The Company does not engage in derivative financial instrument transactions for speculative purposes. Refer to Note 6 for additional disclosures regarding derivatives.

Other Invested Assets The Company invests in LIHTC investments, which generate tax credits for investing in affordable housing projects. Investments in LIHTC are included in other invested assets and are accounted for under the proportional amortized cost method. The delayed equity contributions for these investments are unconditional and legally binding and therefore, have been recognized as a liability. LIHTC investments are reviewed for OTTI, which is accounted for as a realized loss. See Note 3 for additional information regarding investments in LIHTC.

Other invested assets also include notes receivable from Janney Montgomery Scott LLC ("JMS"), an affiliate, and the Company's investments in ISP, PMAM, PMAM's Private Funds and receivables for unsettled investment transactions. Refer to Note 11 for additional information regarding these other invested assets.

OTTI EVALUATION *Bonds, mortgage-backed and asset-backed securities* The Company considers an impairment to be other-than-temporary if: (a) the Company's intent is to sell, (b) the Company will more likely than not be required to sell, (c) the Company does not have the intent and ability to hold the security for a period of time sufficient to recover the amortized cost basis, or (d) the Company does not expect to recover the entire amortized cost basis. The Company conducts a periodic management review of all bonds including those in default, not-in-good standing, or otherwise designated by management. The Company also considers other qualitative and quantitative factors in determining the existence of OTTI including, but not limited to, unrealized loss trend analysis and significant short-term changes in value, default rates, delinquency rates, percentage of nonperforming loans, prepayments, and severities. If the impairment is other-than-temporary, the non-interest loss portion of the impairment is recorded through realized losses, and the interest related portion of the loss is disclosed in the notes to the financial statements.

The non-interest portion is determined based on the Company's "best estimate" of future cash flows discounted to a present value using the appropriate yield. The difference between the present value of the best estimate of cash flows and the amortized cost is the non-interest loss. The remaining difference between the amortized cost and the fair value is the interest loss.

Alternative Assets OTTI — The Company's evaluation for OTTI takes into consideration the remaining life of a partnership and the performance of the underlying assets when evaluating the facts and circumstances surrounding the recovery of the cost for a partnership. Any such impairments are accounted for as a realized loss.

LIHTC OTTI — For LIHTC investments, OTTI is determined by comparing the book value of the investment with the present value of future tax benefits. The investment is written down if the book value is higher than the present value, and the impairment is accounted for as a realized loss.

INVESTMENT INCOME DUE AND ACCRUED Investment income due and accrued consists primarily of interest and dividends. Interest is recognized on an accrual basis and dividends are recorded as earned on the ex-dividend date. Due and accrued income is not recorded on: (a) bonds in default; (b) bonds delinquent more than 90 days or where collection of interest is improbable; and (c) policy loan interest due and accrued in excess of the cash surrender value of the underlying contract.

(\$ in Thousands)

PREMIUMS DUE AND DEFERRED Deferred premium is the portion of premium not earned at the reporting date, net of loading. Loading is an amount obtained by subtracting the net premium from the gross premium and generally includes allowances for acquisition costs and other expenses. Deferred premium adjusts for the overstatement created in the calculation of reserves as the reserve computation assumes the entire year's net premium is collected annually at the beginning of the policy year and does not take into account installment or modal payments.

Uncollected premium is gross premium that is due and unpaid as of the reporting date, net of loading and nonadmitted receivables that are greater than 90 days in age. Net premium is the amount used in the calculation of reserves. The change in loading is included as an expense and is not shown as a reduction to premium income. The deferred and uncollected amounts and loading were as follows at December 31:

	2018				2017			
	New	Renewal	Group	Total	New	Renewal	Group	Total
Uncollected premium	\$ 1,449	\$17,972	NA		\$ 265	\$11,998	NA	
Uncollected loading	(1,376)	(2,562)	NA		(231)	(951)	NA	
Net uncollected	\$ 73	\$15,410	\$312	\$ 15,795	\$ 34	\$11,047	\$298	\$11,379
Deferred premium	\$ 16,377	\$81,083	NA		\$ 17,571	\$68,669	NA	
Deferred loading	(14,874)	4,939	NA		(15,222)	8,389	NA	
Net deferred	\$ 1,503	\$86,022	\$ 5	\$ 87,530	\$ 2,349	\$77,058	\$ 6	\$79,413
Subtotal — gross deferred and uncollected				103,325				90,792
Nonadmitted				(2,598)				(1,061)
Premiums due and deferred, net				\$100,727				\$89,731

FEDERAL INCOME TAX The Tax Cut and Jobs Act of 2017 (“Tax Reform”) was enacted on December 22, 2017, reducing the statutory federal income tax rate from 35% to 21%, effective January 1, 2018. Changes primarily relate to the rate change on the Company's net deferred tax assets existing at the date of enactment and is recorded as a reduction of Surplus through Change in Net deferred income tax. The impact of Tax Reform is included in Note 9.

The Company files a consolidated federal income tax return with its insurance and non-insurance subsidiaries. Each subsidiary's tax liability or refund is accrued on a separate company basis. The Company reimburses subsidiaries for losses utilized in the consolidated return based on inter-company tax allocation agreements. The provision for federal income taxes is computed in accordance with the section of the Internal Revenue Code applicable to life insurance companies and is based on income that is currently taxable.

Uncertain tax positions (“UTPs”) are established when the merits of a tax position are evaluated against certain measurement and recognition tests. UTP changes are reflected as a component of income taxes.

Deferred income tax assets and liabilities are established to reflect the impact of temporary differences between the amount of assets and liabilities recognized for financial reporting purposes and such amounts recognized for tax purposes. These deferred tax assets or liabilities are measured by using the enacted tax rates expected to apply to taxable income in the period in which the deferred tax liabilities or assets are expected to be settled or realized. Changes in the deferred tax balances are reported as adjustments to surplus. Deferred tax assets in excess of the statutory limits are treated as nonadmitted assets and charged to surplus.

CORPORATE OWNED LIFE INSURANCE The Company purchases life insurance policies on certain officers and employees on which the Company is designated as the beneficiary. The Company recognizes the cash surrender value of the policies as an asset on the Statement of Admitted Assets, Liabilities and Surplus. Changes in the cash surrender value of the policies are recorded as an adjustment to the premiums paid for the insurance coverage, which is recognized as part of interest credited to policyholders within Benefits paid to policyholders and beneficiaries on the Statements of Income and Changes in Surplus.

The cash surrender values for investments in the corporate owned life insurance are as follow at December 31:

	2018	2017
Equity funds	\$153,549	\$159,644
Bond funds	31,924	8,659
Money market funds	4,913	28,590
Other	23,984	24,760
Total	\$215,530	\$221,652

REINSURANCE In the normal course of business, the Company seeks to limit its exposure to loss on any single insured and to recover a portion of benefits paid by ceding reinsurance to other insurance enterprises or reinsurers under excess coverage and coinsurance contracts. The Company has set its retention limit for acceptance of risk on life insurance policies at various levels up to \$5,000 for single life and \$7,500 for joint lives.

In addition to excess coverage and coinsurance contracts, the Company also utilizes other forms of reinsurance such as coinsurance funds withheld and coinsurance/modified coinsurance.

Reinsurance does not relieve the Company of its primary liability and, as such, failure of reinsurers to honor their obligations could result in losses to the Company. The Company evaluates the risk transfer of its reinsurance contracts and the financial strength of potential reinsurers. The Company regularly monitors the financial condition and ratings of its existing reinsurers to ensure that amounts due from reinsurers are collectible.

Insurance liabilities are reported net of the effects of reinsurance. Estimated reinsurance recoverables are recognized in a manner consistent with the liabilities related to the underlying reinsured contracts. Refer to Note 10 for further discussion.

OTHER ASSETS Computer equipment and packaged software is reported at cost of \$113,850 and \$107,025, less accumulated depreciation of \$95,623 and \$88,648 at December 31, 2018 and 2017, respectively. Computer equipment and packaged software is depreciated using the straight-line method over the lesser of its useful life or three years. Depreciation expense on computer equipment and packaged software charged to operations in 2018 and 2017 was \$6,975 and \$3,640, respectively. Furniture is depreciated on a straight-line basis over the estimated useful lives of the related assets. Leasehold improvements are depreciated over the remaining life of the lease. Building and property improvements are depreciated to the lesser of contractor estimate or the remaining life of the building.

Other assets also includes receivables related to centrally cleared derivative transactions, receivables for collateral remitted to counterparties, and amounts due from affiliates under the terms of service agreements. See Note 6 for additional information regarding derivative transactions and Note 11 for additional information regarding related party transactions.

SEPARATE ACCOUNT ASSETS AND LIABILITIES The Company has separate account assets and liabilities representing segregated funds administered and invested by the Company primarily for the benefit of variable life insurance policyholders and annuity and pension contractholders, including the Company's benefit plans. The assets of each account are legally segregated and are generally not subject to claims that arise out of any other business of the Company. The Separate accounts have varying investment objectives.

Separate account assets are stated at the fair value of the underlying assets, which are shares of mutual funds. The value of the assets in the Separate accounts reflects the actual investment performance of the respective accounts and is not guaranteed by the Company. The liability represents the policyholders' interest in the account and includes accumulated net investment income and realized and unrealized capital gains/ (losses) on the assets, which reflects fair value. The investment income and realized capital gains/ (losses) from separate account assets accrue to the policyholders and are not included in the Statements of Income. Mortality, policy administration, surrender charges assessed and asset management fees charged against the accounts are included in other revenue in the accompanying Statements of Income and Changes in Surplus.

The Company issues variable annuity contracts in the separate accounts in which the Company provides various forms of guarantees to benefit the related contract holders called Guaranteed Minimum Death Benefits (“GMDB”), Guaranteed Minimum Accumulated Benefits (“GMAB”), GMAB/Guaranteed Minimum Withdrawal Benefits (“GMWB”), and GMWB with inflation protection. In accordance with guarantees provided, if the investment proceeds in the separate accounts are insufficient to cover the guarantees for the product, the policyholder proceeds will be remitted by the general account. See Note 4 for a discussion of the Company’s obligation regarding these product features.

NONADMITTED ASSETS Assets designated as nonadmitted by the NAIC include furniture, certain electronic data processing equipment, unamortized software, the amount of the deferred tax asset that is in excess of limits prescribed by SAP, the pension plan assets, certain investments in partnerships for which financial audits are not performed, certain other receivables, advances and prepayments, and uncollected premiums greater than 90 days from the due date. Such amounts are excluded from the Statements of Admitted Assets, Liabilities and Surplus. As of December 31, 2018 and 2017, the Company’s total nonadmitted assets were \$115,508 and \$123,570, respectively.

RESERVES AND FUNDS FOR THE PAYMENT OF INSURANCE AND ANNUITY BENEFITS Policyholders’ reserves provide amounts adequate to discharge estimated future obligations in excess of estimated future premium on policies in-force. Any adjustments that are made to the reserve balances are reflected in the Statements of Income in the year in which such adjustments are made, with the exception of changes in valuation bases which are accounted for as charges or credits to surplus.

Reserves and funds for the payment of future life and annuity benefits are developed using actuarial methods based on statutory mortality and interest requirements. Reserves for life insurance contracts are developed using accepted actuarial methods computed principally on the net level, modified preliminary term or CRVM methods using the 1941, 1958, 1980, 2001, and 2017 Commissioners’ Standard Ordinary (“CSO”) Mortality and American Experience Tables and assumed interest rates ranging from 2.25% to 4.50%. Reserves for substandard policies are computed using multiples of the respective underlying mortality tables. The Company has universal life contracts with secondary guarantee features. The Company establishes reserves according to Actuarial Guideline XXXVIII, unless otherwise noted.

Reserves for Term and Single Life UL with secondary guarantee features are based on the methodology specified by the Life Principle-Based Reserve approach (“VM-20”), starting with 2017 policy issue years. Reserves for Single and Joint Life IUL are based on the same VM-20 methodology starting with 2018 policy issue years. VM-20 specifies the final reserve as the greater of the Net Premium Reserve (“NPR”), Deterministic Reserve (“DR”) and Stochastic Reserve (“SR”). The NPR is a formulaic reserve with prescribed assumptions, including the 2017 CSO Mortality Tables. The DR is based on a single path, deterministic projection with prudent estimate assumptions, including margins for uncertainty. The SR is based on the Conditional Tail Expectation 70 (“CTE70”) of 1000 stochastically generated interest rate return scenarios with prudent estimate assumptions, including margins for uncertainty.

The Company waives deduction of deferred fractional premium at death and returns any portion of the final premium beyond the date of death. Reserves are computed using continuous functions to reflect these practices. Surrender values are not promised in excess of the legally computed reserves.

Reserves for fixed individual annuity contracts are developed using accepted actuarial methods computed principally under the Commissioners’ Annuity Reserve Valuation Method using applicable interest rates and mortality tables, primarily on the 1949, 1971, 1983, 2000, and 2012 Individual Annuity Mortality Tables and rates ranging from 2.00% to 13.25%. An insignificant amount of reserves uses an assumed interest rate greater than 10%.

The Company also has deferred variable annuity contracts containing GMDB, GMAB and GMWB features. The Company establishes reserves according to requirements prescribed by the NAIC in Actuarial Guideline XLIII (VACARVM). See Note 4 for further discussion.

Reserves for group annuity contracts are developed using accepted actuarial methods computed principally on the 1971 and 1983 Group Annuity Mortality Tables and 1994 Group Annuity Reserving Tables with assumed interest rates ranging from 4.50% to 13.25%. Approximately 1% of reserves use an assumed interest rate greater than 10%.

The Company had \$2,471,527 and \$5,595,880 and as of December 31, 2018 and 2017, respectively, of insurance in force for which the gross premiums are less than the net premiums according to the standards of valuation set by the Commonwealth of Pennsylvania.

The tabular interest has been determined from the basic data for the calculation of policy reserves. The tabular less actual reserves released have been determined by formula.

LIABILITIES FOR DEPOSIT-TYPE CONTRACTS Reserves for funding agreements, dividend accumulations, premium deposit funds, investment-type contracts such as supplementary contracts not involving life contingencies, and certain structured settlement annuities are based on account value or accepted actuarial methods using applicable interest rates. Fair value is estimated by discounting future cash flows using current market rate.

The tabular interest for funds not involving life contingencies is determined as the change in reserves less funds added during the year less other increases, plus funds withdrawn during the year.

POLICYHOLDERS' DIVIDENDS The liability for policyholders' dividends includes the estimated amount of annual dividends and settlement dividends to be paid to policyholders in the following year. Policyholders' dividends incurred are recorded in the Statements of Income. Dividends expected to be paid to policyholders in the following year are approved annually by the Company's Board of Trustees. The allocation of these dividends to policyholders reflects the relative contribution of each group of participating policies to surplus and considers, among other factors, investment returns, mortality and morbidity experience, expenses, and income tax charges.

POLICY CLAIMS IN PROCESS include provisions for payments to be made on reported claims and claims incurred but not reported.

INTEREST MAINTENANCE RESERVE The IMR captures the realized capital gains/(losses) that result from changes in the overall level of interest rates and amortizes them into income over the calendar years to expected maturity. In 2018, the Company changed its policy regarding deferrals into the IMR which resulted in an opening surplus adjustment.

ASSET VALUATION RESERVE The AVR is a contingency reserve to stabilize surplus against fluctuations in the statement value of common stocks, real estate investments, partnerships, LIHTC investments, and LLCs as well as non-interest related declines in the value of bonds, and certain derivatives. The AVR is reported in the Statements of Admitted Assets, Liabilities and Surplus, and the change in AVR is reported in the Statements of Income and Changes in Surplus.

DRAFTS OUTSTANDING that have not been presented for payment are recorded as a liability.

OTHER LIABILITIES Other liabilities primarily include accruals for general and operating expense, life insurance premiums received in advance of the due date, net transfers due from the separate accounts, and liabilities related to postretirement benefit plans in an underfunded position. Refer to Note 8 for additional disclosures on the Company's benefit plans.

BENEFIT PLANS The Company recognizes a liability for the funded status of defined benefit pension and post retirement plans where the projected benefit obligation exceeds plan assets (underfunded) and nonadmits assets for the funded status of defined benefit pension and post retirement plans where the fair value of plan assets exceed the projected benefit obligation (overfunded). See Note 8 for additional disclosures on the Company's benefit plans.

CONTINGENCIES Amounts related to contingencies are accrued if it is probable that a liability has been incurred and an amount is reasonably estimable. Regarding litigation, management evaluates whether there are incremental legal or other costs directly associated with the ultimate resolution of the matter that are reasonably estimable and, if so, includes these costs in the accrual. See Note 12 for further discussion.

SURPLUS NOTES On July 1, 2010, the Company issued Surplus Notes ("2010 Notes") with a principal balance of \$200,000, at a discount of \$8,440. The 2010 Notes bear interest at 7.625%, and have a maturity date of June 15, 2040.

The 2010 Notes were issued pursuant to Rule 144A under the Securities Act of 1933, as amended and are administered by a U.S. bank as registrar/paying agent. Interest on the 7.625% 2010 Notes is scheduled to be paid semiannually on March 31 and September 30 of each year. At December 31, 2018 and 2017, the amortized cost basis of the 2010 Notes was \$192,447 and \$192,310, respectively. Interest paid on the 2010 Notes was \$15,250 and \$15,250 for the years ended December 31, 2018 and 2017, respectively. Total interest paid since the issuance of the 2010 Notes is \$125,813.

On June 23, 2004, the Company issued Surplus Notes (“2004 Notes”) with a principal balance of \$200,000, at a discount of \$3,260. The 2004 Notes bear interest at 6.65%, and have a maturity date of June 15, 2034. The 2004 Notes were issued pursuant to Rule 144A under the Securities Act of 1933, as amended and are administered by a U.S. bank as registrar/paying agent. Interest on the 6.65% 2004 Notes is scheduled to be paid semiannually on April 1 and October 1 of each year. At December 31, 2018 and 2017, the amortized cost basis of the 2004 Notes was \$197,594 and \$197,510, respectively. Interest paid on the 2004 Notes was \$13,300 and \$13,300 for the years ended December 31, 2018 and 2017, respectively. Total interest paid since the issuance of the 2004 Notes is \$189,820.

Interest expense on surplus notes requires prior approval from the Pennsylvania Insurance Department.

RISK-BASED CAPITAL Life insurance companies are subject to certain risk-based capital (“RBC”) requirements as specified by the NAIC. Under those requirements, minimum amounts of statutory surplus are required to be maintained based on various risk factors related to it. At December 31, 2018, the Company’s surplus exceeds these minimum levels.

PREMIUM AND RELATED EXPENSE RECOGNITION Life insurance premium revenue is generally recognized as revenue on the gross basis when due from the policyholders under the terms of the insurance contract. Annuity premium on policies with life contingencies is recognized as revenue when received. Both premium and annuity considerations are recorded net of reinsurance premiums. Commissions and other costs related to issuance of new policies, and policy maintenance and settlement costs are charged to current operations when incurred. Surrender fee charges on certain life and annuity products are recorded as a reduction of benefits. Benefit payments are reported net of the amounts received from reinsurers.

The Company accounts for deposit-type contracts (those that do not subject the Company to mortality or morbidity risk) under the deposit method. Amounts received from and payments to policyholders related to these contracts are recorded directly against the related policy reserves. Interest credited to policyholder accounts is reflected in benefits paid to policyholders and beneficiaries. Fees charged to policyholder accounts are reflected in Other revenue.

OTHER REVENUE Other revenue includes commission and expense allowance recognized by the Company pursuant to reinsurance agreements, as well as reserve adjustments relating to coinsurance/modified coinsurance/funds withheld reinsurance agreements entered into with a third parties. Other revenue also includes fees charged to policyholders.

OTHER EXPENSES Other expenses includes amounts paid to reinsurers relating to interest earned on the funds withheld assets held by the Company under reinsurance agreements structured as funds withheld and co/modco reinsurance. 2017 Other expenses also includes benefits paid by the Company under reinsurance agreements with PIA relating to index credits on certain universal life policies.

REALIZED AND UNREALIZED CAPITAL GAINS AND LOSSES Realized capital gains and losses, net of taxes, excludes gains and losses transferred to the IMR. Realized capital gains and losses are recognized in net income and are determined using the specific identification method.

All after-tax realized capital gains and losses which result from changes in the overall level of interest rates for all types of fixed-income investments and interest-related derivative activities for derivatives backing assets are transferred to the IMR and amortized into revenue. These interest-related gains and losses are amortized into net investment income using the grouped method over the remaining life of the investment sold or, in the case of derivative financial instruments, over the remaining life of the underlying asset.

Unrealized capital gains and losses, net of deferred federal income taxes, are recorded as a change in surplus.

FEDERAL HOME LOAN BANK BORROWINGS The Company is a member of the FHLB-PGH, which provides access to collateralized advances, collateralized funding agreements, and other FHLB-PGH products. Collateralized advances from the FHLB-PGH are classified in “Borrowed money.” Collateralized funding agreements issued to the FHLB-PGH are classified as liabilities for deposit-type funds and are recorded within Reserves and funds for payment of insurance and annuity benefits. FHLB-PGH is a first-priority secured creditor.

The Company’s membership in FHLB-PGH requires the ownership of member stock, and borrowings from FHLB-PGH require the purchase of FHLB-PGH activity based stock in an amount equal to 4% of the outstanding borrowings. All FHLB-PGH stock purchased by the Company is classified as restricted general account investments within Common stock — unaffiliated. The Company’s borrowing capacity is determined by the lesser of the assets available to be pledged as collateral to FHLB-PGH or 10% of the Company’s prior period admitted general account assets. The fair value of the qualifying assets pledged as collateral by the Company must be maintained at certain specified levels of the borrowed amount, which can vary, depending on the nature of the assets pledged. The Company’s agreement allows for the substitution of assets and the advances are pre-payable. Current borrowings are subject to prepayment penalties.

As of December 31, 2018 and 2017, borrowings from the FHLB-PGH, segregated by those classified as advances and funding agreements, including the maximum outstanding during the years ended December 31 were as follows:

	2018	Maximum during 2018	2017	Maximum during 2017
Debt — Advances	\$ —	\$ —	\$ —	\$ —
Funding Agreements	600,000	700,000	350,000	800,000
Total	\$600,000	\$700,000	\$350,000	\$800,000

NEW ACCOUNTING STANDARDS

Effective December 31, 2018, the Company adopted revisions to SSAP No. 68, “*Business Combinations and Goodwill*”. The revisions require additional disclosure regarding goodwill balances within the carrying value of subsidiaries. The revised disclosure is included in Note 11.

Effective December 31, 2018, the Company adopted NAIC revisions to SSAP No. 2, “*Cash, Drafts and Short-term Investments*.” The revisions require money market funds previously classified as short-term investments to be moved to cash equivalents, and be recorded at fair value with net asset value (NAV) allowed as a practical expedient to estimate fair value. The adoption of this guidance is not material to the Company.

Effective December 31, 2018, the Company adopted NAIC revisions to SSAP No. 21, “*Other Admitted Assets*.” The revisions require additional disclosure regarding the underlying investments of corporate owned life insurance. The revised disclosure is included in Note 8.

In November 2016, the NAIC adopted revisions to SSAP No. 26, “*Bonds, Excluding Loan-backed and Structured Securities*” (“SSAP No. 26”), and SSAP No. 43R, “*Loan-Backed and Structured Securities*” (“SSAP No. 43R”), that added clarification to certain existing disclosure requirements. The revisions clarified that loan backed securities are within the scope of the disclosure of carrying value, fair value, and gross unrealized gains and gross unrealized losses for bonds. The revisions also clarified that bonds classified as short-term investments are to be included in the scope of the disclosure of carrying value and fair value disaggregated by maturity periods. The new guidance is effective for the year ending December 31, 2017. The impact of this revised guidance on the Company’s disclosures is included in Note 3.

In June 2016, the NAIC adopted revisions to SSAP No. 1, “*Disclosure of Accounting, Policies, Risks & Uncertainties, and Other Disclosures*” (“SSAP No. 1”), which require disclosure of the nature, amount, and location within the financial statements of any assets received as collateral and related offsetting liabilities. The revised guidance is effective for the year ending December 31, 2017. The impact of this revised guidance in the Company’s financial statements is reflected in Note 6.

(\$ in Thousands)

In June 2016, the NAIC adopted additional revisions to SSAP No. 1 . The guidance promulgated a disclosure requirement for investments in securities with an NAIC designation of 5*. The new disclosure requires a comparative presentation of the number of such securities held, aggregate carrying value and aggregate fair value, disaggregated by certain general investment categories. The guidance became effective upon adoption and is applicable for the year ended December 31, 2017. The adoption of this guidance was not material to the Company.

RECENT ACCOUNTING DEVELOPMENTS

The NAIC adopted revisions to SSAP No. 69, "Statement of Cash Flow". The revisions require restricted cash to be included in cash when reconciling the beginning -of-period and end-of-period cash amounts on the statement of cash flow. The new guidance is effective for the year ending December 31, 2019. The Company is currently in compliance with the revision.

Note 3. INVESTMENTS

The Company maintains a diversified investment portfolio. Investment policies limit concentration in any asset class (except for U.S. Treasury and U.S. Government guaranteed securities), geographic region, industry group, economic characteristic, investment quality, or individual investment.

BONDS AND PREFERRED STOCK The following summarizes the admitted value and estimated fair value of the Company's investment in bonds and preferred stock as of December 31:

2018	Admitted Value	Gross Unrealized Capital		Estimated Fair Value
		Gains	Losses	
US Governments	\$ 958,074	\$ 3,911	\$ 58,095	\$ 903,890
Other Governments	11,913	1,641	26	13,528
States, Territories and Possessions	98,160	6,864	384	104,640
Political Subdivisions	231,198	16,483	341	247,340
Special Revenue	919,239	84,180	6,753	996,666
Industrial and Miscellaneous	4,320,083	189,669	130,660	4,379,092
Residential Mortgage-backed Securities	466,307	7,444	4,779	468,972
Commercial Mortgage-backed Securities	1,592,556	42,085	13,395	1,621,246
Asset-backed Securities	1,164,343	17,093	18,469	1,162,967
Hybrid Securities	206,160	741	11,944	194,957
Total Bonds	9,968,033	370,111	244,846	10,093,298
Preferred Stock	112,090	1,240	5,711	107,619
Total Bonds and Preferred Stocks	\$10,080,123	\$371,351	\$250,557	\$10,200,917

(\$ in Thousands)

2017	Admitted Value	Gross Unrealized Capital		Estimated Fair Value
		Gains	Losses	
US Governments	\$ 719,989	\$ 22,450	\$ 5,051	\$ 737,388
Other Governments	9,911	2,221	6	12,126
States, Territories and Possessions	99,235	10,603	60	109,778
Political Subdivisions	229,819	25,359	566	254,612
Special Revenue	896,265	114,014	3,725	1,006,554
Industrial and Miscellaneous	4,040,844	426,303	9,922	4,457,225
Residential Mortgage-backed Securities	475,193	13,785	3,077	485,901
Commercial Mortgage-backed Securities	1,734,690	79,150	9,114	1,804,726
Asset-backed Securities	820,319	54,684	2,794	872,209
Hybrid Securities	183,289	9,309	535	192,063
Total Bonds	9,209,554	757,878	34,850	9,932,582
Preferred Stock	112,008	5,165	513	116,660
Total Bonds and Preferred Stocks	\$9,321,562	\$763,043	\$35,363	\$10,049,242

Included in the table above are securities restricted for use under various reinsurance agreements with an admitted value and fair value totaling \$1,886,573 and \$1,926,710, respectively, as of December 31, 2018 and \$1,421,296 and \$1,573,852, respectively as of December 31, 2017.

Included in admitted value and estimated fair value for Residential mortgage-backed securities above are \$57,162 and \$57,893, respectively, of subprime mortgages.

The following table summarizes the admitted value and estimated fair value of debt securities as of December 31, 2018 by contractual maturity. Expected maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without penalties. Securities that are not due on a single maturity are included as of the final maturity.

	Admitted Value	Estimated Fair Value
Due in one year or less	\$ 43,574	\$ 43,686
Due after one year through five years	671,792	677,141
Due after five years through ten years	1,336,073	1,341,711
Due after ten years	4,614,160	4,700,280
Residential mortgage-backed securities ⁽¹⁾	484,044	486,082
Commercial mortgage-backed securities ⁽¹⁾	1,654,046	1,681,431
Asset-backed securities ⁽¹⁾	1,164,344	1,162,967
Total bonds	9,968,033	10,093,298
Redeemable preferred stock	112,090	107,619
Total Bonds and Preferred Stock	\$10,080,123	\$10,200,917

(1) Includes U.S. Agency structured securities

Mortgage and other asset-backed securities consist of commercial and residential mortgage pass-through holdings, securities backed by various forms of collateral, with the largest being collateralized loan obligations. These securities follow a structured principal repayment schedule and are rated investment grade, other than \$92,024, primarily in asset-backed securities. The mortgage and other asset-backed securities portfolios are presented separately in the maturity schedule due to the potential for prepayment. The weighted average life of this portfolio is 6.66 years.

(\$ in Thousands)

Investments on deposit with regulatory authorities as required by law were \$4,279 and \$4,265 at December 31, 2018 and 2017, respectively. Investments pledged as collateral for derivative contracts were \$168,928 and \$237,280 at December 31, 2018 and 2017, respectively. These investments are not available for use by the Company. The Company also has pledged collateral in the form of cash for certain derivative transactions. Refer to Note 6 for additional disclosures on derivatives and related collateral.

At December 31, 2018, the largest industry concentration of the Company's portfolio was investments in the Electric-Integrated sector of \$519,597, representing 5.2% of the total debt securities portfolio.

CREDIT LOSS ROLLFORWARD The following represents a rollforward of the cumulative credit loss component of OTTI loss recognized in earnings on fixed maturity securities still held for which a portion of the OTTI loss was not recognized in earnings:

AS OF DECEMBER 31,	2018	2017
Balance, beginning of period	\$25,398	\$30,146
Credit loss impairments previously recognized on securities which matured, paid down, prepaid or were sold during the period	(788)	(4,748)
Credit loss impairments previously recognized on securities impaired to fair value during the period	—	—
Credit loss impairment recognized in the current period on securities not previously impaired	—	—
Additional credit loss impairments recognized in the current period on securities previously impaired	—	—
Balance, end of period	\$24,610	\$25,398

UNREALIZED LOSSES ON INVESTMENTS Management has determined that the unrealized losses on the Company's investments in equity and fixed maturity securities at December 31, 2018 are temporary in nature.

The following tables are an analysis of the fair values and gross unrealized losses aggregated by bond category and length of time that the securities were in a continuous unrealized loss position as of December 31:

	<u>Less than 12 months</u>		<u>Greater than 12 months</u>		<u>Total</u>	
	<u>Fair Value</u>	<u>Gross Unrealized Capital Loss</u>	<u>Fair Value</u>	<u>Gross Unrealized Capital Loss</u>	<u>Fair Value</u>	<u>Gross Unrealized Capital Loss</u>
2018						
US Governments	\$ 576,485	\$ 46,704	\$ 185,523	\$11,391	\$ 762,008	\$ 58,095
Other Governments	—	—	1,974	26	1,974	26
States, Territories and Possessions	—	—	16,623	384	16,623	384
Political Subdivisions	4,882	118	21,054	223	25,936	341
Special Revenue	50,867	439	113,553	6,314	164,420	6,753
Industrial and Miscellaneous	1,799,819	82,405	508,608	48,255	2,308,427	130,660
Residential Mortgage-backed Securities	44,231	434	196,763	4,345	240,994	4,779
Commercial Mortgage-backed Securities	246,021	4,694	232,482	8,701	478,503	13,395
Asset-backed Securities	635,592	14,915	75,887	3,554	711,479	18,469
Hybrid Securities	160,933	9,104	13,348	2,840	174,281	11,944
Total Bonds	3,518,830	158,813	1,365,815	86,033	4,884,645	244,846
Preferred Stock	44,548	2,716	21,737	2,995	66,285	5,711
Total Bonds and Preferred Stocks	\$3,563,378	\$161,529	\$1,387,552	\$89,028	\$4,950,930	\$250,557

(\$ in Thousands)

	Less than 12 months		Greater than 12 months		Total	
	Fair Value	Gross Unrealized Capital Loss	Fair Value	Gross Unrealized Capital Loss	Fair Value	Gross Unrealized Capital Loss
2017						
US Governments	\$ 80,551	\$ 446	\$ 49,077	\$ 4,605	\$ 129,628	\$ 5,051
Other Governments	1,994	6	—	—	1,994	6
States, Territories and Possessions	—	—	990	60	990	60
Political Subdivisions	2,338	20	18,446	546	20,784	566
Special Revenue	57,096	396	57,578	3,329	114,674	3,725
Industrial and Miscellaneous	165,742	2,383	180,683	7,539	346,425	9,922
Residential Mortgage-backed Securities	133,583	1,725	43,983	1,352	177,566	3,077
Commercial Mortgage-backed Securities	212,241	3,860	78,556	5,254	290,797	9,114
Asset-backed Securities	36,951	315	64,178	2,479	101,129	2,794
Hybrid Securities	1,997	3	11,698	532	13,695	535
Total Bonds	692,493	9,154	505,189	25,696	1,197,682	34,850
Preferred Stock	11,838	149	9,482	364	21,320	513
Total Bonds and Preferred Stocks	\$704,331	\$9,303	\$514,671	\$26,060	\$1,219,002	\$35,363

Included in the December 31, 2018 amounts above is the interest portion of other-than-temporary impairments on securities of \$1,255.

Unrealized losses on debt securities that were in an unrealized loss position less than twelve months at December 31, 2018, totaled 64% of the Company's total fixed maturities unrealized loss, and unrealized losses on securities in an unrealized loss position greater than twelve months totaled 36% of the Company's total fixed maturities unrealized loss. Of the total amount of debt securities unrealized losses, \$231,111 or 92% is related to unrealized losses on investment grade securities. Investment grade is defined as a security having a credit rating in accordance with the NAIC methodology of 1 or 2. Unrealized losses on fixed maturity securities with a rating below investment grade represent \$19,446 or 8% of the Company's total fixed maturities unrealized losses.

The increase in the gross unrealized loss position is primarily related to the increase in treasury yields; the 10 year and 30 year treasury rates rose 27 basis points and 27 basis points, respectively. Additionally, spreads on investment grade and high yield rose 59 basis points and 183 basis points, respectively.

U.S. and Other Governments Unrealized losses on the Company's investments in U.S. Treasury, U.S. Agency and other governmental obligations were \$58,121 or 23% of the Company's unrealized losses for debt securities. Gross unrealized losses were spread over 17 securities primarily related to the increasing interest rate environment.

States, Territories and Possessions, Political Subdivisions and Special Revenue Unrealized losses on the Company's investments in states and political subdivisions were \$7,478 or 3% of the Company's unrealized losses for debt securities. Gross unrealized losses were spread over 48 securities.

Industrial and Miscellaneous Unrealized losses on corporate securities were \$130,660 or 52% of the total unrealized losses for debt securities. The amount of unrealized losses on the Company's investment in corporate securities is spread over 630 individual securities with varying interest rates and maturities. There were 9 corporate securities with a fair value below 80% of the security's amortized cost.

Residential and Commercial Mortgage-Backed Securities Unrealized losses on mortgage-backed securities were \$18,174 or 7% of the total unrealized losses for debt securities. The amount of unrealized capital losses on the Company's investment in mortgage-backed securities was due to factors dependent upon the security. These

(\$ in Thousands)

losses were spread across 160 fixed and variable rate securities. There were no mortgage-backed securities that were priced below 80% of the securities' amortized cost. Management believes the collateral is sufficient to recover amortized cost.

Asset-Backed Securities Unrealized losses on asset-backed securities were \$18,469 or 8% of the total unrealized losses for debt securities. These losses are spread across 128 securities. There were 3 asset-backed securities that were priced below 80% of the security's amortized cost.

Hybrid Securities Unrealized losses on hybrid securities were \$11,944, less than 5% of the total unrealized losses for debt securities. The amount of unrealized losses on the Company's investment in corporate securities is spread over 37 individual securities with varying interest rates and maturities. There were 2 hybrid securities with a fair value below 80% of the security's amortized cost.

Preferred Stock Unrealized capital losses on preferred stock were \$5,711 or 2% of the total unrealized capital losses for debt securities. The amount of unrealized capital losses on the Company's investment in preferred stock is spread over 18 individual securities. There was 1 preferred stock that was priced below 80% of the security's amortized cost.

COMMON STOCK — UNAFFILIATED The following summarizes the cost and estimated fair value of the Company's investment in unaffiliated common stock:

	Gross Unrealized Capital			Estimated Fair Value
	Cost	Gains	Losses	
December 31, 2018	\$86,501	\$ —	\$16,103	\$70,398
December 31, 2017	72,087	169	7,894	64,362

Included in the table above are securities held in custody and restricted for use under a reinsurance agreement with an admitted value and fair value totaling \$43,162 and \$43,162, respectively, as of December 31, 2018.

The following presents the gross unrealized capital losses and fair values for unaffiliated common stock with unrealized capital losses that are deemed to be only temporarily impaired and length of time that individual securities have been in an unrealized capital loss position, at:

	Less than 12 months		Greater than 12 Months		Total	
	Fair Value	Gross Unrealized Capital Losses	Fair Value	Gross Unrealized Capital Losses	Fair Value	Gross Unrealized Capital Losses
December 31, 2018	\$21,827	\$4,816	\$22,108	\$11,287	\$43,935	\$16,103
December 31, 2017	11,486	593	34,039	7,301	45,525	7,894

The amount of unrealized capital losses on the Company's investment in unaffiliated common stock is spread over 10 individual securities. There were 4 unaffiliated common stock securities that were priced below 80% of the security's cost. Management has determined that the unrealized losses on the Company's investments in unaffiliated common stock at December 31, 2018 are temporary in nature. For further discussion on how the Company evaluates the impairment, see Note 2.

Federal Home Loan Bank The Company's investment in the FHLB-PGH Class B Membership Capital Stock as of December 31, 2018 and 2017 was \$2,452 and \$1,767, respectively. The Company also invested \$24,000 and \$14,000

(\$ in Thousands)

in FHLB-PGH Activity Stock as of December 31, 2018 and 2017. The Class B Membership Capital Stock held by the Company is subject to written notices of requests for redemption followed by a five year waiting period.

As of December 31, 2018 and 2017, the Company's borrowing capacity with the FHLB-PGH was \$1,263,983 and \$1,180,319, respectively.

The following represents the amount of collateral pledged to the FHLB-PGH, and the maximum amount of collateral pledged is as follows:

	December 31, 2018	Maximum during 2018	December 31, 2017	Maximum during 2017
Carrying value	\$787,003	\$806,781	\$395,694	\$883,761
Fair value	821,563	843,417	422,033	928,375

The amount of interest on borrowings classified as funding agreements for the years ended December 31, 2018 and 2017 was \$13,373 and \$3,249, respectively.

OTHER THAN TEMPORARY IMPAIRMENTS For the year ended December 31, 2018, the Company recognized other than temporary impairments on loan-backed securities due to the Company's:

December 31, 2018	Amortized Cost Prior to OTTI	OTTI		Fair Value
		Interest	Non-Interest	
Intent to sell	\$ —	\$—	\$ —	\$ —
Lack of intent to hold to recovery	—	—	—	—
Expected PV of cash flows less than cost	8,400	—	2,805	5,595
Total other-than-temporary impairments	\$8,400	\$—	\$2,805	\$5,595

For the year ended December 31, 2017, the Company recognized other than temporary impairments on loan-backed securities due to the Company's:

December 31, 2017	Amortized Cost Prior to OTTI	OTTI		Fair Value
		Interest	Non-Interest	
Intent to sell	\$—	\$—	\$—	\$—
Lack of intent to hold to recovery	—	—	—	—
Expected PV of cash flows less than cost	—	—	—	—
Total other-than-temporary impairments	\$—	\$—	\$—	\$—

In addition, during the years ended December 31, 2018 and 2017, the Company recognized realized losses of \$0 and \$195, respectively, related to the impairment of non-loan-backed debt securities.

REAL ESTATE Investments in real estate consist of the Company's home office property. As of December 31, 2018 and 2017, accumulated depreciation on real estate amounted to \$24,598 and \$22,891, respectively.

(\$ in Thousands)

ALTERNATIVE ASSETS The following table presents the Company's Alternative assets portfolio as of December 31:

2018	Carrying Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Venture capital	\$260,073	\$148,462		
MBO	118,540	109,381		
Distressed	54,696	59,410		
Real asset	90,090	73,323		
Mezzanine	18,640	17,925		
Infrastructure*	14,530	54	Semi-annually	30 Days
Hedge funds	2,076	—	Monthly	5-90 Days
Secondaries	25,754	33,874		
Fund of funds	17,741	5,610		
Senior mezzanine	8,150	7,358		
Direct lending	2,579	945		
Growth	55,656	61,136		
Credit	24,605	36,475		
Total Alternative Assets	\$693,130	\$553,953		

* Redemption option only applies to one infrastructure fund (Value = \$7,024; Unfunded Commitment = \$0)

2017	Carrying Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Venture capital	\$200,342	\$136,447		
MBO	81,043	112,948		
Distressed	47,775	75,433		
Real asset	74,854	90,436		
Mezzanine	18,751	21,107		
Infrastructure*	16,304	123	Semi-annually	30 Days
Hedge funds	3,234	—	Monthly	5-90 Days
Secondaries	14,514	17,329		
Fund of funds	15,429	6,510		
Senior mezzanine	7,176	8,679		
Direct lending	4,565	1,402		
Growth	30,506	32,914		
Credit	14,000	16,000		
Total Alternative Assets	\$528,493	\$519,328		

* Redemption option only applies to one infrastructure fund (Value = \$7,095; Unfunded Commitment = \$0)

Included in the 2018 table above are investments restricted for use under a reinsurance agreement with a carrying value of \$34,584 as of December 31, 2018.

The investment values are provided per the partnerships' capital account statements. With the exception of two open-ended investments within the portfolio, the Company's interest cannot be redeemed. Instead, distributions from each fund result from the liquidation of the underlying assets. The period over which unredeemable investments are expected to be liquidated ranges from 5 to 10 years.

As of December 31, 2018, none of these investments exceed 10% of the Company's admitted assets. The Company recognized realized losses of \$712 and \$4,787 for the years ended December 31, 2018 and 2017, respectively, associated with other-than-temporary impairments of certain partnership investments.

(\$ in Thousands)

The Company recognized realized gains of \$3 and \$59 for the years ended December 31, 2018 and 2017, respectively, associated with liquidations of the company's interest in partnerships.

OTHER INVESTED ASSETS The components of other invested assets as of December 31, 2018 and 2017 were as follows:

DECEMBER 31,	2018	2017
LIHTC	\$ 38,001	\$ 46,466
Receivable for securities	1,903	5,539
Other invested assets-affiliated	600,759	504,088
Other invested assets-unaffiliated	1,382	1,381
Total other invested assets	\$642,045	\$557,474

Other invested assets-affiliated represents the Company's investment in ISP, myWorth, PMAM, PMAM Private Funds, and notes receivable held by the Company from JMS, a subsidiary of ISP. Refer to Note 11 for additional discussion on other invested assets, affiliated.

Low Income Housing Tax Credits The Company has no LIHTC properties under regulatory review at December 31, 2018 and 2017. There were no write-downs due to forfeiture of eligibility and there were no impairments for 2018 or 2017.

Commitments of \$1,382 and \$19,128 for the years ended December 31, 2018 and 2017, respectively, have been recorded in Other liabilities related to unconditional and legally binding delayed equity contributions associated with investments in LIHTC. The Company has unexpired tax credits with remaining lives ranging between 5 and 10 years and required holding periods for its LIHTC investments between 8 and 13 years.

NET INVESTMENT INCOME AND REALIZED CAPITAL GAINS/ (LOSSES) The following table summarizes the major categories of net investment income for the years ended:

DECEMBER 31,	2018	2017
Income:		
Bonds and preferred stock	\$490,610	\$480,627
Unaffiliated	6,257	6,530
Real estate	3,519	3,519
Policy loans	16,916	15,753
Alternative assets	65,671	60,696
Other invested assets	70,428	36,789
Other	2,466	11,726
Derivatives	(11,015)	(4,160)
IMR amortization	10,267	(12,145)
Total investment income	655,119	599,335
Expenses:		
Surplus note interest	28,775	28,759
Depreciation of real estate	1,707	1,765
Other investment expenses	17,102	15,673
Total investment expenses	47,584	46,197
Net investment income	\$607,535	\$553,138

There was no nonadmitted accrued investment income at December 31, 2018 and 2017.

(\$ in Thousands)

Included in the table above (Debt securities) is \$907 of investment income attributable to securities disposed of as a result of a callable feature, spread over 23 securities.

During 2018 and 2017, proceeds from sales of bonds, preferred stock, and common stocks, and related gross realized gains and losses on those sales were as follows for the years ended December 31:

	2018			2017		
	Proceeds From Sales	Gross Realized Gains	Gross Realized Losses	Proceeds From Sales	Gross Realized Gains	Gross Realized Losses
Bonds	\$359,478	\$8,203	\$13,157	\$473,864	\$40,273	\$5,099
Preferred stock	9,828	—	209	—	—	—
Common stock	29,171	1,846	865	70,573	2,026	1,384

There was no nonadmitted accrued investment income at December 31, 2018 and 2017.

Realized capital gains are reported net of federal income taxes and amounts transferred to the IMR as follows for the years ended:

DECEMBER 31,	2018	2017
Realized capital gains/(losses)	\$ (5,632)	\$(36,091)
Less:		
Amount transferred to IMR (net of related taxes of \$(846) in 2018 and \$(31,291) in 2017)	3,182	519
Income tax effect on realized capital gains	2,705	31,291
Net realized capital gains/(losses)	\$(11,519)	\$(67,901)

Portions of realized capital gains and losses that were determined to be interest related were transferred to the IMR.

The details by NAIC designation 3 or below, or unrated of securities sold during the year ended December 31, 2018 and reacquired within 30 days of the sale date are:

Description	NAIC Designation	Number of Transactions	Book Value of Securities Sold	Cost of Securities Repurchased	Gain (Loss)
Bonds	3	1	\$ 5	\$ 5	\$ —
Common Stocks		12	4,255	4,464	173

(\$ in Thousands)

STRUCTURED NOTES The following table represents structured notes held by the Company as of December 31:

2018				
CUSIP Identification	Actual Cost	Fair Value	Book/Adjusted Carrying Value	Mortgage- Referenced Security (Y/N)
3136F9RQ8	\$ 1,294	\$ 1,581	\$ 1,512	N
912810FD5	193	240	249	N
912810RA8	25,005	24,098	26,320	N
912810RL4	45,035	43,204	47,265	N
912810RR1	402,685	384,465	419,931	N
912810RW0	50,218	48,080	51,911	N
9128282L3	129,014	132,397	138,572	N
912828K33	69,763	73,891	74,740	N

2017				
CUSIP Identification	Actual Cost	Fair Value	Book/Adjusted Carrying Value	Mortgage- Referenced Security (Y/N)
3136F9RQ8	\$ 1,294	\$ 1,570	\$ 1,481	N
89356BAB4	3,000	3,248	3,000	N
912810FD5	193	251	192	N
912810RA8	25,005	26,245	25,599	N
912810RL4	45,035	47,373	46,040	N
912810RR1	402,685	422,590	410,422	N
912810RW0	50,218	53,092	50,608	N

Note 4. RESERVES AND FUNDS FOR PAYMENT OF ANNUITY BENEFITS

The Company's separate accounts are non-guaranteed. The withdrawal characteristics of the Company's annuity actuarial reserves and deposit-type contracts are illustrated below as of December 31:

2018	General Account	Separate Account	Total	% of Total
Subject to discretionary withdrawal-with adjustments:				
With fair value adjustment	\$ —	\$ —	\$ —	—%
At book value less surrender charges	197,277	—	197,277	2%
At fair value	—	6,151,493	6,151,493	63%
Subtotal	197,277	6,151,493	6,348,770	65%
At book value — without adjustment	2,222,554	—	2,222,554	23%
Not subject to discretionary withdrawal	1,030,105	136,698	1,166,803	12%
Total annuity reserves and deposit liabilities gross	3,449,936	6,288,191	9,738,127	100%
Less: reinsurance ceded	(3,955)	—	(3,955)	
Total annuity reserves and deposit liabilities, net	\$3,445,981	\$6,288,191	\$9,734,172	

(\$ in Thousands)

2017	General Account	Separate Account	Total	% of Total
Subject to discretionary withdrawal-with adjustments:				
With fair value adjustment	\$ —	\$ —	\$ —	—%
At book value less surrender charges	246,377	—	246,377	2 %
At fair value	—	6,776,889	6,776,889	67%
Subtotal	246,377	6,776,889	7,023,266	69%
At book value — without adjustment	2,001,511	—	2,001,511	20%
Not subject to discretionary withdrawal	1,013,066	149,817	1,162,883	11%
Total annuity reserves and deposit liabilities gross	3,260,954	6,926,706	10,187,660	100%
Less: reinsurance ceded	(4,002)	—	(4,002)	
Total annuity reserves and deposit liabilities, net	\$3,256,952	\$6,926,706	\$10,183,658	

The following summarizes total annuity actuarial reserves and liabilities for deposit-type contracts at December 31:

	2018	2017
Statutory Statements of Admitted Assets, Liabilities and Surplus:		
Policyholders' reserves — group annuities	\$ 212,781	\$ 226,168
Policyholders' reserves — individual annuities	2,145,445	2,166,093
Liabilities for deposit-type contracts	1,071,075	846,351
VACARVM reserves	16,680	18,340
Subtotal	3,445,981	3,256,952
Separate Account Annual Statement:		
Annuities	6,288,175	6,926,674
Supplementary contracts with life contingencies	—	14
Other annuity contract-deposit-funds	16	18
Subtotal	6,288,191	6,926,706
Total reserves	\$9,734,172	\$10,183,658

As of December 31, 2018 and 2017, the Company has recorded reserves of \$602,563 and \$350,848, respectively, related to outstanding borrowings from the FHLB-PGH classified as funding agreements.

The Company has variable annuity contracts containing GMDB provisions that provide a specified minimum return upon death as follows:

RETURN OF PREMIUM provides the greater of the account value or total deposits made to the contract less any partial withdrawals and assessments, which is referred to as “net purchase payments.” This guarantee is a standard death benefit on all individual variable annuity products.

STEP-UP provides a variable death benefit equal to the greater of the account value and the highest variable account value adjusted for withdrawals and transfers from any prior contract anniversary date.

RISING FLOOR provides a variable death benefit equal to the greater of the current account value and the variable purchase payments accumulated at a set rate and adjusted for withdrawals and transfers.

(\$ in Thousands)

The following table summarizes the account values and net amount at risk (death benefit in excess of account value), net of reinsurance for variable annuity contracts with guarantees invested in the separate account as of December 31:

	2018	2017
Account value	\$6,348,941	\$6,985,083
Net amount at risk	194,464	26,301

The Company has variable annuity contracts that have GMAB, GMWB, and GMAB/GMWB Rider options. The Company also has fixed indexed annuity contracts that have GMWB Rider options. The GMAB provides for a return of principal at the end of a ten-year period. The GMAB/GMWB combination rider allows for guaranteed withdrawals from a benefit base after a selected waiting period. The GMWB riders are also available with inflation or death benefit protection. The benefit base is calculated as the maximum of principal increase at a roll up rate less any partial withdrawals during the accumulation phase, the current account value, and the highest anniversary value over the first ten years. The withdrawal amount is stated as a percentage of the benefit base and varies based on whether the annuitant selects lifetime withdrawals or a specified period. One version of this rider has an inflation adjustment applied to the Guaranteed Withdrawal Amount.

The following table summarizes the account values for the different benefit types as of December 31, 2018:

Rider Type	Contracts	Fund Value	Cash Value
GMAB	1,789	\$ 211,394	\$ 204,371
GMWB	12,475	2,294,623	2,236,256
GMWB w/ DB	1,083	179,395	173,785
GMWB w/ inflation	12,254	2,094,004	2,060,871
GMWB w/ inflation w/ DB	263	42,864	40,872
GMAB/GMWB	3,145	510,178	509,214
Total	31,009	\$5,332,458	\$5,225,369

The following table summarizes the account values for the different benefit types as of December 31, 2017:

Rider Type	Contracts	Fund Value	Cash Value
GMAB	1,738	\$ 222,764	\$ 215,168
GMWB	12,649	2,470,545	2,406,795
GMWB w/ DB	1,070	184,048	178,166
GMWB w/ inflation	12,547	2,295,182	2,256,923
GMWB w/ inflation w/ DB	241	40,686	38,693
GMAB/GMWB	3,466	618,019	616,356
Total	31,711	\$5,831,244	\$5,712,100

Variable annuity reserves for living and death benefits are based on the methodology specified in Actuarial Guideline XLIII (VACARVM), which specifies the final reserve as the greater of standard and stochastic scenarios floored at the basic adjusted reserve and cash value. The standard scenario is based on a single path, deterministic projection with stipulated assumptions. The stochastic scenario is based on the Conditional Tail Expectation ("CTE") 70% of 1000 stochastically generated interest rate scenarios. Prudent estimate assumptions including margins for uncertainty are used to calculate the stochastic amount. Key assumptions needed in valuing the liability include full withdrawals, partial withdrawals, mortality, the Consumer Price Index, investment management fees and revenue sharing, expenses, fund allocations and other policyholder behavior. In addition, a method for projecting interest rates and equity returns is required. The stochastic process also requires the projection of in-force general account assets, assets from reinvested cash flows and in-force hedge assets that support the

liabilities. The key assumptions needed in valuing the assets include reinvestment asset mix, reinvestment credit spreads, default rates, implied volatility and swap interest rates. At December 31, 2018 and 2017, the standard scenario was the greater of the two measures and was used as the final reserve. The final reserve balance for policies that fall within the scope of Actuarial Guideline XLIII, which covers both Living and Death Benefit guarantees, is \$6,246,041 and \$6,870,443, as of December 31, 2018 and 2017, respectively. During 2018 and 2017, there was no release of reserves as a result of the annual assumption review.

Fixed indexed annuity reserves for living benefits are based on the methodology specified in Actuarial Guideline XXXV, which specifies the reserve as the sum of the non-elective benefit reserve and the elective benefit reserve. The elective benefit reserve is calculated using the elective benefit path that results in the highest present value of future benefits. The final reserve balance for policies that fall within the scope of Actuarial Guideline XXXV is \$76,776 and \$77,048, as of December 31, 2018 and 2017, respectively.

Note 5. SEPARATE ACCOUNTS

Separate Accounts Registered with the SEC The Company maintains separate accounts, which are registered with the Securities Exchange Commission (“SEC”), for its individual variable life and annuity products with assets of \$7,146,868 and \$7,873,429 at December 31, 2018 and 2017, respectively. The assets for these separate accounts, which are carried at fair value, represent investments in shares of the Company’s Penn Series Funds and other non-proprietary funds.

Separate Accounts Not Registered with the SEC The Company also maintains separate accounts, which are not registered with the SEC, with assets of \$142,558 and \$156,146 at December 31, 2018 and 2017, respectively. While the product itself is not registered with the SEC, the underlying assets are comprised of SEC registered mutual funds. The assets in these separate accounts are carried at fair value.

Information regarding the Separate accounts of the Company, all of which are nonguaranteed, is as follows:

YEARS ENDED DECEMBER 31,	2018	2017
Premiums considerations and deposits	\$ 345,640	\$ 330,116
Reserves at December 31, at market value	7,166,983	7,890,645
Subject to discretionary withdrawal at market value	7,166,983	7,890,645

The following table reconciles the amounts transferred to and from the separate accounts as reported in the financial statements of the separate accounts to the amount reported in the Statements of Income and Changes in Surplus:

YEARS ENDED DECEMBER 31,	2018	2017
Transfers as reported in the financial statements of the separate accounts:		
Transfers to separate accounts	\$ 345,640	\$ 330,116
Transfers from separate accounts	(646,179)	(530,135)
Transfers as reported in the Statements of Income	\$(300,539)	\$(200,019)

The Company utilizes separate accounts to record and account for assets and liabilities for particular lines of business and transactions. For the current reporting year, the Company reported assets and liabilities from variable life and annuity product lines into a separate account.

(\$ in Thousands)

The assets of the separate accounts, which are legally insulated from the general account, are comprised of the following product mix as of December 31:

Product Description	2018	2017
Enhanced Deferred Individual Annuity	\$5,928,704	\$6,500,100
Single Life Variable Universal Life	632,201	687,429
Basic Deferred Individual Annuity	335,494	403,654
Joint Life Variable Universal Life	250,469	282,246
Deferred Group Annuity	142,558	156,146
Total	\$7,289,426	\$8,029,575

Certain separate account liabilities are guaranteed by the general account. To compensate the general account for the risk taken, the separate account paid risk charges to the general account totaling \$61,430 and \$57,547 for the years ended December 31, 2018 and 2017, respectively and \$222,136 for the four-year period between 2015 and 2018.

For the years ended December 31, 2018 and 2017, the general account of the Company has paid \$361 and \$778, respectively, towards separate account guarantees, and \$3,278 cumulatively over the last five years.

Note 6. DERIVATIVES

The Company utilizes derivatives to achieve its risk management goals. Exposure to risk is monitored and analyzed as part of the Company's asset/liability management process, which focuses on risks that impact liquidity, capital, and income. The Company may enter into derivative transactions to hedge exposure to interest rate, credit, liability, currency, and cash flow risks. The Company uses swaps, swaptions, futures, forward contracts, caps and options to hedge these risks.

When entering into a derivative transaction, there are several risks, including but not limited to basis risk, credit risk, and market risk. Basis risk is the exposure to loss from imperfectly matched positions, and is monitored and minimized by modifying or terminating the transaction. Credit risk is the exposure to loss as a result of default or a decline in credit rating of a counterparty. Credit risk is addressed by establishing and monitoring guidelines on the amount of exposure to any particular counterparty. Market risk is the adverse effect that a change in interest rates, currency rates, implied volatility rates, or a change in certain equity indexes or instruments has on the value of a financial instrument. The Company manages the market risk by establishing and monitoring limits as to the types and degree of risk that may be undertaken. Also, the Company requires that an International Swaps and Derivatives Association Master agreement govern all Over-the-Counter ("OTC") derivative contracts. In addition, as a result of Dodd Frank Title VII, interest rate swaps are centrally cleared through an exchange.

For the years ended December 31, 2018 and 2017, the Company did not have any derivative instruments designated and qualifying as hedging instruments.

The following table presents the notional and fair values of derivative financial instruments not designated and not qualifying as hedging instruments. Fair values showing a gain are reported as admitted assets. Fair values showing a loss are reported in liabilities. For the derivative instruments shown below, fair values equal carrying values except for futures. The carrying value for futures is the initial margin which was \$9,667 at December 31, 2018.

(\$ in Thousands)

Derivative Instruments Not Designated and Not Qualifying as Hedging Instruments

	2018				2017			
	DECEMBER 31, Number	Notional Value	Fair Value		Number	Notional Value	Fair Value	
			Gain	(Loss)			Gain	(Loss)
Credit default swaps	1	\$ 5,000	\$ —	\$ (169)	1	\$ 5,000	\$ —	\$ (393)
Currency swaps	2	23,663	976	—	—	—	—	—
Equity futures	1,650	181,086	—	(1,286)	200	26,760	—	(50)
Equity options	13	563,487	5,343	(8,377)	6	491,720	2,686	(3,009)
Inflation swaps	2	125,000	—	(6,718)	2	125,000	—	(7,206)
Interest rate futures	2,695	657,108	—	(236)	13,900	3,400,776	555	(132)
Interest rate swaps	71	7,821,900	124,780	(150,264)	63	5,666,700	16,978	(100,409)
Swaptions	5	850,000	2,531	(8,098)	2	330,000	—	(1,076)
Total return swaps	37	3,826,609	104,273	(160,183)	32	2,506,347	74,184	(221,552)
Treasury forwards	2	71,000	1,713	—	3	102,000	1,166	(74)
Treasury swaps	1	72,846	—	(584)	—	—	—	—
Total not designated and not qualifying as hedges	4,479	\$14,197,699	\$239,616	\$(335,915)	14,209	\$12,654,303	\$95,569	\$(333,901)

The impact of derivative instruments reported on the Statements of Income for the years ended December 31, 2018 and 2017, segregated by derivatives designated and qualifying as hedging instruments and derivatives not designated and not qualifying as hedging instruments, is reported in the tables below:

Derivative Instruments Designated and Qualifying as Hedging Instruments

	2018			2017		
	FOR THE YEARS ENDED DECEMBER 31, Net Investment Income/(Loss)	Net Investment Gains/(Losses)	Benefits paid to policyholders and beneficiaries	Net Investment Income/(Loss)	Net Investment Gains/(Losses)	Benefits paid to policyholders and beneficiaries
Cash flow hedges:						
Equity options	\$—	\$—	\$—	\$—	\$—	\$78,855
Interest rate swaps	—	—	—	—	—	—
Currency swaps	—	—	—	—	—	—
Fair value hedges:						
Interest rate swaps	—	—	—	—	—	—
Total qualifying hedges	\$—	\$—	\$—	\$—	\$—	\$ 78,855

(\$ in Thousands)

Derivative Instruments Not Designated and Not Qualifying as Hedging Instruments

YEARS ENDED DECEMBER 31,	2018		2017	
	Net Investment Income/(Loss)	Net Investment Gains/(Losses) ¹	Net Investment Income/(Loss)	Net Investment Gains/(Losses) ¹
Credit default swaps	\$ (254)	\$ —	\$ (190)	\$ —
Currency swaps	277	—	—	—
Equity options	—	2,169	—	15,691
Equity futures	—	(1,784)	—	12,076
Inflation swaps	(2,540)	—	(1,457)	—
Interest rate futures	—	2,756	—	(2,228)
Interest rate swaps	(15,832)	57,229	(9,060)	7,048
Swaptions	—	3,420	—	3,388
Total return swaps	6,480	(58,280)	6,547	(89,159)
Treasury forwards	—	(5,148)	—	(12,880)
Treasury swaps	854	2,333	—	—
Total nonqualifying hedges	\$(11,015)	\$ 2,695	\$(4,160)	\$(66,064)

1 \$1,730 and \$0 of the net investment gains/(losses) were transferred to the IMR for the years ended December 31, 2018 and 2017, respectively.

Derivative Instruments Designated and Qualifying as Hedging Instruments

While effective, the valuation of the derivative follows the valuation of the hedged asset. The variable rate fixed income securities are carried at amortized cost. Amortized cost for the derivative is zero. Therefore, for an effective hedge, the derivative is not recorded on the balance sheet. If the hedge is no longer effective or if the hedging arrangement is discontinued, the derivative is accounted for at fair value and the change in fair value is recorded as unrealized gains or losses. At termination, the gain/(loss) on the derivative would be realized and tax-affected. The tax-affected amount is allocable to the IMR, because it is attributable to changes in interest rates and is on a derivative that was hedging a financial asset, and is amortized into income over the remaining life of the derivative.

During the year ended December 31, 2017, the Company elected to voluntarily discontinue hedge accounting for two interest rate swaps. One swap was used for a cash flow hedge of cash flows related to the variability of interest rate payments associated with holdings of 3-month LIBOR variable rate fixed income securities. The other swap had been designated as fair value hedges of changes in the market values of specific bonds in the corporate bond portfolio due to changes in interest rates. An additional interest rate swap the Company had designated for hedge accounting no longer qualified as an effective hedge.

The Company did not have any derivative instruments designated and qualifying for hedge accounting for the year ended December 31, 2018.

Prior to 2017, the Company purchased equity options in the form of call spreads that qualified for hedge accounting. These were designated as cash flow hedges of cash flows related to the annual return of the S&P 500 Index. These call spreads are used to hedge the increase in liability associated with indexed credits on IUL policies. At termination, a realized gain amount, net of the cost basis, was recognized within benefits paid to policyholders and beneficiaries on the Statements of Income and Changes in Surplus, consistent with the change in liability associated with the account value.

Derivative Instruments Not Designated and Not Qualifying as Hedging Instruments

The Company may enter into interest rate caps, interest rate and equity futures, credit default swaps, currency swaps, forward contracts, interest rate and treasury swaps, inflation swaps and equity options that do not qualify for hedge accounting.

(\$ in Thousands)

The Company's use of interest rate caps is designed to manage risk associated with rising interest rates. Credit default swaps protect the Company from a decline in credit quality of a specified security resulting in bankruptcy or the failure to pay. The Company may use "to be announced" forward contracts to gain exposure to the investment risk and return of mortgage-backed securities.

The company uses currency swaps to reduce market risks from changes in foreign exchange rates.

The Company uses interest rate swaps, interest rate futures, treasury swaps, treasury forwards and swaptions to reduce market risks from changes in interest rates; the Company uses inflation swaps as an economic hedge to reduce inflation risk associated with inflation-indexed liabilities.

Total return swaps, equity options and equity futures are used to hedge the company's liability risk exposure to declines in the equity markets.

The change in unrealized capital gains/(losses) for derivative instruments not designated and not qualifying as hedging instruments are as follows for the years ended December 31:

	2018	2017
Credit default swaps	\$ 224	\$ 125
Currency swaps	976	—
Equity futures	(356)	55
Equity options	3,867	(5,550)
Inflation swaps	487	806
Interest rate futures	(3,827)	2,170
Interest rate swaps	57,952	(4,890)
Swaptions	(4,068)	(486)
Total return swaps	91,458	(46,005)
Treasury forwards	621	18,013
Treasury swaps	(585)	—
Total	\$146,749	\$(35,762)

The Company offers a variety of variable annuity contracts with GMAB or GMWB (described further in Note 4). The contractholders may elect to invest in equity funds. Adverse changes in the equity markets expose the Company to losses if the changes result in contractholder's account balances falling below the guaranteed minimum. To mitigate the risk associated with these liabilities, the Company enters into various derivative instruments. The changes in value of the derivative instruments will offset a portion of the changes in the annuity accounts relative to changes in the equity market.

CREDIT RISK

The Company is exposed to credit related losses in the event of non-performance by counterparties to derivative financial instruments. In order to minimize credit risk, the Company and its derivative counterparties require collateral to be posted in the amount owed under each transaction, subject to minimum transfer amounts that are functions of the counterparty's credit rating. As of December 31, 2018 and 2017, the Company was fully collateralized thereby eliminating the potential for an accounting loss. Additionally, certain agreements with counterparties allow for contracts in a positive position to be offset by contracts in a negative position. This right of offset also reduces the Company's exposure. As of December 31, 2018 and 2017, the Company pledged collateral of \$215,877 and \$380,520, respectively, in the form of securities and cash.

The cash received from held collateral that is not invested in an interest bearing money market fund is invested mainly in fixed income securities.

As of December 31, 2018 and 2017, the Company pledged collateral for futures contracts of \$5,856 and \$1,769, respectively, in the form of cash. Notional or contractual amounts of derivative financial instruments provide a

measure of involvement in these types of transactions and do not represent the amounts exchanged between the parties engaged in the transaction. The amounts exchanged are determined by reference to the notional amounts and other terms of the derivative financial instruments.

Note 7. FAIR VALUE OF FINANCIAL INSTRUMENTS AND OFF-BALANCE-SHEET RISK

FAIR VALUE MEASUREMENT Fair value is defined as 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 value measurement is based on assumptions market participants would make in pricing an asset or liability. Inputs to valuation techniques to measure fair value are prioritized by establishing a three-level fair value hierarchy. The fair value hierarchy gives the highest priority to quoted prices in active markets and the lowest priority to prices derived from unobservable inputs. An asset or liability's classification within the fair value hierarchy is based on the lowest level of significant input to its fair value measurement.

The Company has categorized its assets and liabilities into the three-level fair value hierarchy based upon the priority of the inputs. The following summarizes the types of assets and liabilities included within the three-level hierarchy:

- Level 1 Fair value is based on unadjusted quoted market prices in active markets for identical assets or liabilities that are accessible at the measurement date. These generally provide the most reliable evidence and are used to measure fair value whenever available. Active markets are defined as having the following for the measured asset/liability: i) many transactions, ii) current prices, iii) price quotes not varying substantially among market makers, iv) narrow bid/ask spreads and v) most information publicly available. Prices are obtained from readily available sources for market transactions involving identical assets and liabilities.
- Level 2 Fair value is based on significant inputs, other than quoted prices included in Level 1, that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability through corroboration with observable market data. Prices for assets classified as Level 2 are primarily provided by an independent pricing service or are internally priced using observable inputs. In circumstances where prices from pricing services are reviewed for reasonability but cannot be corroborated to observable market data as noted above, these security values are recorded in Level 3 in the fair value hierarchy.
- Level 3 Fair value is based on significant inputs that are unobservable for the asset or liability. These inputs reflect the Company's assumptions about the assumptions market participants would use in pricing the asset or liability. These are typically less liquid fixed maturity securities with very limited trading activity. Prices are determined using valuation methodologies such as option pricing models, discounted cash flow models, market approach and other similar techniques. Prices may be based upon non-binding quotes from brokers or other market makers that are reviewed for reasonableness, based on the Company's understanding of the market but are not further corroborated with other additional observable market information.

The determination of fair value, which for certain assets and liabilities is dependent on the application of estimates and assumptions, can have a significant impact on the Company's results of operations. The following sections describe the valuation methodologies used to determine fair values as well as the key estimates and assumptions surrounding certain assets and liabilities, measured at fair value on a recurring basis, that could have a significant impact on the Company's results of operations or involve the use of significant unobservable inputs.

The fair value process is monitored on a monthly basis by financial and investment professionals who utilize additional subject matter experts as applicable. The purpose is to monitor the Company's asset valuation policies and procedures by ensuring objective and reliable valuation practices and pricing of financial instruments, as well as addressing fair valuation issues, changes to valuation methodologies and pricing sources. To assess the continuing appropriateness of third party pricing service security valuations, the Company regularly monitors the prices and reviews price variance reports. In addition, the Company performs an initial and ongoing review of the third party pricing services methodologies, reviews inputs and assumptions used for a sample of securities on a periodic basis. Pricing challenges are raised on valuations considered not reflective of market and are monitored by the Company.

BONDS The fair values of the Company's debt securities are generally based on quoted market prices or prices obtained from independent pricing services or internally developed pricing.

In order to validate reasonability of valuations received from independent pricing services, prices are reviewed by investment professionals through comparison with directly observed recent market trades or color or by comparison of significant inputs used by the pricing service to the Company's observations of those inputs in the market. In circumstances where prices from independent pricing services are reviewed for reasonability but cannot be corroborated to observable market data as noted above, these security values are recorded in Level 3 in the Company's fair value hierarchy. Under certain conditions, the Company may conclude pricing information received from third party pricing services is not reflective of market activity and may over-ride that information with a valuation that utilizes market information and activity. As of December 31, 2018, there were 2 debt securities carried at a fair value of \$10,461 that were valued in this manner. As of December 31, 2017, there were 2 debt securities carried at fair value of \$5,868 that were valued in this manner.

In circumstances where market data such as quoted market prices or vendor pricing is not available, estimated fair value is calculated using internal estimates based on significant observable inputs are used to determine fair value. Inputs considered in developing internal pricing vary by type of security; however generally include: public debt, industrial comparables, underlying assets, credit ratings, yield curves, type of deal structure, collateral performance, loan characteristics and various indices, as applicable. Internally priced securities using significant observable inputs are classified within Level 2 of the fair value hierarchy which generally include the Company's investments in privately-placed corporate securities and investments in certain structured securities that are priced using observable market data. Inputs considered for these securities generally include: public corporate bond spreads, industry sectors, average life, internal ratings, security structure, liquidity spreads, credit spreads and yield curves, as applicable. If the discounted cash flow model incorporates significant unobservable inputs, these securities would be reflected within Level 3 in the Company's fair value hierarchy.

In circumstances where significant observable inputs are not available, estimated fair value is calculated by using unobservable inputs. These inputs reflect the Company's assumptions about the inputs market participants would use in pricing the asset, and are therefore included in Level 3 in the Company's fair value hierarchy. Circumstances where observable market data is not available may include events such as market illiquidity and credit events related to the security.

The Company's Level 3 debt securities generally include certain structured securities priced using one or multiple broker quotes, asset backed trust preferred debt, auction rate securities, and certain public and private debt securities priced based on observable and unobservable inputs.

Significant inputs used in valuing the Company's Level 3 debt securities include: issue specific credit adjustments, illiquidity premiums, estimation of future collateral performance cash flows, default rate assumptions, acquisition cost, market activity for securities considered comparable and non-binding quotes from certain market participants. Certain of these inputs are considered unobservable, as not all market participants will have access to this data.

EQUITY SECURITIES Equity securities consist principally of investments in common and preferred stock of publicly traded companies, exchange traded funds, closed-end funds, and FHLB-PGH capital stock.

Common Stock The fair values of most publicly traded common stock are based on quoted market prices in active markets for identical assets and are classified within Level 1 in the Company's fair value hierarchy. Fair value for the FHLB capital stock approximates par value and is classified within Level 3 of the Company's fair value hierarchy.

Preferred Stock The fair values of publicly traded preferred stock are based on quoted market prices in active markets for identical assets and are classified within Level 1 in the Company's fair value hierarchy. The fair values of non-exchange traded preferred equity securities are based on prices obtained from independent pricing services. Accordingly, these securities are classified within Level 2 in the Company's fair value hierarchy. Preferred stock that is priced using less observable inputs are generally classified within Level 3 of the fair value hierarchy.

(\$ in Thousands)

CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS Short-term investments and cash equivalents carried at Level 1 consist of money market funds and investments purchased with maturities less than or equal to 12 months. These are carried at amortized cost and approximate fair value.

DERIVATIVE INSTRUMENTS The fair values of derivative contracts are determined based on quoted prices in active exchanges or prices provided by counterparties, exchanges or clearing members as applicable, utilizing valuation models. The fair values of derivative contracts can be affected by changes in interest rates, foreign exchange rates, commodity prices, credit spreads, market volatility, expected returns and liquidity as well as other factors.

The Company's exchange traded futures are valued using quoted prices in active markets and are classified within Level 1 in our fair value hierarchy.

Derivative positions traded in the OTC and cleared OTC derivative markets where fair value is determined by third party independent services are classified within Level 2. These investments include: interest rate swaps, currency swaps, Treasury swaps, interest rate caps, total return swaps, swaptions, equity options, inflation swaps, forward contracts, and credit default swaps. OTC derivatives classified within Level 2 are valued using models generally accepted in the financial services industry that use actively quoted or observable market input values from external market data providers, broker-dealer quotations, third-party pricing vendors, discounted cash flow models and/or recent trading activity. Prices are reviewed by investment professionals through comparison with directly observed recent market trades, comparison with valuations estimated through use of valuation models maintained on an industry standard analytical and valuation platform, or comparison of all significant inputs used by the pricing service to observations of those inputs in the market.

Refer to Note 6 for additional disclosures regarding derivatives.

SEPARATE ACCOUNT ASSETS Separate account assets primarily consist of mutual funds. The fair value of mutual funds is based upon quoted prices in an active market, resulting in classification within Level 1 of the Company's fair value hierarchy.

The following table presents the financial instruments carried at fair value by caption on the Statements of Admitted Assets, Liabilities and Surplus and by valuation hierarchy (as described above).

December 31, 2018	FV Level 1	FV Level 2	FV Level 3	Total
Assets:				
Bonds:				
Corporate securities	\$ —	\$ —	\$ —	\$ —
Commercial MBS	—	8,254	—	8,254
Asset-backed securities	—	261	—	261
Total Bonds	—	8,515	—	8,515
Common stock — unaffiliated	43,935	—	26,463	70,398
Derivatives				
Futures	—	—	—	—
Options	—	7,874	—	7,874
Swaps	—	231,742	—	231,742
Total derivatives	—	239,616	—	239,616
Total investments	43,935	248,131	26,463	318,529
Separate account assets ⁽¹⁾	7,289,426	—	—	7,289,426
Total assets	\$7,333,361	\$248,131	\$26,463	\$7,607,955

(\$ in Thousands)

December 31, 2018	FV Level 1	FV Level 2	FV Level 3	Total
Liabilities:				
Derivatives				
Interest rate swaps	\$ —	\$ —	\$—	\$ —
Credit default swaps	—	—	—	—
Futures	(1,522)	—	—	(1,522)
Options	—	(16,475)	—	(16,475)
Swaps	—	(317,918)	—	(317,918)
Total liabilities	\$(1,522)	\$(334,393)	\$—	\$(335,915)

(1) Separate account assets represent segregated funds that are invested for certain customers. Investment risks associated with market value changes are borne by the customers, except to the extent of minimum guarantees made by the Company with respect to certain accounts. Separate account liabilities are not included in the above table as they are reported at contract value and not fair value in the Company's Statements of Admitted Assets, Liabilities and Surplus.

The following table presents the financial instruments carried at fair value by caption on the Statements of Admitted Assets, Liabilities and Surplus and by valuation hierarchy (as described above).

December 31, 2017	FV Level 1	FV Level 2	FV Level 3	Total
Assets:				
Bonds:				
Corporate securities	\$ —	\$ 287	\$ —	\$ 287
Commercial MBS	—	—	3,660	3,660
Total Bonds	—	287	3,660	3,947
Common stock — unaffiliated	48,584	—	15,778	64,362
Derivatives				
Futures	555	—	—	555
Interest rate swaps	—	16,978	—	16,978
Total return swaps	—	74,184	—	74,184
Equity options	—	2,686	—	2,686
Treasury forward	—	1,166	—	1,166
Total derivatives	555	95,014	—	95,569
Total investments	49,139	95,301	19,438	163,878
Separate account assets ⁽¹⁾	8,029,575	—	—	8,029,575
Total assets	\$8,078,714	\$ 95,301	\$19,438	\$8,193,453
Liabilities:				
Derivatives				
Interest rate swaps	\$ —	\$(100,409)	\$ —	\$ (100,409)
Credit default swaps	—	(393)	—	(393)
Futures	(182)	—	—	(182)
Equity options	—	(3,009)	—	(3,009)
Inflation swaps	—	(7,206)	—	(7,206)
Swaptions	—	(1,076)	—	(1,076)
Total return swaps	—	(221,552)	—	(221,552)
Treasury forwards	—	(74)	—	(74)
Total liabilities	\$ (182)	\$(333,719)	\$ —	\$ (333,901)

(\$ in Thousands)

- (1) Separate account assets represent segregated funds that are invested for certain customers. Investment risks associated with market value changes are borne by the customers, except to the extent of minimum guarantees made by the Company with respect to certain accounts. Separate account liabilities are not included in the above table as they are reported at contract value and not fair value in the Company's Statements of Admitted Assets, Liabilities and Surplus.

SIGNIFICANT TRANSFERS BETWEEN LEVEL 1 AND LEVEL 2 There were no significant transfers between Level 1 and Level 2.

CHANGES IN LEVEL 3 RECURRING FAIR VALUE MEASUREMENTS When a determination is made to classify a financial instrument within Level 3, the determination is based upon the significance of the unobservable parameters to the overall fair value measurement. However, Level 3 financial instruments typically include, in addition to the unobservable or Level 3 components, observable components (that is, components that are actively quoted and can be validated to external sources); accordingly, the gains and losses in the table below include changes in fair value due in part to observable factors that are part of the valuation methodology.

The Company recognizes transfers into Level 3 as of the end of the period in which the circumstances leading to the transfer occurred. The Company recognizes transfers out of Level 3 at the beginning of a period in which the circumstances leading to the transfer occurred.

There were no securities transferred in or out of Level 3 for the year ended December 31, 2018.

The tables below include a rollforward of the Statements of Admitted Assets, Liabilities and Surplus amounts for the years ended December 31, 2018 and 2017 (including the change in fair value), for financial instruments classified by the Company within Level 3 of the valuation hierarchy.

	Commercial MBS	Asset- Backed Securities	Preferred Stock	Common Stock	Total Assets
Balance January 1, 2018	\$ 3,660	\$ —	\$ —	\$ 15,778	\$ 19,438
Transfers in	—	—	—	—	—
Transfers out	—	—	—	—	—
Total gains or losses (realized/ unrealized) included in:					
Income/(loss)	(6,000)	—	—	—	(6,000)
Surplus	2,313	—	—	—	2,313
Amortization/Accretion	27	—	—	—	27
Purchases/(Sales):					
Purchases	—	—	—	14,685	14,685
(Sales)	—	—	—	(4,000)	(4,000)
Balance December 31, 2018	\$ —	\$ —	\$ —	\$ 26,463	\$ 26,463

	Commercial MBS	Asset- Backed Securities	Preferred Stock	Common Stock	Total Assets
Balance January 1, 2017	\$ —	\$ 1,514	\$ 7,544	\$ 13,589	\$ 22,647
Transfers in	3,660	—	—	—	3,660
Transfers out	—	—	(7,544)	—	(7,544)
Total gains or losses (realized/ unrealized) included in:					
Income/(loss)	—	(37)	—	—	(37)
Surplus	—	113	—	—	113
Amortization/Accretion	—	—	—	—	—
Purchases/(Sales):					
Purchases	—	—	—	12,189	12,189
(Sales)	—	(1,590)	—	(10,000)	(11,590)
Balance December 31, 2017	\$ 3,660	\$ —	\$ —	\$ 15,778	\$ 19,438

(\$ in Thousands)

The following summarizes the fair value, valuation techniques and significant unobservable inputs of the Level 3 fair value measurements that were developed as of December 31, 2018:

	Fair Value	Valuation Technique	Significant Unobservable Inputs	Rate/Range or weighted avg.
Assets:				
Investments				
Common stock:				
Unaffiliated	11	Cost	Not available	N/A
FHLB Membership Stock	26,452	Set by issuer-FHLB-PGH ⁽¹⁾	Not available	N/A
Total investments	26,463			

(1) Fair Value approximates carrying value. The par value of the FHLB capital stock is \$100 and set by the FHLB. The capital stock is issued, redeemed and repurchased at par.

The following tables summarizes the aggregate fair value for all financial instruments and the level within the fair value hierarchy in which the fair value measurements in their entirety fall, for which it is practicable to estimate fair value, at December 31:

2018	Aggregate Fair Value	Admitted Value	Level 1	Level 2	Level 3
Financial Assets:					
Bonds	\$10,093,298	\$9,968,033	\$ 818,997	\$9,209,413	\$ 64,888
Preferred stock	107,619	112,090	63,082	35,355	9,182
Common stock-unaffiliated	70,398	70,398	43,935	—	26,463
Cash and short-term investments	270,846	270,846	270,846	—	—
Derivatives	239,616	239,616	—	239,616	—
Separate Account assets	7,289,426	7,289,426	7,289,426	—	—
Financial Liabilities:					
Investment-Type Contracts					
Individual annuities	\$ 2,387,076	\$2,379,269	\$ —	\$ —	\$2,387,076
Derivatives	335,915	334,393	1,522	334,393	—
Separate Account liabilities	7,289,426	7,289,426	7,289,426	—	—

2017	Aggregate Fair Value	Admitted Value	Level 1	Level 2	Level 3
Financial Assets:					
Bonds	\$9,932,582	\$9,209,554	\$ 616,591	\$9,136,146	\$ 179,845
Redeemable preferred stock	116,660	112,008	67,404	39,388	9,868
Common stock-unaffiliated	64,362	64,362	48,584	—	15,778
Cash and short-term investments	299,313	299,313	299,313	—	—
Derivatives	95,569	95,569	555	95,014	—
Separate Account assets	8,029,575	8,029,575	8,029,575	—	—
Financial Liabilities:					
Investment-Type Contracts					
Individual annuities	\$2,434,677	\$2,418,185	\$ —	\$ —	\$2,434,677
Derivatives	333,901	333,901	182	333,719	—
Separate Account liabilities	8,029,575	8,029,575	8,029,575	—	—

(\$ in Thousands)

During 2018, securities totaling \$1,942 were transferred from Level 2 to Level 1 due to recognition of securities being exchange traded. During 2018, securities with a fair value totaling \$54,037 were transferred from Level 3 to Level 2 due to securities now being priced by independent services using observable inputs. During 2018, securities with a fair value totaling \$34,026 were transferred from Level 3 to Level 2 due to internal estimates using significant observable inputs.

During 2017, securities totaling \$6,503 were transferred from Level 2 to Level 3 primarily due to internal estimates using significant unobservable estimates, as well as securities no longer being priced by an independent service using observable inputs and broker quotes. During 2017, securities with a fair value totaling \$20,069 were transferred from Level 3 to Level 2 due to a change in pricing methodology from broker quote to internal estimates using significant observable inputs and being priced by independent services using observable inputs.

Note 8. BENEFIT PLANS

The Company maintains both funded and unfunded non-contributory defined benefit pension plans covering all eligible employees. The Company also has other postretirement benefit plans (health care plans) covering eligible existing retirees and limited other eligible employees. The Company uses a measurement date of December 31 for all plans.

PENSION PLANS The Company has both funded (“qualified pension plan”) and unfunded (“nonqualified pension plans”) non-contributory defined benefit pension plans covering all eligible employees (collectively, the “pension plans”). The Company’s policy is to fund qualified pension costs in accordance with the Employee Retirement Income Security Act (“ERISA”) of 1974. The Company may increase its contribution above the minimum based upon an evaluation of the Company’s tax and cash positions and the plan’s funded status.

The Company approved the freezing of benefits under its qualified pension plan and nonqualified Tax Equity and Fiscal Responsibility Act (“TEFRA”) pension plans. Therefore, no further benefits are accrued for participants.

OTHER POSTRETIREMENT AND POSTEMPLOYMENT BENEFITS The Company provides certain life insurance and health care benefits (“other postretirement healthcare plans”) for its retired employees and advisers, and their beneficiaries and covered dependents.

OTHER PLANS The Company has non-qualified deferred compensation plans that permit eligible key employees, advisers, and trustees to defer portions of their compensation to these plans. Certain Company contributions in excess of allowable qualified plan limits may also be credited to these plans. Company contributions are recorded as expenses and earnings/ (losses) on investments are recorded to interest credited to policyholder funds in the Statements of Income and Changes in Surplus. To hedge against volatility for the investment earnings credited, the Company has purchased corporate-owned life insurance contracts.

BENEFIT OBLIGATIONS Accumulated benefit obligations represent the present value of pension benefits earned as of the measurement date based on service and compensation and do not take into consideration future salary increases. Projected benefit obligations for defined benefit plans represent the present value of pension benefits earned as of the measurement date projected for estimated salary increases to an assumed date with respect to retirement, termination, disability or death.

The following table sets forth the plans’ change in projected benefit obligation of the defined benefit pension and other postretirement plans as of December 31:

	Pension Plans		Other Postretirement Healthcare Plans	
	2018	2017	2018	2017
Change in projected benefit obligation				
Projected benefit obligation at beginning of year	\$185,320	\$176,512	\$18,386	\$19,152
Service cost	—	—	308	339
Interest cost	5,804	7,193	542	698
Actuarial loss/(gain)	(12,049)	11,690	(1,793)	(633)
Benefits paid	(9,842)	(10,075)	(1,246)	(1,170)
Projected benefit obligation at end of year	\$169,233	\$185,320	\$16,197	\$18,386

(\$ in Thousands)

The weighted-average assumptions used to measure the actuarial present value of the projected benefit obligation were as follows as of December 31:

	Pension Plans		Other Postretirement Healthcare Plans	
	2018	2017	2018	2017
Discount rate ⁽¹⁾	4.28%	3.60%	4.30%	3.60%
Rate of compensation increase	N/A	N/A	N/A	N/A

(1) 2018 discount rates are 4.14%, 4.09%, and 3.55% for the various Nonqualified Pension Plans.

The discount rate is determined at the annual measurement date of the plans and is therefore subject to change each year. The rate reflects prevailing market rates for high quality fixed-income debt instruments with maturities corresponding to expected duration of the benefit obligations on the measurement date. The rate is used to discount the future cash flows of benefits obligations back to the measurement date.

The assumed health care cost trend rates used in determining the benefit obligation for the other postretirement healthcare plans were as follows as of December 31:

	2018		2017	
	Pre-65	Post-65	Pre-65	Post-65
Health care cost trend rate assumed for next year	6.80%	7.20%	7.10%	7.60%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	4.50%	4.50%	4.50%	4.50%
Year that the rate reaches the ultimate trend rate	2025	2025	2025	2025

PLAN ASSETS The change in plan assets of pension plans and other postretirement healthcare plans represents a reconciliation of beginning and ending balances of the fair value of the plan assets used to fund future benefit payments. The following table sets forth the change in plan assets as of December 31:

	Pension Benefits		Other Benefits	
	2018	2017	2018	2017
Change in plan assets:				
Fair value of plans assets at beginning of year	\$193,454	\$178,248	\$ —	\$ —
Actual return on plan assets	(5,362)	22,260	—	—
Employer contribution	2,564	3,021	1,246	1,170
Benefits paid	(9,842)	(10,075)	(1,246)	(1,170)
Fair value of plan assets at end of year	\$180,814	\$193,454	\$ —	\$ —

The plan assets of the qualified pension plan consist primarily of investments in mutual funds through a group annuity contract with the Company. The fair value of those funds is based upon quoted prices in an active market, resulting in a classification of Level 1. The qualified pension plan also invested in bond funds that are managed by a subsidiary of the Company. The fair value of these funds are based upon the net asset value used as a practical expedient obtained from the investment manager, resulting in a classification of Level 2.

(\$ in Thousands)

The following table presents the financial instruments carried at fair value in the Company's qualified pension plan assets as of December 31, 2018:

Asset Category	FV Level 1	FV Level 2	FV Level 3	Total
Equity funds	\$ 81,962	\$ —	\$—	\$ 81,962
Bond funds	46,309	44,115	—	90,424
Money market funds	8,428	—	—	8,428
Total	\$136,699	\$44,115	\$—	\$180,814

The following table presents the financial instruments carried at fair value in the Company's qualified pension plan assets as of December 31, 2017:

Asset Category	FV Level 1	FV Level 2	FV Level 3	Total
Equity funds	\$ 94,280	\$ —	\$—	\$ 94,280
Bond funds	47,556	43,641	—	91,197
Money market funds	7,977	—	—	7,977
Total	\$149,813	\$43,641	\$—	\$193,454

The Company's overall investment strategy with respect to pension assets is growth, preservation of principal, preservation of purchasing power and partial immunization through asset/liability matching while maintaining return objectives over the long term. To achieve these objectives, the Company has established a strategic asset allocation policy. Plan assets are diversified both by asset class and within each asset class in order to provide reasonable assurance that no single security or class of security will have a disproportionate impact on the plan. The target allocation for 2018 and 2017 was a 50%-50%/ 40%-60% allocation between equity and bond funds. The Company will continue its policy to rebalance the portfolio on an annual basis. Performance of investment managers, liability measurement and investment objectives are reviewed on a regular basis.

The Company's qualified pension plan asset allocation and target allocations at December 31, 2018 and 2017 are as follows:

Asset Category	2018 Target Allocation	Percentage of Plan Assets As of December 31,	
		2018	2017
Equity funds	50.0%	45.3%	48.8%
Bond funds	50.0%	50.0%	47.1%
Money market funds	—%	4.7%	4.1%
Total	100.0%	100.0%	100.0%

The expected rate of return on plan assets was estimated utilizing a variety of factors including the historical investment returns achieved over a long-term period, the targeted allocation of plan assets, and expectations concerning future returns in the marketplace for both equity and debt securities. Lower returns on plan assets result in higher net periodic benefit cost.

AMOUNTS RECOGNIZED IN THE STATEMENTS OF ADMITTED ASSETS, LIABILITIES AND SURPLUS

The funded status of the defined benefit pension plans and other postretirement healthcare plans is a comparison of the projected benefit obligations to the assets related to the respective plan, if any. The difference between the two represents amounts that have been appropriately recognized as expenses in prior periods that appear as the net amount recognized or represent amounts that will be recognized as expenses in the future through the amortization of the unrecognized net actuarial gains or losses and unrecognized prior service costs or credits.

(\$ in Thousands)

The following table sets forth the funded status of the plans as of December 31, 2018 and 2017 as of the measurement date:

	Pension Plans		Other Postretirement Healthcare Plans	
	2018	2017	2018	2017
Benefit obligation	\$(169,233)	\$(185,320)	\$(16,197)	\$(18,386)
Fair value of plan assets	180,814	193,454	—	—
Funded Status	\$ 11,581	\$ 8,134	\$(16,197)	\$(18,386)

The funded status reconciles to amounts reported in the Statement of Admitted Assets, Liabilities and Surplus as follows as of December 31:

	Pension Plans		Other Postretirement Healthcare Plans	
	2018	2017	2018	2017
Prepaid pension asset (nonadmitted)	\$ 36,098	\$ 35,571	\$ —	\$ —
Accrued benefit cost and liability for benefits recognized (other liabilities)	(24,517)	(27,437)	(16,197)	(18,386)
	11,581	8,134	(16,197)	(18,386)
Unrecognized transition liability	—	—	—	—
Funded Status	\$ 11,581	\$ 8,134	\$(16,197)	\$(18,386)

The breakout of the fair value of plan assets, projected benefit obligation and accumulated benefit obligation for plans in an overfunded status, where the fair value exceeded the projected benefit obligation, and plans in an underfunded status, where the projected benefit obligation exceeded the fair value of plan assets were as follows as of December 31:

	Overfunded Pension Plans		Underfunded Pension Plans	
	2018	2017	2018	2017
Projected benefit obligation	\$(144,716)	\$(157,883)	\$(24,517)	\$(27,437)
Fair value of plan assets	180,814	193,454	—	—
Funded Status	36,098	35,571	(24,517)	(27,437)
Accumulated benefit obligation	\$(144,716)	\$(157,883)	\$(24,517)	\$(27,437)

SURPLUS ITEMS NOT YET RECOGNIZED The amounts in surplus that have not yet been recognized as part of net periodic benefit cost/(credit) were as follows as of December 31:

	Pension Plans		Other Postretirement Healthcare Plans	
	2018	2017	2018	2017
Unrecognized prior service cost	\$ —	\$ —	\$ 1,753	\$ 1,757
Unrecognized actuarial (gain)/loss	45,411	39,848	(4,164)	(2,493)
Total	\$45,411	\$39,848	\$(2,411)	\$ (736)

(\$ in Thousands)

The following represents activity relating to amounts recognized in surplus or included in the remaining unrecognized transition liability from the adoption of SSAP No. 92, "Accounting for Postretirement Benefits Other Than Pensions," during the year ended December 31, 2018 and 2017, including reclassification adjustments for those amounts recognized as components of net periodic benefit cost/(credit), for the years ended December 31:

	Pension Benefits		Other Benefits	
	2018	2017	2018	2017
Items not yet recognized as a component of net periodic benefit cost/(credit) — prior year	\$39,848	\$39,173	\$ (736)	\$(206)
Net prior service cost arising during the period	—	—	—	—
Net prior service (cost)/credit recognized to net periodic benefit cost/(credit)	—	—	(4)	1
Net actuarial loss/(gain) arising during the period	6,592	1,653	(1,793)	(634)
Net actuarial (loss) recognized to net periodic benefit cost/(credit)	(1,029)	(978)	122	103
Items not yet recognized as a component of net periodic benefit cost — current year	\$45,411	\$39,848	\$(2,411)	\$(736)

Amounts in surplus expected to be recognized as components of net periodic benefit cost/(credit) in 2019 are as follows:

	Pension Plans	Other Postretirement Healthcare Plans
Amortization of net prior service credit	\$ —	\$ 4
Amortization of actuarial net (gain)/loss	1,335	(122)

NET PERIODIC BENEFIT COST/(CREDIT) The components of net periodic benefit cost/(credit) were as follows for the years ended December 31:

	Pension Plans		Other Postretirement Healthcare Plans	
	2018	2017	2018	2017
Service cost	\$ —	\$ —	\$ 308	\$ 339
Interest cost	5,802	7,194	542	698
Expected return on plan assets	(13,278)	(12,225)	—	—
Amortization of prior service cost/(credit)	—	—	4	(1)
Amortization of actuarial losses/(gains)	1,029	978	(122)	(103)
Total net periodic benefit (credit)/cost	\$ (6,447)	\$ (4,053)	\$ 732	\$ 933

The weighted-average assumptions used to determine net periodic benefit cost/(credit) were as follows for the years ended December 31:

	Pension Plans		Other Postretirement Healthcare Plans	
	2018	2017	2018	2017
Discount rate	3.60%	4.20%	3.62%	4.00%
Expected return on plan assets	7.00%	7.00%	N/A	N/A
Rate of compensation increase	N/A	N/A	N/A	N/A

(\$ in Thousands)

The assumed health care cost trend rates used in determining net periodic benefit cost were as follows for the years ended December 31:

	2018		2017	
	Pre-65	Post-65	Pre-65	Post-65
Health care cost trend rate assumed for next year	7.10%	7.60%	6.90%	8.10%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	4.50%	4.50%	4.50%	4.50%
Year that the rate reaches the ultimate trend rate	2025	2025	2025	2025

Assumed health care trend rates have a significant effect on the amounts reported for the health care plans. A one-percentage point change in assumed health care cost trend rates would have the following effects:

	One-Percentage Point	
	Increase	Decrease
Impact on total service and interest cost components	\$ 55	\$ (48)
Impact of postretirement benefit obligation	760	(682)

ACTUAL CONTRIBUTIONS AND BENEFITS The contributions made and the benefits paid from the plans at December 31 were as follows:

	Pension Benefits		Other Benefits	
	2018	2017	2018	2017
Employer Contributions	\$ 2,564	\$ 3,004	\$ 1,246	\$ 1,170
Benefits Paid	\$(9,842)	\$(10,075)	\$(1,246)	\$(1,170)

CASH FLOWS The Company's funding policy is to contribute an amount at least equal to the minimum required contribution under ERISA. The Company may increase its contribution above the minimum based upon an evaluation of the Company's tax and cash positions and the plan's funded status.

In 2019, the Company expects to make the minimum required contribution to the qualified pension plan, currently estimated to be \$0. The Company expects to contribute to the nonqualified pension plans and other postretirement healthcare plans in amounts equal to the expected benefit costs of approximately \$10,528 and \$1,332, respectively.

The estimated future benefit payments are based on the same assumptions as used to measure the benefit obligations as of December 31, 2018 and 2017. The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

	Pension Plans	Other Post Retirement Healthcare Plans
2019	\$ 10,528	\$ 1,332
2020	10,721	1,328
2021	10,864	1,304
2022	10,977	1,312
2023	11,016	1,304
Years 2024-2028	55,140	5,965
Total	\$109,246	\$12,545

DEFINED CONTRIBUTION PLANS The Company maintains three defined contribution pension plans for substantially all of its employees and full-time advisers. For two plans, designated contributions of up to 4 or 6% of annual compensation are eligible to be matched by the Company. Contributions for the third plan are based on tiered earnings of full-time advisers. For the years ended December 31, 2018, and 2017, the expense recognized for these plans was \$4,188 and \$6,782 respectively.

Note 9. FEDERAL INCOME TAXES

On December 22, 2017, the U.S. government enacted new tax legislation. At December 31, 2018, based on a comprehensive review of the new guidance and final interpretation of the legislation, the Company recorded an expense of \$1,570, after-tax, for the final impact of U.S. Tax Reform on policyholder liabilities and net deferred tax assets, including the reduction in the U.S. federal corporate income tax rate and the impact of specific life insurance regulations which limits the deductibility of reserves for U.S. federal income tax purposes.

The legislation made broad and complex changes to the U.S. tax code. Given the timing of the enactment date and impact of the legislation, the SEC issued Staff Accounting Bulletin (“SAB”) 118, with similar provisions extended by the FASB staff for non-public companies. SAB 118 provisions allow registrants to implement elements of tax reform under three scenarios:

Measurement of certain income tax effects are complete in accordance with the new tax law.

Measurement of certain income tax effects can be reasonably estimated (also referred to as “provisional” amounts).

Measurement of certain income tax effects cannot be reasonably estimated.

SAB 118 provides that the measurement period is complete when a company’s accounting is complete and in no circumstances should the measurement period extend beyond one year from the enactment date. If a company discloses elements of tax reform under scenario 2 or 3 and new information or further analysis is needed which results in a revised estimate, the revision will be considered a change in estimate recorded in the period identified rather than an error during this one year relief period.

The NAIC’s SAP Working Group adopted INT 18-01: Updated Tax Estimates Under the Tax Cuts and Jobs Act, that adopts similar concepts related to “complete” and “incomplete” estimates and those for which a reasonable estimate cannot be determined. It also provides a limited time exception to SSAP 9, Subsequent events, which allows companies not to adjust the audited statutory statements when there is a change in estimate of year-end 2017 amounts after the annual statement has been filed up to one year from enactment. In addition, INT 18-01 provides guidance on allocating the remeasurement of DTAs and DTLs due to the change in the tax rate to three components of surplus: change in net unrealized capital gain/loss, change in net deferred income tax, and change in nonadmitted assets.

The company adopted the provisions of INT 18-01 for the year ended December 31, 2017.

The Company follows Statement of Statutory Accounting Principles No. 101 — Income Taxes, A Replacement of SSAP No. 10R and SSAP No. 10 (“SSAP 101”). SSAP 101 includes a calculation for the limitation of gross deferred tax assets for insurers that maintain a minimum of 300% of their authorized control level RBC computed without net deferred tax assets. The Company exceeded the 300% minimum RBC requirement at December 31, 2018 and 2017.

The Company is required to evaluate the recoverability of deferred tax assets and to establish a valuation allowance if necessary to reduce the deferred tax asset to an amount which is more likely than not to be realized. Considerable judgment is required in determining whether a valuation allowance is necessary, and if so, the amount of such valuation allowance. In evaluating the need for a valuation allowance, the Company considers many factors, including: (1) the nature of the deferred tax assets and liabilities; (2) whether they are ordinary or capital; (3) the timing of their reversal; (4) taxable income in prior carryback years as well as projected taxable income exclusive of reversing temporary differences and carryforwards; (5) the length of time that carryovers can be utilized; (6)

(\$ in Thousands)

unique tax rules that would impact the utilization of the deferred tax assets; and (7) any tax planning strategies that the Company would employ to avoid a tax benefit from expiring unused; although the realization is not assured, management believes it is more likely than not that the deferred tax assets, will be realized. The Company has not recorded a valuation allowance as of December 31, 2018 and 2017.

The components of deferred tax asset (DTAs) and deferred tax liabilities (DTLs) recognized by the Company are as follows as of December 31:

Description	2018			2017		
	Ordinary	Capital	Total	Ordinary	Capital	Total
Gross deferred tax assets	\$ 373,763	\$ 16,022	\$ 389,785	\$ 358,295	\$ 55,719	\$ 414,014
Adjusted gross deferred tax assets	373,763	16,022	389,785	358,295	55,719	414,014
Adjusted gross deferred tax assets nonadmitted	(35,021)	—	(35,021)	(28,298)	(21,167)	(49,465)
Subtotal — admitted adjusted deferred tax asset	338,742	16,022	354,764	329,997	34,552	364,549
Gross deferred tax liabilities	(115,497)	(24,848)	(140,345)	(128,222)	(18,259)	(146,481)
Net admitted deferred tax asset	\$ 223,245	\$ (8,826)	\$ 214,419	\$ 201,775	\$ 16,293	\$ 218,068

Description	Changes during 2018		
	Ordinary	Capital	Total
Gross deferred tax assets/(liabilities)	\$15,468	\$(39,697)	\$(24,229)
Adjusted gross deferred tax assets	15,468	(39,697)	(24,229)
Adjusted gross deferred tax asset nonadmitted	(6,723)	21,167	14,444
Subtotal — admitted adjusted deferred tax asset	8,745	(18,530)	(9,785)
Gross deferred tax (liability)/asset	12,725	(6,589)	6,136
Net admitted deferred tax asset	\$21,470	\$(25,119)	\$ (3,649)

Admitted DTA's are comprised of the following admission components based on paragraph 11 of SSAP No. 101 as of December 31:

Description	2018			2017		
	Ordinary	Capital	Total	Ordinary	Capital	Total
Adjusted gross DTA expected to be realized (excluding the amount of DTA from above) after application of the threshold limitation (the lesser of 1 and 2 below)	\$198,397	\$16,022	\$214,419	\$201,775	\$16,293	\$218,068
1. Adjusted gross DTA expected to be realized following the balance sheet date	198,397	16,022	214,419	201,775	16,293	218,068
2. Adjusted gross DTA allowed per limitation threshold	—	—	242,882	—	—	219,143
Adjusted gross DTA (excluding the amount of DTA from above) offset by gross DTL	140,345	—	140,345	128,222	18,259	146,481
DTA admitted as the result of application of SSAP No. 101	\$338,742	\$16,022	\$354,764	\$329,997	\$34,552	\$364,549

(\$ in Thousands)

Description	Changes during 2018		
	Ordinary	Capital	Total
Adjusted gross DTA expected to be realized (excluding the amount of DTA from above) after application of the threshold limitation (the lesser of 1 and 2 below))	\$ (3,378)	\$ (271)	\$ (3,649)
1. Adjusted gross DTA expected to be realized following the balance sheet date	(3,378)	(271)	(3,649)
2. Adjusted gross DTA allowed per limitation threshold	—	—	23,739
Adjusted gross DTA (excluding the amount of DTA from above) offset by gross DTL	12,123	(18,259)	(6,136)
DTA admitted as the result of application of SSAP No. 101	\$ 8,745	\$ (18,530)	\$ (9,785)

The authorized control level RBC and total adjusted capital computed without net deferred tax assets utilized when determining the amount of admissible net deferred tax assets was as follows:

December 31	2018	2017
Ratio percentage used to determine recovery period and threshold limitation amount	444%	495%
Amount of adjusted capital and surplus used to determine recovery period and threshold limitation	\$1,898,736	\$1,697,501

The impact of tax planning strategies on the determination of adjusted gross DTA's and net admitted DTA's is as follows:

Adjusted gross DTA's

Percentage of adjusted gross deferred tax assets attributable to the impact of tax planning strategies

December 31, 2018			December 31, 2017			Change		
Ordinary	Capital	Total	Ordinary	Capital	Total	Ordinary	Capital	Total
47%	100%	49%	17%	100%	30%	30%	—%	19%

Net admitted DTA's

Percentage for net admitted adjusted gross deferred tax assets admitted because of the impact of tax planning strategies

December 31, 2018			December 31, 2017			Change		
Ordinary	Capital	Total	Ordinary	Capital	Total	Ordinary	Capital	Total
75%	100%	77%	17%	100%	24%	58%	—%	53%

The Company's tax planning strategies include the use of reinsurance. There are no temporary differences for which a DTL has not been established.

Significant components of income taxes incurred

Current income taxes incurred consist of the following major components for the years ended December 31:

Description	2018	2017
Current federal income tax expense/(benefit)	\$ (4,038)	\$ (87,848)
Federal income tax (benefit)/expense	(4,038)	(87,848)
Income tax effect on realized capital gains/(losses)	1,858	31,291
Federal and foreign income taxes incurred	\$ (2,180)	\$ (56,557)

(\$ in Thousands)

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and liabilities are as follows as of December 31:

	2018	2017	Change
DTA resulting in book/tax difference in:			
Ordinary:			
Future policy benefits	\$ 80,113	\$ 81,602	\$ (1,489)
DAC	81,089	71,219	9,870
Dividend to policyholders	17,220	14,700	2,520
Deferred compensation	23,578	23,384	194
Nonadmitted assets	14,065	12,773	1,292
AMT credits	1,913	1,913	0
LIHTC credits	59,854	51,396	8,458
NOL Carryforward	31,069	40,190	(9,121)
Reinsurance transaction	—	1,956	(1,956)
Coinsurance transaction	6,144	6,343	(199)
PML Reserve Financing	36,343	36,343	—
PML Reinsurance	12,618	12,911	(293)
Other — ordinary	9,757	3,565	6,192
Subtotal — Gross ordinary DTAs	373,763	358,295	15,468
Nonadmitted ordinary DTAs	(35,021)	(28,298)	(6,723)
Admitted ordinary DTAs	338,742	329,997	8,745
Capital:			
Net unrealized capital losses	—	37,469	(37,469)
OTTI on Investments	16,022	16,293	(271)
Other — Capital	—	1,957	(1,957)
Gross capital DTAs	16,022	55,719	(39,697)
Nonadmitted capital DTAs	—	(21,167)	21,167
Admitted capital DTAs	16,022	34,552	(18,530)
Admitted DTAs	354,764	364,549	(9,786)
DTLs resulting in book/tax differences in:			
Ordinary:			
Investments — ordinary	(66,914)	(68,330)	1,416
Future Policy Benefits — 8 year spread	(41,932)	(53,078)	11,146
Other	(6,651)	(6,814)	163
Ordinary DTLs	(115,497)	(128,222)	12,725
Capital:			
Alternative asset investments	(23,593)	(18,259)	(5,334)
Other	(1,255)	—	(1,256)
Capital DTLs	(24,848)	(18,259)	(6,589)
DTLs	(140,345)	(146,481)	6,136
Net deferred tax asset	\$ 214,419	\$ 218,068	\$ (3,650)

(\$ in Thousands)

The change in deferred income taxes, exclusive of the effect of nonadmitted assets, as the change in nonadmitted assets is reported separately from the change in net deferred income taxes in the Statements of Changes in Surplus, is comprised of the following:

	2018	2017	Change
Total deferred tax assets	\$ 389,785	\$ 414,014	\$(24,229)
Total deferred tax liabilities	(140,345)	(146,481)	6,136
Net deferred tax asset	249,439	267,533	(18,093)
Tax effect of net unrealized gains/(losses)			38,719
Tax effect of postretirement liability			(816)
Change in net deferred income tax			\$ 19,810

Reconciliation of Federal Income Tax Rate to Actual Effective Rate

The provision for federal 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 the differences as of December 31, 2018 are as follows:

Description	Amount	Tax Effect	Effective Tax Rate
Income before taxes	\$ 39,363	\$ 8,266	21.00%
Income from affiliates	(62,703)	(13,168)	-33.45%
Separate account dividend received deduction	(20,535)	(4,312)	-10.96%
LIHTC	—	(10,345)	-26.28%
Executive benefits	6,123	1,286	3.27%
IMR tax adjustment	(10,267)	(2,156)	-5.48%
Dividends received deduction	(4,016)	(843)	-2.14%
Tax Reform Impact	7,478	1,570	3.99%
Other	(6,864)	(1,442)	-3.66%
Total	\$(51,421)	\$(21,144)	-53.71%
Federal income taxes incurred		\$ (1,334)	-3.39%
Change in net deferred income tax		(19,810)	-50.33%
Total Statutory Taxes		\$(21,144)	-53.71%

The effective tax rate is primarily driven by the following components: (1) the reversal of income from affiliates, the tax on which is recorded in their separate company financial statements, (2) the separate account dividends received deduction, (3) low income housing tax credits, and (4) impact of tax reform.

At December 31, 2018, the Company had 147,948 of net operating loss carryforwards available from 2013 through 2016 that will begin to expire in 2028. In addition, the Company had LIHTC available of \$59,854 that will expire starting in 2031. At December 31, 2018, the Company had \$1,913 Alternative Minimum Tax (“AMT”) credit carryforwards from December 31, 2017.

There was no income tax expense for 2018, 2017 and 2016 that is available for recoupment in the event of future net losses. The Company has not made any deposits regarding the suspension of running interest (protective deposits) pursuant to Internal Revenue Code Section 6603.

The Company’s federal income tax return is consolidated with its majority owned subsidiaries listed below. The method of tax allocation among the companies is subject to a written agreement, whereby the tax allocation is made on a benefits for loss basis. The tax share agreement allows for each direct Subsidiary of Parent that owns stock of another Subsidiary to be treated as the Intermediate Parent of the Intermediate Parent Group.

A listing of the companies included in the consolidated return is as follows:

Penn Insurance & Annuity Company
 PIA Reinsurance Company of Delaware I
 Hornor, Townsend & Kent, Inc.
 HTK Insurance Agency, Inc.
 Longevity Insurance Company, Inc.

Tax years 2015 and subsequent are still subject to audit by the Internal Revenue Service.

The Company recognizes interest and penalties, if any, related to unrecognized tax benefits, as a component of tax expense. During the years ended December 31, 2018 and 2017, the Company did not recognize or accrue penalties or interest.

The Company had no tax loss contingencies for which it is reasonably possible that the total liability will significantly increase within the next twelve months of the reporting date.

Note 10. REINSURANCE

The Company has assumed and ceded reinsurance on certain life and annuity contracts under various agreements. Reinsurance ceded permits recovery of a portion of losses from reinsurers.

The table below highlights the reinsurance amounts shown in the accompanying financial statements.

	Gross Amount	Assumed	Ceded	Net Amount
December 31, 2018:				
Premium and annuity considerations	\$ 1,879,105	\$8,227	\$ 893,480	\$ 993,852
Reserves and funds for payment of insurance and annuity benefits	13,077,252	3,304	3,323,813	9,756,743
December 31, 2017:				
Premium and annuity considerations	\$ 1,816,358	\$7,624	\$ 993,383	\$ 830,599
Reserves and funds for payment of insurance and annuity benefits	11,591,730	3,453	2,709,510	8,885,673

The Company entered into a coinsurance fund withheld agreement with an authorized, non-affiliated reinsurer, effective September 30, 2017, and amended October 1, 2017, to coinsure an existing block of whole life policies issued from 1995 through 2014 on a 20% quota share basis. The agreement generated an after-tax gain of \$61,750, which was a direct increase to surplus and will be amortized into income over the emerging earnings of the business. The Company recognized gains of \$1,396 and \$269 for the years ended December 31, 2018 and 2017. The unamortized amount of the gain from this agreement was \$60,085 as of December 31, 2018. The ceded reserves related to this agreement totaled \$196,185 and the funds withheld liability was \$101,185 as of December 31, 2018. In addition to the whole life policies, this agreement reinsured on a YRT basis certain Universal Life policies on a 85% quota share basis.

The Company has entered into an indemnity reinsurance agreement with a single non-affiliated reinsurer, whereby the Company cedes its risk associated with the Disability Income line of business. Under the agreement, 95% of the assets and liabilities were transferred to the reinsurer, and the assets were placed in a trust that names the Company as beneficiary. As of December 31, 2018 and 2017, the Company had a related reserve credit of \$189,246 and \$198,591, respectively, which was secured by investment grade securities with a market value of \$230,450 and \$231,050, respectively, held in trust.

The Company entered into a coinsurance agreement with an authorized, non-affiliated reinsurer, effective January 1, 2013, to coinsure an existing block of guaranteed term products issued from 2007 through 2012. The coinsurance agreement generated an after-tax gain of \$30,200, which was a direct increase to surplus and will be amortized into income over the emerging earnings of the business. The Company recognized \$946 and \$0 of this

(\$ in Thousands)

gain for the years ended December 31, 2018 and 2017. The unamortized amount of the gain from this coinsurance agreement was \$29,258 and \$30,200 as of December 31, 2018 and 2017, respectively.

INTERCOMPANY REINSURANCE The Company maintains various reinsurance agreements with affiliates. The following table summarizes premium and reserves balances associated with such agreements as of and for the years ended December 31:

	Affiliate	Assumed/(Ceded)			
		2018		2017	
		Premium	Reserves	Premium	Reserves
Coinsurance Funds Withheld	PIA	\$ (40,586)	\$(1,210,958)	\$ (43,022)	\$(1,125,131)
IUL Inforce	PIA	(61,241)	(373,631)	(64,244)	(305,859)
Coinsurance	PIA	(158,340)	(852,852)	(176,887)	(715,600)
YRT — Over retention	PIA	2,703	301	2,519	323
Total		\$(257,464)	\$(2,437,140)	\$(281,634)	\$(2,146,267)

Coinsurance Funds Withheld At December 31, 2014, the Company entered into a contract to cede reserves pursuant to transactions subject to the requirements of Section 7 of the NAIC XXX and AXXX Reinsurance Model Regulation. PIA contemporaneously reinsured the policies to PIA Reinsurance Company of Delaware I (“PIARe I”), an authorized, affiliated reinsurer.

The table below highlights the support for the Company reserve credit relating to its agreement with PIA, as well as the unamortized gain from the 2014 inforce transaction as of December 31:

	2018	2017
Reserve Credit	\$1,210,958	\$1,125,131
Assets supporting reserve:		
Primary Assets	824,786	766,822
Other Assets — PIARe I	386,172	358,309
Unamortized initial gain	\$ 173,062	\$ 173,062

IUL Inforce Effective January 1, 2015, PML ceded to PIA an inforce block of single life index universal life policies issued by PML between 2012 and 2014. The Company ceded 100% of the risk, net of inuring reinsurance. The after-tax gain of \$20,814 was a direct increase to surplus and is being amortized into income over the emerging earnings of the business. The Company recognized amortization of \$9,314 and \$8,402 related to this gain for the years ended December 31, 2018 and 2017. The unamortized gain related to this agreement was \$0 and \$9,312 as of December 31, 2018 and 2017, respectively.

Coinsurance The Company cedes certain insurance risks to PIA on a coinsurance basis.

YRT Over Retention The Company assumed from PIA policies issued after October 1, 2006 and before October 1, 2014 which resulted in retention greater than \$1,000 per life.

Note 11. RELATED PARTIES

The Company holds revolving loan agreements with JMS.

Effective Date	Maturity Date	Maximum Amount	Current Interest Rate
March 1, 2009	March 2028	\$ 65,000	Market Based at time of draw
January 2013	January 2033	80,000	8%
September 2016	September 2036	100,000	8%
December 2018	December 2038	130,000	8%

(\$ in Thousands)

The Company recorded \$15,845 and \$11,838 in interest income on these notes for the years ended December 31, 2018 and 2017, respectively. At December 31, 2018 and 2017, the Company had outstanding principle receivables from JMS of \$275,000 and \$195,000 and interest receivables of \$5,291 and \$3,162, respectively, relating to these agreements.

The following table summarizes the goodwill included in the carrying value of Company's investment in affiliates as of December 31, 2018 and 2017:

2018						
Subsidiary	Acquisition Date	Original Cost	Original Goodwill	Current Goodwill	Current Period Amortization	Goodwill as % of Value
Vantis	2016	\$ 75,779	\$21,401	\$17,121	\$2,140	21%
JMS*	1982	70,000	23,584	—	—	—%
Subtotal		\$145,779	\$44,985	\$17,121	\$2,140	

2017						
Subsidiary	Acquisition Date	Original Cost	Original Goodwill	Current Goodwill	Current Period Amortization	Goodwill as % of Value
Vantis	2016	\$ 75,779	\$21,401	\$19,261	\$2,140	30%
JMS*	1982	70,000	23,584	—	—	—%
LEAP*	2012	22,450	17,652	7,500	—	77%
Subtotal		\$168,229	\$62,637	\$26,761	\$2,140	

* A subsidiary of ISP

The Company's investment in PMAM Private Funds at December 31, 2018 and 2017 of \$189,126 and \$138,475, respectively, represents a majority ownership of the funds and are therefore considered to be affiliates.

The following table summarizes the gross, nonadmitted, and net admitted value of the Company's investment in affiliates, segregated by line item classification within the Statements of Income:

December 31	2018				2017			
	%	Gross	Nonadmitted	Net Admitted	%	Gross	Nonadmitted	Net Admitted
Common stock, affiliated:								
PIA	100%	\$472,586	\$ —	\$472,586	100%	\$431,547	\$ —	\$431,547
HTK	100%	6,440	—	6,440	100%	7,536	—	7,536
Vantis	100%	80,771	—	80,771	100%	64,866	—	64,866
Subtotal		559,797	—	559,797		503,949	—	503,949
Other invested assets:								
ISP	94.48%	140,853	(13,093)	127,760	95.79%	175,452	(13,275)	162,177
PMAM	100%	8,873	—	8,873	100%	8,436	—	8,436
myWorth	100%	512	(512)	—	—%	—	—	—
Subtotal		150,238	(13,605)	136,633		183,888	(13,275)	170,613
Total		\$710,035	\$(13,605)	\$696,430		\$687,837	\$(13,275)	\$674,562

The Company files the non-insurance company SCA, HTK, with the NAIC SVO. The most recent filing was the Sub-2 filing in May 2017. The NAIC Valuation method for this SCA was 8b(iii) and no resubmissions were required. The Company has received a rating equivalent to an NAIC 1 for the notes receivable from JMS.

The Company's unconsolidated subsidiaries had combined assets of \$10,773,610 and \$9,144,358 and combined liabilities of \$10,081,305 and \$8,468,180 as of December 31, 2018 and 2017, respectively. The admitted value of the Company's investments in subsidiaries includes goodwill of \$55,980 and \$60,794 and other intangible assets of \$219 and \$150 at December 31, 2018 and 2017, respectively.

The Company made capital contributions of \$30,000 and \$30,000 to PIA in 2018 and 2017, respectively. The Company received a return of capital of \$1,500 from HTK in 2018. The Company made a capital contribution to Vantis of \$30,000 in 2018. The Company made a capital contribution to ISP of \$800 in 2017. The Company received returns of capital of \$31,424 and \$20,000 from ISP in 2018 and 2017, respectively. The made capital contributions to myWorth of \$1,300 in 2018.

Under a variety of intercompany agreements, the Company provides its subsidiaries with administrative services, leases, and accounting services. For 2018 and 2017, the total expenses incurred by subsidiaries under these agreements were \$68,815 and \$75,340, respectively. The amount due to the Company was \$13,165 and \$20,710 at December 31, 2018 and December 31, 2017, respectively. Under the terms of an investment management agreement, the Company incurred expenses from PMAM of \$9,850 and \$6,492 for 2018 and 2017, respectively.

Note 12. COMMITMENTS, CONTINGENCIES AND UNCERTAINTIES

LITIGATION The Company and its subsidiaries are involved in litigation arising in and out of the normal course of business, which seek both compensatory and punitive damages. In addition, the regulators within the insurance and brokerage industries continue to focus on market conduct and compliance issues. While the Company is not aware of any actions or allegations that should reasonably give rise to a material adverse impact to the Company's financial position or liquidity, the outcome of litigation cannot be foreseen with certainty.

In late 2017 Penn Mutual settled a class action lawsuit, and in early 2018, the State of Pennsylvania Insurance Department dismissed the matter pending before it. In this lawsuit, complainants argued that insurance company law imposes an upper limit on the amount of surplus that Pennsylvania-domiciled mutual life insurance companies (such as Penn Mutual) may maintain and it requires the distribution to participating policyholders by policy dividend of any surplus that exceeds the surplus limit under the law.

Complainants further alleged that Penn Mutual failed to pay dividends owed under their interpretation. Penn Mutual denied Complainant's allegations. As of December 31, 2017, a \$26,000 liability was recorded for terminal dividends in Dividend payable to policyholders in the following year. These dividends were paid to policyholders in 2018. Related expenses of \$12,800 were recognized in Other expenses in 2017. The Company continues to record and pay terminal dividends as they arise.

For some matters, the Company is able to estimate a possible range of loss. For such matters in which a loss is probable, an accrual has been made. For matters where the Company, however, believes a loss is reasonably possible, but not probable, no accrual is required. For matters for which an accrual has been made, but there remains a reasonably possible range of loss in excess of the amounts accrued or for matters where no accrual is required, the Company develops an estimate of the unaccrued amounts of the reasonably possible range of losses.

GUARANTY FUNDS The Company is subject to insurance guaranty fund laws in the states in which it does business. These laws assess insurance companies' amounts to be used to pay benefits to policyholders and policy claimants of insolvent insurance companies. Many states allow these assessments to be credited against future premium taxes. The liability for estimated guaranty fund assessments net of applicable premium tax credits as of December 31, 2018 and 2017 was \$175 and \$175, respectively. The Company monitors sales materials and compliance procedures and makes extensive efforts to minimize any potential liabilities in this area. The Company believes such assessments in excess of amounts accrued will not materially impact its financial statement position, results of operation, or liquidity.

LEASES The Company has entered into other leases, primarily for field offices.

As of December 31, 2018 future minimum payments under noncancellable leases are as follows:

For the year ending:	
2019	12,525
2020	11,991
2021	10,623
2022	9,060
Thereafter	19,979

Rent expense was \$19,188 and \$18,904 as of December 31, 2018 and 2017, respectively.

COMMITMENTS In the normal course of business, the Company extends commitments relating to its investment activities. As of December 31, 2018, the Company had outstanding commitments totaling \$553,953 relating to these investment activities. The fair value of these commitments approximates the face amount.

PIA has provided a guaranty to maintain Longevity's authorized control level RBC ratio at a minimum of 400%, up to a maximum exposure of \$250,000. PML has agreed to limit PIA's exposure under the guaranty to \$50,000, resulting in a maximum exposure to PML of \$200,000. As of December 31, 2018, Penn Mutual has not recognized any loss contingencies related to this guaranty.

UNCLAIMED PROPERTY Significant attention has been focused on life insurance companies' processes and procedures used to identify unreported death claims and whether life insurance companies use the Social Security Master Death File ("SSMDF") to identify deceased policy and contract holders. The Company received notification from 14 states of their intent to examine compliance with their respective abandoned and unclaimed property acts. It is possible that other jurisdictions may pursue similar examinations. These actions may result in additional payments to beneficiaries, additional escheatment of funds deemed abandoned under state laws, administrative penalties, interest, and/or further changes to the Company's procedures. While the Company is not currently able to estimate these additional possible costs, the Company does not believe they will have a material impact to its financial position or liquidity.

LOW INTEREST RATE ENVIRONMENT A period of sustained low interest rates could negatively impact the Company's profitability as the interest margin could decline. Declines in our interest margin or instances where the returns on our general account investments are not enough to support the interest rate guarantees could have a material adverse effect on our businesses or results of operations. The Company recognizes this risk and has been proactive in our investment strategies, product designs, crediting rate strategies, and overall asset-liability practices to mitigate the risk of unfavorable consequences in this type of environment.

In periods when interest rates are declining or remain at low levels, we may have to reinvest the cash we receive as interest or return of principal on our investments in lower yielding instruments reducing our interest margin. Moreover, borrowers may prepay fixed-income securities and mortgage-backed securities in our general account in order to borrow at lower market rates, which exacerbates this risk. Lowering interest crediting rates helps to mitigate the effect of margin compression on some of our products. However, because many of our contracts have guaranteed minimum interest or crediting rates, our margin could still decrease and potentially become negative.

During a period of low interest rates, policy reserves may not be sufficient to meet future obligations and may need to be strengthened, which would reduce net income in that reporting period. No additional policyholder reserves were established in 2018 or 2017 as a result of the low interest rate environment.

Note 13. SUBSEQUENT EVENTS

The Company has evaluated events subsequent to December 31, 2018 and through the financial statement issuance date of February 15, 2019 and has determined that there were no other significant events requiring recognition in the financial statements and no additional events requiring disclosure in the financial statements.



Our Noble Purpose

Since 1847, Penn Mutual has been driven by our noble purpose – to create a world of possibilities, one individual, one family and one small business at a time. As an original pioneer of mutual life insurance in America, we believe that purchasing life insurance is the most protective, responsible and rewarding action a person can take to build a solid foundation today and create a brighter future for generations to come.