

# Intelligent Life VUL-Vanguard VIF Total Bond Market Index Portfolio

**Benchmark**  
BBgBarc US Agg Bond TR USD

**Category**  
Intermediate-Term Bond

**Overall Morningstar Rating™**  
★★★  
Out of 1530 Intermediate-Term Bond VL/VUL subaccounts. An investment's overall Morningstar Rating, based on its risk-adjusted return, is a weighted average of its applicable 3-, 5-, and 10-year Ratings. See disclosure page for details.

**Morningstar Return**  
Average

**Morningstar Risk**  
Average

## Investment Information

**Investment Strategy** from investment's prospectus

The investment seeks to track the performance of a broad, market-weighted bond index.

The fund employs an indexing investment approach designed to track the performance of the Bloomberg Barclays U.S. Aggregate Float Adjusted Index. This index represents a wide spectrum of public, investment-grade, taxable, fixed income securities in the United States-including government, corporate, and international dollar-denominated bonds, as well as mortgage-backed and asset-backed securities-all with maturities of more than 1 year. At least 80% of its assets will be invested in bonds held in the index.

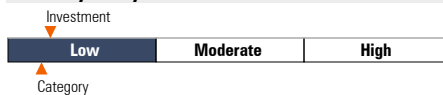
## Operations

Subaccount Incp Date	12-12-14
Undr. Fund Incep Date	04-29-91
Prosp Net Exp Ratio	0.15%
Prosp Gross Exp Ratio	0.15%
Advisor	Vanguard Group Inc
Subadvisor	—
Portfolio Manager(s)	William D. Baird Joshua C. Barrickman

## Investment Manager

Vanguard is one of the world's largest investment management companies. Whether you are an individual investor, institution, or financial professional, you can benefit from the size, stability, and experience that we offer. Founded May 1, 1975 with the first fund the Wellington Fund (inception date: July 1, 1929). We offer exceptional value, a dedication to outstanding performance, superior service, and low costs.

## Volatility Analysis

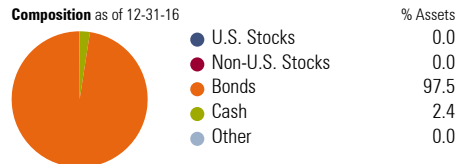


In the past, this investment has shown a relatively small range of price fluctuations relative to other investments. Based on this measure, currently more than two-thirds of all investments have shown higher levels of risk. Consequently, this investment may appeal to investors looking for a conservative investment strategy.

## Morningstar Proprietary Statistics

	1 Year	3 Year	5 Year	10 Year
Morningstar Rating™	—	★★★	★★	★★★
Fund Rank Percentile	87	66	77	50
Out of # of Investments	1,663	1,530	1,428	855

## Portfolio Analysis



## Morningstar Fixed Income Style Box™ as of 11-30-16



**Top 20 Holdings** as of 12-31-16

Security	% Assets
CMT Market Liquidity Rate	2.36
US Treasury Note 3.625% 02-15-20	0.69
FNMA 01-01-47	0.58
US Treasury Note 1.125% 04-30-20	0.55
US Treasury Note 0.875% 05-15-19	0.53
US Treasury Note 0.75% 02-15-19	0.49
US Treasury Note 1.375% 09-30-18	0.49
US Treasury Note 2% 11-15-26	0.48
US Treasury Note 1.5% 08-31-18	0.45
US Treasury Note 1.375% 12-15-19	0.43
US Treasury Bond 2.75% 11-15-42	0.42
US Treasury Note 1.625% 04-30-19	0.42
US Treasury Note 1.25% 03-31-21	0.40
GNMA 3.5% 11-01-45	0.38
GNMA 3% 08-20-46	0.38
US Treasury Note 2.375% 08-15-24	0.38
US Treasury Note 1.5% 01-31-19	0.36
US Treasury Note 3.375% 11-15-19	0.36
US Treasury Bond 8.75% 08-15-20	0.35
US Treasury Note 1% 03-15-19	0.35

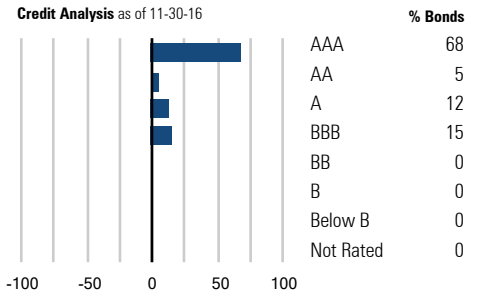
Total Number of Stock Holdings	0
Total Number of Bond Holdings	7955
Annual Turnover Ratio %	149.00
Total Fund Assets (\$mil)	2,985.14

**Statistics** as of 12-31-16

Statistic	Port Avg	Rel BC Aggr	Rel Cat
3 Yr Std Dev	3.24	0.00	1.07
Beta	1.07	—	1.14
Sharpe Ratio	0.65	0.00	0.84
Alpha	-0.98	—	2.72
R-Squared	99.25	—	1.13

**Morningstar Sectors** as of 12-31-16

Sector	% Fund
Government	43.05
Corporate	28.69
Securitized	25.00
Municipal	0.83
Cash/Cash Equivalents	2.43
Other	0.00



# Disclosure

## Additional Information

All investment vehicles are subject to market and other risk factors, which could result in loss of principal. **Investment objectives, risks, charges, expenses, and other important information about a portfolio are contained in the prospectus; read it carefully before investing.**

## Prospectus Gross Expense Ratio

This is the percentage of fund assets paid for operating expenses and management fees. The expense ratio typically includes the following types of fees: accounting, administrator, advisor, auditor, board of directors, custodial, distribution (12b-1), legal, organizational, professional, registration, shareholder reporting, subadvisor, and transfer agency. The expense ratio does not reflect the fund's brokerage costs or any investor sales charges. In contrast to the net expense ratio, the gross expense ratio does not reflect any fee waivers in effect during the time period.

Also known as the Total Annual Fund Operating Expense Ratio, Morningstar pulls the prospectus gross expense ratio from the fund's most recent prospectus. Prospectus expense ratios reflect material changes to the expense structure for the current period.

## Prospectus Net Expense Ratio

This is the percentage of fund assets paid for operating expenses and management fees. The expense ratio typically includes the following types of fees: accounting, administrator, advisor, auditor, board of directors, custodial, distribution (12b-1), legal, organizational, professional, registration, shareholder reporting, subadvisor, and transfer agency. The expense ratio does not reflect the fund's brokerage costs or any investor sales charges. In contrast to the gross expense ratio, the net expense ratio does reflect fee waivers in effect during the time period.

Also known as the Total Annual Fund Operating Expense Ratio Net of Reimbursements, Morningstar pulls the prospectus net expense ratio from the fund's most recent prospectus. Prospectus expense ratios reflect material changes to the expense structure for the current period, while annual report expense ratios reflect the actual fees charged during a particular fiscal year.

## Morningstar Rating™, Return, and Risk

The Morningstar Rating™ for funds, or "star rating", is calculated for funds and separate accounts with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics.

The Morningstar Return rates a fund's performance relative to other managed products in its Morningstar Category. It is an assessment of a product's excess return over a risk-free rate (the return of the 90-day Treasury Bill) in comparison with the products in its Morningstar category. In each Morningstar category, the top 10% of products earn a High Morningstar Return (High), the next 22.5% Above Average (+ Avg), the

middle 35% Average (Avg), the next 22.5% Below Average (- Avg), and the bottom 10% Low (Low). Morningstar Return is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

Morningstar Risk evaluates a fund's downside volatility relative to that of other products in its Morningstar Category. It is an assessment of the variations in monthly returns, with an emphasis on downside variations, in comparison with the products in its Morningstar category. In each Morningstar category, the 10% of products with the lowest measured risk are described as Low Risk (Low), the next 22.5% Below Average (-Avg), the middle 35% Average (Avg), the next 22.5% Above Average (+ Avg), and the top 10% High (High). Morningstar Risk is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

## Morningstar Style Box™

The Morningstar Style Box reveals a fund's investment strategy as of the date noted on this report.

For equity funds the vertical axis shows the market capitalization of the long stocks owned and the horizontal axis shows investment style (value, blend, or growth).

For fixed-income funds, the vertical axis shows the credit quality of the long bonds owned and the horizontal axis shows interest rate sensitivity as measured by a bond's effective duration (limited, moderate, or extensive).

*Credit Analysis Survey:* For corporate and municipal bonds, Morningstar surveys credit rating information from fund companies on a periodic basis (e.g., quarterly). In compiling credit rating information, Morningstar instructs fund companies to only use ratings that have been assigned by a Nationally Recognized Statistical Rating Organization (NRSRO). If two NRSROs have rated a security, fund companies are to report the lowest rating to Morningstar. If a rating is unavailable or unpublished, then the security or issuer is categorized as Not Rated/Not Available. US Government Securities issued by the US Treasury or US Government Agencies are included in the US Government category. PLEASE NOTE: Morningstar, Inc. is not itself an NRSRO nor does it issue a credit rating on the fund. An NRSRO rating on a fixed-income security can change from time-to-time.

## Risk Measures

R-squared reflects the percentage of a fund's movements that are explained by movements in its benchmark index, showing the degree of correlation between the fund and the benchmark.

Beta is a measure of a fund's sensitivity to market movements. A portfolio with a beta greater than 1 is more volatile than the market, and a portfolio with a beta less than 1 is less volatile than the market.

Alpha measures the difference between a fund's actual returns and its expected performance, given its level of risk (as measured by beta).

Sharpe ratio uses standard deviation and excess return to determine reward per unit of risk.

Standard deviation is a statistical measure of the volatility of the fund's returns.

## Investment Risk

*Foreign Securities Funds/Emerging Market Funds:* Risks

include, but are not limited to, currency risk, political risk, and risk associated with varying accounting standards. Investing in emerging markets may accentuate these risks.

*Sector Funds:* The lack of industry diversification subjects the investor to increased industry-specific risks.

*Non-Diversified Funds:* Funds that invest more of their assets in a single issuer involve additional risks, including share price fluctuations, because of the increased concentration of investments.

*Small-Cap Funds:* Smaller companies typically have a higher risk of failure, and are not as well established as larger blue-chip companies. Historically, smaller-company stocks have experienced a greater degree of market volatility than the overall market average.

*Mid-Cap Funds:* The securities of companies with market capitalizations below \$10 billion may be more volatile and less liquid than the securities of larger companies.

*Bond Funds:* Bond investments are subject to interest rate risk so that when interest rates rise, the prices of bonds can decrease and the investor can lose principal value. Bonds investing in asset/mortgage-backed securities are subject to prepayment risk, where falling interest rates can cause security prices and income to decline due to early prepayment of principal, as well as extension risk, where rising interest rates can cause securities prices to decline because expected prepayments of principal do not occur.

*High-Yield Bond Funds:* Funds that invest in lower-rated debt securities (commonly referred to as junk bonds) involve additional risks because of the lower credit quality of the securities in the fund, including the possible higher level of volatility and increased risk of default.

*Commodity-Linked Derivative Funds:* Funds that invest in commodity-linked derivative instruments may subject the portfolio to greater volatility than investments in traditional securities, particularly if the investments invoke leverage.

*Value Funds:* Stock selection is based upon the portfolio manager's assessment of fundamentals of the companies that he/she believes to be undervalued. This style of investing may increase the volatility of the portfolio and may not produce the intended results over short or long time periods. Larger, more established companies may not be able to attain higher growth rates of smaller companies, especially during extended periods of economic expansion.

*Asset Allocation Funds:* These funds seek to accomplish dual goals of income and capital appreciation by investing in a variety of securities in different asset classes. Many of these portfolios are structured as a "fund of funds" which is a portfolio that specializes in buying shares of other portfolios rather than individual securities. The "fund of funds" structure may have higher costs than if you invested directly in the underlying portfolios.

TIAA-CREF Individual & Institutional Services, LLC, member FINRA, distributes securities products. Intelligent Life Variable Universal Life Insurance, policy form series AM-SVUL.2 and AM-SVUL.3 (2008), Intelligent Life Survivorship Variable Universal Life Insurance, policy form series AM-JVUL.3 (2008) are issued by TIAA-CREF Life Insurance Company, 730 Third Avenue, New York, NY 10017.

C32002