

Eaton Vance Enhanced Equity Income Fund II
Form N-CSR
February 27, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form N-CSR

CERTIFIED SHAREHOLDER REPORT OF REGISTERED
MANAGEMENT INVESTMENT COMPANIES
Investment Company Act File Number: 811-21670

Eaton Vance Enhanced Equity Income Fund II
(Exact Name of Registrant as Specified in Charter)

Two International Place, Boston, Massachusetts 02110
(Address of Principal Executive Offices)

Maureen A. Gemma

Two International Place, Boston, Massachusetts 02110

(Name and Address of Agent for Services)

(617) 482-8260

(Registrant's Telephone Number)

December 31

Date of Fiscal Year End

December 31, 2018

Date of Reporting Period

Item 1. Reports to Stockholders

Eaton Vance

Enhanced Equity Income

Fund II (EOS)

Annual Report

December 31, 2018

Important Note. Beginning on January 1, 2021, as permitted by regulations adopted by the Securities and Exchange Commission, paper copies of the Fund's annual and semi-annual shareholder reports will no longer be sent by mail unless you specifically request paper copies of the reports. Instead, the reports will be made available on the Fund's website (funds.eatonvance.com/closed-end-fund-and-term-trust-documents.php), and you will be notified by mail each time a report is posted and provided with a website address to access the report.

If you already elected to receive shareholder reports electronically, you will not be affected by this change and you need not take any action. If you hold shares at the Fund's transfer agent, American Stock Transfer & Trust Company, LLC (AST), you may elect to receive shareholder reports and other communications from the Fund electronically by contacting AST. If you own your shares through a financial intermediary (such as a broker-dealer or bank), you must contact your financial intermediary to sign up.

You may elect to receive all future Fund shareholder reports in paper free of charge. If you hold shares at AST, you can inform AST that you wish to continue receiving paper copies of your shareholder reports by calling 1-866-439-6787. If you own these shares through a financial intermediary, you must contact your financial intermediary or follow instructions included with this disclosure, if applicable, to elect to continue to receive paper copies of your shareholder reports. Your election to receive reports in paper will apply to all funds held with AST or to all funds held through your financial intermediary, as applicable.

Commodity Futures Trading Commission Registration. Effective December 31, 2012, the Commodity Futures Trading Commission (CFTC) adopted certain regulatory changes that subject registered investment companies and advisers to regulation by the CFTC if a fund invests more than a prescribed level of its assets in certain CFTC-regulated instruments (including futures, certain options and swap agreements) or markets itself as providing investment exposure to such instruments. The Fund has claimed an exclusion from the definition of the term commodity pool operator under the Commodity Exchange Act. Accordingly, neither the Fund nor the adviser with respect to the operation of the Fund is subject to CFTC regulation. Because of its management of other strategies, the Fund's adviser is registered with the CFTC as a commodity pool operator and a commodity trading advisor.

Managed Distribution Plan. Pursuant to an exemptive order issued by the Securities and Exchange Commission (Order), the Fund is authorized to distribute long-term capital gains to shareholders more frequently than once per year. Pursuant to the Order, the Fund's Board of Trustees approved a Managed Distribution Plan (MDP) pursuant to which the Fund makes monthly cash distributions to common shareholders, stated in terms of a fixed amount per common share.

The Fund currently distributes monthly cash distributions equal to \$0.0988 per share in accordance with the MDP. You should not draw any conclusions about the Fund's investment performance from the amount of these distributions or from the terms of the MDP. The MDP will be subject to regular periodic review by the Fund's Board of Trustees and the Board may amend or terminate the MDP at any time without prior notice to Fund shareholders. However, at this time there are no reasonably foreseeable circumstances that might cause the termination of the MDP.

The Fund may distribute more than its net investment income and net realized capital gains and, therefore, a distribution may include a return of capital. A return of capital distribution does not necessarily reflect the Fund's investment performance and should not be confused with yield or income. With each distribution, the Fund will issue a notice to shareholders and a press release containing information about the amount and sources of the distribution and other related information. The amounts and sources of distributions contained in the notice and press release are only estimates and are not provided for tax purposes. The amounts and sources of the Fund's distributions for tax purposes will be reported to shareholders on Form 1099-DIV for each calendar year.

Fund shares are not insured by the FDIC and are not deposits or other obligations of, or guaranteed by, any depository institution. Shares are subject to investment risks, including possible loss of principal invested.

Annual Report December 31, 2018

Eaton Vance

Enhanced Equity Income Fund II

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Management's Discussion of Fund Performance

Economic and Market Conditions

U.S. stock indexes declined during the 12-month period ended December 31, 2018, as a sharp downturn in the final quarter of the year erased earlier gains.

U.S. stocks opened the period on an upswing, as investors reacted favorably to the passage of the Republican tax reform package in December 2017. Sharp cuts in corporate taxes, a key element of the bill, raised corporate-profit expectations. U.S. stocks also got a boost from positive U.S. economic data, including the unemployment rate, which fell to a 17-year low.

In February 2018, however, U.S. stocks pulled back amid fears that rising interest rates might boost the appeal of fixed-income investments. After a brief rebound, equity markets again weakened in the spring of 2018, as investors confronted the prospect of a global trade war due to President Trump's then-new tariffs. The broad tariffs drew retaliatory actions from impacted countries including China, Canada, and certain countries in the European Union.

U.S. stocks bounced back during the summer months led by technology stocks, which rebounded following an earlier setback from a wave of data-privacy scandals. Markets plunged in the final three months of the period amid global trade war fears and sagging economies in China and Europe. Despite a partial rebound in the final days of the period, the U.S. stock market's December 2018 plunge was the worst monthly loss since the 2008 financial crisis.

Amid investor worries, however, U.S. economic data remained largely positive during the period, prompting the U.S. Federal Reserve (the Fed) to raise the federal funds rate in December 2018 for the fourth time during the period. Since then, the Fed has indicated that it may reconsider its planned 2019 rate hikes.

For the 12-month period ended December 31, 2018, the blue-chip Dow Jones Industrial Average^{®2} declined 3.48%, while the broader U.S. equity market represented by the S&P 500[®] Index fell 4.38%. The technology-laden NASDAQ Composite Index fell 2.84% during the period. Large-cap U.S. stocks as measured by the S&P 500[®] Index generally outperformed their small-cap counterparts as measured by the Russell 2000[®] Index during the period. Growth stocks as a group outpaced value stocks in both the large- and small-cap categories, as measured by the Russell Growth and Value Indexes.

Fund Performance

For the 12-month period ended December 31, 2018, Eaton Vance Enhanced Equity Income Fund II (the Fund) returned 0.21% at net asset value (NAV), outperforming the 1.51%

return of the Fund's equity benchmark, the Russell 1000[®] Growth Index (the Index). The Fund also outperformed both of its options benchmarks, the Cboe S&P 500 BuyWrite IndexSM and the Cboe NASDAQ 100 BuyWrite IndexSM, which returned 4.77% and 1.68%, respectively. The Fund's common stock portfolio outperformed the Index, delivering a positive return for the period, but the Fund's options overlay strategy detracted from performance versus the Index.

In the Fund's common stock portfolio, security selection in the information technology (IT) and communication services sectors contributed to performance versus the Index, as did security selections and an overweight position, relative to the Index, in the consumer discretionary sector. Within IT, the Fund's overweight position in salesforce.com, inc. (salesforce.com), a leading provider of customer relationship management

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software, helped results versus the Index. Strong sales of the firm's cloud-based products and services, as well as positive market reaction to its acquisition of MuleSoft, Inc., a business software company, led salesforce.com's stock to appreciate during the period.

In consumer discretionary, the Fund's overweight position in Amazon.com, Inc. benefited from strong revenue growth during the period, led by continued strength across the company's key segments: Amazon Web Services, retail and advertising. In contrast, stock selections in the financials and energy sectors detracted from performance versus the Index. The Fund's out-of-Index holding in global investment bank Goldman Sachs Group, Inc. (Goldman Sachs) hurt relative performance in financials. Concerns about the negative effects of a global economic slowdown and a flattening yield curve⁶ led Goldman Sachs' stock to decline during the period. By period end, the stock was sold out of the Fund.

The Fund's options overlay strategy detracted from performance versus the Index during the period. The options strategy, which is designed to help limit the Fund's exposure to market volatility and contribute to current income, may be beneficial during times of market weakness, but may also detract from performance during periods of market strength. During periods of market weakness in February 2018 and the final months of the period, the options strategy performed as intended and helped mitigate losses in the Fund. But when the market was trending upward, as it was in January 2018 and again from April through August 2018, the Fund's sale of covered call options hurt performance versus the Index, as premium income did not compensate for underlying stock price appreciation. For the period as a whole, the options strategy was a net negative for Fund performance versus the Index.

See Endnotes and Additional Disclosures in this report.

Past performance is no guarantee of future results. Returns are historical and are calculated by determining the percentage change in net asset value (NAV) or market price (as applicable) with all distributions reinvested and include management fees and other expenses. Fund performance at market price will differ from its results at NAV due to factors such as changing perceptions about the Fund, market conditions, fluctuations in supply and demand for Fund shares, or changes in Fund distributions. Investment return and principal value will fluctuate so that shares, when sold, may be worth more or less than their original cost. Performance less than or equal to one year is cumulative. Performance is for the stated time period only; due to market volatility, current Fund performance may be lower or higher than the quoted return. For performance as of the most recent month-end, please refer to eatonvance.com.

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Performance²

Portfolio Managers Michael A. Allison, CFA, Lewis R. Piantedosi and Yana S. Barton, CFA

| % Average Annual Total Returns | Inception Date | One Year | Five Years | Ten Years |
|--|----------------|----------|------------|-----------|
| Fund at NAV | 01/31/2005 | 0.21% | 8.65% | 11.86% |
| Fund at Market Price | | 2.78 | 10.33 | 13.14 |
| Russell 1000® Growth Index | | 1.51% | 10.40% | 15.28% |
| Cboe S&P 500 BuyWrite Index SM | | 4.77 | 5.07 | 7.95 |
| Cboe NASDAQ 100 BuyWrite Index SM | | 1.68 | 6.57 | 10.03 |

% Premium/Discount to NAV³

| | |
|--|-------|
| | 1.01% |
|--|-------|

Distributions⁴

| | |
|--|----------|
| Total Distributions per share for the period | \$ 1.050 |
| Distribution Rate at NAV | 7.09% |
| Distribution Rate at Market Price | 7.16% |

Fund Profile

Sector Allocation (% of total investments)⁵

Top 10 Holdings (% of total investments)⁵

| | |
|-------------------------|------|
| Alphabet, Inc., Class C | 7.9% |
| Amazon.com, Inc. | 7.5 |
| Visa, Inc., Class A | 5.5 |
| salesforce.com, inc. | 3.4 |
| Microsoft Corp. | 3.1 |

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| | |
|-----------------------|-------|
| Coca-Cola Co. (The) | 2.6 |
| Adobe, Inc. | 2.5 |
| Ecolab, Inc. | 2.4 |
| Abbott Laboratories | 2.3 |
| Walt Disney Co. (The) | 2.2 |
| Total | 39.4% |

See Endnotes and Additional Disclosures in this report.

Past performance is no guarantee of future results. Returns are historical and are calculated by determining the percentage change in net asset value (NAV) or market price (as applicable) with all distributions reinvested and include management fees and other expenses. Fund performance at market price will differ from its results at NAV due to factors such as changing perceptions about the Fund, market conditions, fluctuations in supply and demand for Fund shares, or changes in Fund distributions. Investment return and principal value will fluctuate so that shares, when sold, may be worth more or less than their original cost. Performance less than or equal to one year is cumulative. Performance is for the stated time period only; due to market volatility, current Fund performance may be lower or higher than the quoted return. For performance as of the most recent month-end, please refer to eatonvance.com.

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Fund Snapshot

Objective The primary investment objective is to provide current income, with a secondary objective of capital appreciation.

Strategy The Fund invests in a portfolio of primarily large- and mid-cap securities that the investment adviser believes have above-average growth and financial strength and writes call options on individual securities to generate current earnings from the option premium.

| | |
|--|----------------------------------|
| Options Strategy | Write Single Stock Covered Calls |
| Equity Benchmark² | Russell 1000® Growth Index |
| Morningstar Category | Option Writing |
| Distribution Frequency | Monthly |
| Common Stock Portfolio | |
| Positions Held | 60 |
| % US / Non-US | 99.3/0.7 |
| Average Market Cap | \$234.7 Billion |
| Call Options Written | |
| % of Stock Portfolio | 45% |
| Average Days to Expiration | 28 days |
| % Out of the Money | 9.0% |

The following terms as used in the Fund snapshot:

Average Market Cap: An indicator of the size of the companies in which the Fund invests and is the sum of each security's weight in the portfolio multiplied by its market cap. Market Cap is determined by multiplying the price of a share of a company's common stock by the number of shares outstanding.

Call Option: For a call option on a security, the option buyer has the right to purchase, and the option seller (or writer) has the obligation to sell, a specified security at a specified price (exercise price or strike price) on or before a specified date (option expiration date). The buyer of a call option makes a cash payment (premium) to the seller (writer) of the option upon entering into the option contract.

Covered Call Strategy: A strategy of owning a portfolio of common stocks and writing call options on all or a portion of such stocks to generate current earnings from option premium.

Out of the Money: For a call option on a common stock, the extent to which the exercise price of the option exceeds the current price of the stock.

See Endnotes and Additional Disclosures in this report.

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Endnotes and Additional Disclosures

¹ The views expressed in this report are those of the portfolio manager(s) and are current only through the date stated at the top of this page. These views are subject to change at any time based upon market or other conditions, and Eaton Vance and the Fund(s) disclaim any responsibility to update such views. These views may not be relied upon as investment advice and, because investment decisions are based on many factors, may not be relied upon as an indication of trading intent on behalf of any Eaton Vance fund. This commentary may contain statements that are not historical facts, referred to as forward looking statements. The Fund's actual future results may differ significantly from those stated in any forward looking statement, depending on factors such as changes in securities or financial markets or general economic conditions, the volume of sales and purchases of Fund shares, the continuation of investment advisory, administrative and service contracts, and other risks discussed from time to time in the Fund's filings with the Securities and Exchange Commission.

² Dow Jones Industrial Average[®] is a price-weighted average of 30 blue-chip stocks that are generally the leaders in their industry. S&P 500[®] Index is an unmanaged index of large-cap stocks commonly used as a measure of U.S. stock market performance. Russell 2000[®] Index is an unmanaged index of 2,000 U.S. small-cap stocks. Russell 1000[®] Growth Index is an unmanaged index of U.S. large-cap growth stocks. NASDAQ Composite Index is a market capitalization-weighted index of all domestic and international securities listed on NASDAQ. Source: Nasdaq, Inc. The information is provided by Nasdaq (with its affiliates, are referred to as the Corporations) and Nasdaq's third party licensors on an "as is" basis and the Corporations make no guarantees and bear no liability of any kind with respect to the information or the Fund. Cboe S&P 500 BuyWrite IndexSM measures the performance of a hypothetical buy-write strategy on the S&P 500[®] Index. Cboe NASDAQ 100 BuyWrite IndexSM measures the performance of a theoretical portfolio that owns stocks included in the NASDAQ 100[®] Index and writes (sells) NASDAQ 100[®] Index covered call options. Unless otherwise stated, index returns do not reflect the effect of any applicable sales charges, commissions, expenses, taxes or leverage, as applicable. It is not possible to invest directly in an index. Performance since inception for an index, if presented, is the performance since the Fund's or oldest share class inception, as applicable.

³ The shares of the Fund often trade at a discount or premium from their net asset value. The discount or premium of the Fund may vary over time and may be higher or lower than what is quoted in this report. For up-to-date premium/discount information, please refer to <http://eatonvance.com/closedend>.

⁴ The Distribution Rate is based on the Fund's last regular distribution per share in the period (annualized) divided by the Fund's NAV or market price at the end of the period. The Fund's distributions may be comprised of amounts characterized for federal income tax purposes as qualified and non-qualified ordinary dividends, capital gains and nondividend distributions, also known as return of capital. For additional information about nondividend distributions, please refer to Eaton Vance Closed-End Fund Distribution Notices (19a) posted on our website, eatonvance.com. The Fund will determine the federal income tax character of distributions paid to a shareholder after the end of the calendar year. This is reported on the IRS form 1099-DIV and provided to the shareholder shortly after each year-end. For information about the tax character of distributions made in prior calendar years, please refer to Performance-Tax Character of Distributions on the Fund's webpage available at eatonvance.com. In recent years, a significant portion of the Fund's distributions has been characterized as a return of capital. The Fund's distributions are determined by the investment adviser based on its current assessment of the Fund's long-term return potential. Fund distributions may be affected by numerous factors including changes in Fund performance, the cost of financing for leverage, portfolio holdings, realized and projected returns, and other factors. As portfolio and market conditions change, the rate of distributions paid by the Fund could change. Subsequent distributions declared, but not reflected in Fund Performance, reflect an increase in the monthly distribution rate.

⁵ Depictions do not reflect the Fund's option positions. Excludes cash and cash equivalents.

⁶ Yield curve is a graphical representation of the yields offered by bonds of various maturities. The yield curve flattens when long-term rates fall and/or short-term rates increase, and the yield curve steepens when long-term rates increase and/or short-term rates fall.

Fund snapshot and profile subject to change due to active management.

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Portfolio of Investments

Common Stocks 98.7%

Security

Shares

Value

Aerospace & Defense 2.6%

Boeing Co. (The)

16,985 \$ 5,477,663

Raytheon Co.

82,209 12,606,750

\$ 18,084,413

Air Freight & Logistics 1.3%

FedEx Corp.

59,350 \$ 9,574,935

\$ 9,574,935

Auto Components 2.0%

Aptiv PLC

233,289 \$ 14,363,604

\$ 14,363,604

Banks 1.8%

JPMorgan Chase & Co.

128,351 \$ 12,529,625

\$ 12,529,625

Beverages 4.0%

Coca-Cola Co. (The)

395,635 \$ 18,733,317

Constellation Brands, Inc., Class A

34,375 5,528,188

PepsiCo, Inc.

38,207 4,221,109

\$ 28,482,614

Biotechnology 4.2%

Celgene Corp.⁽²⁾

85,447 \$ 5,476,298

Exact Sciences Corp.⁽²⁾

84,060 5,304,186

Loxo Oncology, Inc.⁽²⁾

24,055 3,369,384

Sarepta Therapeutics, Inc.⁽²⁾

22,873 2,496,131

Vertex Pharmaceuticals, Inc.⁽²⁾

77,099 12,776,075

\$ 29,422,074

Building Products 0.6%

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| | | | |
|--|---------------|----------------------|----------------------|
| Fortune Brands Home & Security, Inc. | 107,324 | \$ 4,077,239 | \$ 4,077,239 |
| Capital Markets 2.1% | | | |
| Charles Schwab Corp. (The) | 351,247 | \$ 14,587,288 | \$ 14,587,288 |
| Chemicals 3.6% | | | |
| Ecolab, Inc. | 116,879 | \$ 17,222,121 | |
| Sherwin-Williams Co. (The) | 20,476 | 8,056,487 | |
| | | \$ 25,278,608 | |
| Security | Shares | Value | |
| Commercial Services & Supplies 2.2% | | | |
| Waste Connections, Inc. | 78,779 | \$ 5,849,340 | |
| Waste Management, Inc. | 112,318 | 9,995,179 | |
| | | \$ 15,844,519 | |
| Communications Equipment 0.7% | | | |
| Arista Networks, Inc. ⁽²⁾ | 24,538 | \$ 5,170,157 | \$ 5,170,157 |
| Electronic Equipment, Instruments & Components 1.1% | | | |
| Littelfuse, Inc. | 43,517 | \$ 7,462,295 | \$ 7,462,295 |
| Entertainment 4.8% | | | |
| Activision Blizzard, Inc. | 236,509 | \$ 11,014,224 | |
| Netflix, Inc. ⁽²⁾ | 27,799 | 7,440,681 | |
| Walt Disney Co. (The) | 142,502 | 15,625,344 | |
| | | \$ 34,080,249 | |
| Health Care Equipment & Supplies 4.4% | | | |
| Abbott Laboratories | 221,686 | \$ 16,034,548 | |
| Danaher Corp. | 81,195 | 8,372,828 | |
| Intuitive Surgical, Inc. ⁽²⁾ | 14,757 | 7,067,423 | |
| | | \$ 31,474,799 | |
| Health Care Providers & Services 3.4% | | | |
| Anthem, Inc. | 38,497 | \$ 10,110,467 | |
| UnitedHealth Group, Inc. | 55,524 | 13,832,139 | |
| | | \$ 23,942,606 | |
| Hotels, Restaurants & Leisure 1.2% | | | |
| Starbucks Corp. | 134,831 | \$ 8,683,116 | \$ 8,683,116 |
| Interactive Media & Services 11.9% | | | |
| Alphabet, Inc., Class C ⁽²⁾ | 54,439 | \$ 56,377,573 | |
| Facebook, Inc., Class A ⁽²⁾ | 84,473 | 11,073,566 | |

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| | | |
|-------------------------------------|---------|----------------------|
| IAC/InterActiveCorp. ⁽²⁾ | 56,101 | 10,268,727 |
| Twitter, Inc. ⁽²⁾ | 235,310 | 6,762,809 |
| | | \$ 84,482,675 |

Internet & Direct Marketing Retail 8.5%

| | | |
|---------------------------------------|--------|----------------------|
| Amazon.com, Inc. ⁽²⁾ | 35,783 | \$ 53,744,992 |
| Booking Holdings, Inc. ⁽²⁾ | 3,847 | 6,626,150 |
| | | \$ 60,371,142 |

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Portfolio of Investments continued

| Security | Shares | Value |
|--|---------|----------------------|
| IT Services 7.6% | | |
| GoDaddy, Inc., Class A ⁽²⁾ | 225,833 | \$ 14,819,162 |
| Visa, Inc., Class A | 294,628 | 38,873,218 |
| | | \$ 53,692,380 |
| Life Sciences Tools & Services 0.8% | | |
| Illumina, Inc. ⁽²⁾ | 18,648 | \$ 5,593,095 |
| | | \$ 5,593,095 |
| Multiline Retail 0.6% | | |
| Dollar Tree, Inc. ⁽²⁾ | 46,555 | \$ 4,204,848 |
| | | \$ 4,204,848 |
| Oil, Gas & Consumable Fuels 1.1% | | |
| EOG Resources, Inc. | 37,109 | \$ 3,236,276 |
| HollyFrontier Corp. | 94,394 | 4,825,421 |
| | | \$ 8,061,697 |
| Pharmaceuticals 2.3% | | |
| Merck & Co., Inc. | 144,435 | \$ 11,036,278 |
| Novartis AG ADR | 59,590 | 5,113,418 |
| | | \$ 16,149,696 |
| Road & Rail 1.8% | | |
| CSX Corp. | 202,138 | \$ 12,558,834 |
| | | \$ 12,558,834 |
| Semiconductors & Semiconductor Equipment 3.0% | | |
| Broadcom, Inc. | 15,455 | \$ 3,929,897 |
| QUALCOMM, Inc. | 161,834 | 9,209,973 |
| Texas Instruments, Inc. | 88,994 | 8,409,933 |
| | | \$ 21,549,803 |

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Software 13.4%

| | | |
|---|---------|----------------------|
| Adobe, Inc. ⁽²⁾ | 77,589 | \$ 17,553,735 |
| Intuit, Inc. | 57,084 | 11,236,986 |
| Microsoft Corp. | 220,860 | 22,432,750 |
| Palo Alto Networks, Inc. ⁽²⁾ | 72,535 | 13,661,967 |
| SailPoint Technologies Holding, Inc. ⁽²⁾ | 242,596 | 5,698,580 |
| salesforce.com, inc. ⁽²⁾ | 175,214 | 23,999,062 |
| | | \$ 94,583,080 |

Security

Shares Value

Specialty Retail 3.3%

| | | |
|----------------------------------|---------|----------------------|
| Home Depot, Inc. (The) | 33,243 | \$ 5,711,812 |
| TJX Cos., Inc. (The) | 211,522 | 9,463,494 |
| Ulta Beauty, Inc. ⁽²⁾ | 33,184 | 8,124,771 |
| | | \$ 23,300,077 |

Technology Hardware, Storage & Peripherals 2.7%

| | | |
|-------------|---------|----------------------|
| Apple, Inc. | 76,467 | \$ 12,061,904 |
| HP, Inc. | 329,265 | 6,736,762 |
| | | \$ 18,798,666 |

Textiles, Apparel & Luxury Goods 1.7%

| | | |
|---------------------|---------|----------------------|
| NIKE, Inc., Class B | 161,356 | \$ 11,962,934 |
| | | \$ 11,962,934 |

Total Common Stocks

(identified cost \$481,181,668) **\$ 698,367,068**

Short-Term Investments 1.9%

Description

Units Value

| | | |
|---|------------|---------------|
| Eaton Vance Cash Reserves Fund, LLC, 2.46% ⁽³⁾ | 13,923,435 | \$ 13,922,043 |
|---|------------|---------------|

Total Short-Term Investments

(identified cost \$13,921,682) **\$ 13,922,043**

Total Investments 100.6%

(identified cost \$495,103,350) **\$ 712,289,111**

Total Written Covered Call Options (0.6)%

(premiums received \$5,520,822) **\$ (4,570,163)**

Other Assets, Less Liabilities (0.0)%

\$ (142,076)

Net Assets 100.0%

\$ 707,576,872

The percentage shown for each investment category in the Portfolio of Investments is based on net assets.

⁽¹⁾ All or a portion of each applicable common stock for which a written call option is outstanding at December 31, 2018 has been pledged as collateral for such written option.

- (2) Non-income producing security.
- (3) Affiliated investment company, available to Eaton Vance portfolios and funds, which invests in high quality, U.S. dollar denominated money market instruments. The rate shown is the annualized seven-day yield as of December 31, 2018.
- (4) Amount is less than (0.05)%.

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Portfolio of Investments continued

Written Covered Call Options (0.6)%

Exchange-Traded Options (0.6)%

| Description | Number of Contracts | Notional Amount | Exercise Price | Expiration Date | Value |
|----------------------------|------------------------|--------------------|-------------------|--------------------|--------------|
| Abbott Laboratories | 1,105 | \$ 7,992,465 | \$ 73 | 2/15/19 | \$ (293,930) |
| Activision Blizzard, Inc. | 1,180 | 5,495,260 | 55 | 1/18/19 | (14,750) |
| Adobe, Inc. | 385 | 8,710,240 | 235 | 1/25/19 | (212,713) |
| Alphabet, Inc., Class C | 270 | 27,961,470 | 1,125 | 1/18/19 | (95,850) |
| Amazon.com, Inc. | 175 | 26,284,475 | 1,630 | 2/1/19 | (665,438) |
| Apple, Inc. | 380 | 5,994,120 | 183 | 1/4/19 | (190) |
| Aptiv PLC | 1,165 | 7,172,905 | 73 | 1/18/19 | (14,562) |
| Arista Networks, Inc. | 120 | 2,528,400 | 265 | 1/4/19 | (4,500) |
| Boeing Co. (The) | 80 | 2,580,000 | 345 | 2/15/19 | (59,000) |
| Booking Holdings, Inc. | 15 | 2,583,630 | 1,825 | 2/1/19 | (39,300) |
| Broadcom, Inc. | 75 | 1,907,100 | 280 | 2/15/19 | (31,875) |
| Charles Schwab Corp. (The) | 1,755 | 7,288,515 | 43 | 2/15/19 | (232,538) |
| Coca-Cola Co. (The) | 1,975 | 9,351,625 | 50 | 1/25/19 | (37,525) |
| CSX Corp. | 1,010 | 6,275,130 | 74 | 1/4/19 | (16,160) |
| Danaher Corp. | 405 | 4,176,360 | 105 | 2/15/19 | (114,413) |
| Dollar Tree, Inc. | 230 | 2,077,360 | 90 | 1/25/19 | (71,875) |
| Ecolab, Inc. | 580 | 8,546,300 | 155 | 2/15/19 | (87,000) |
| EOG Resources, Inc. | 185 | 1,613,385 | 115 | 1/18/19 | (740) |
| Facebook, Inc., Class A | 420 | 5,505,780 | 150 | 1/18/19 | (11,970) |
| FedEx Corp. | 295 | 4,759,235 | 175 | 2/15/19 | (70,652) |
| GoDaddy, Inc., Class A | 1,125 | 7,382,250 | 68 | 2/15/19 | (331,875) |
| HollyFrontier Corp. | 470 | 2,402,640 | 55 | 1/25/19 | (32,900) |
| Home Depot, Inc. (The) | 165 | 2,835,030 | 175 | 1/25/19 | (61,050) |
| HP, Inc. | 1,645 | 3,365,670 | 22 | 2/1/19 | (41,125) |
| IAC/InterActiveCorp. | 280 | 5,125,120 | 190 | 2/15/19 | (260,400) |
| Illumina, Inc. | 90 | 2,699,370 | 325 | 1/25/19 | (61,200) |
| Intuit, Inc. | 285 | 5,610,225 | 210 | 2/15/19 | (102,600) |
| Intuitive Surgical, Inc. | 70 | 3,352,440 | 530 | 2/1/19 | (42,700) |

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| | | | | | |
|----------------------------|-------|------------|-----|---------|-----------|
| JPMorgan Chase & Co. | 640 | 6,247,680 | 105 | 1/18/19 | (23,040) |
| Merck & Co., Inc. | 720 | 5,501,520 | 80 | 2/15/19 | (69,840) |
| Microsoft Corp. | 1,100 | 11,172,700 | 110 | 2/15/19 | (221,650) |
| Netflix, Inc. | 135 | 3,613,410 | 305 | 2/1/19 | (91,463) |
| NIKE, Inc., Class B | 805 | 5,968,270 | 80 | 1/18/19 | (26,967) |
| Novartis AG ADR | 295 | 2,531,395 | 90 | 1/18/19 | (8,112) |
| Palo Alto Networks, Inc. | 360 | 6,780,600 | 193 | 1/25/19 | (213,300) |
| PepsiCo, Inc. | 190 | 2,099,120 | 120 | 1/18/19 | (2,185) |
| QUALCOMM, Inc. | 675 | 3,841,425 | 60 | 1/18/19 | (42,525) |
| Raytheon Co. | 410 | 6,287,350 | 180 | 1/18/19 | (1,845) |
| salesforce.com, inc. | 875 | 11,984,875 | 145 | 1/18/19 | (166,250) |
| Sarepta Therapeutics, Inc. | 110 | 1,200,430 | 120 | 1/25/19 | (51,150) |
| Sherwin-Williams Co. (The) | 100 | 3,934,600 | 410 | 2/1/19 | (83,500) |

| Description | Number of Contracts | Notional Amount | Exercise Price | Expiration Date | Value |
|------------------------------|------------------------|--------------------|-------------------|--------------------|-----------------------|
| Starbucks Corp. | 670 | \$ 4,314,800 | \$ 73 | 1/18/19 | \$ (1,005) |
| Texas Instruments, Inc. | 440 | 4,158,000 | 100 | 1/11/19 | (24,200) |
| TJX Cos., Inc. (The) | 1,055 | 4,720,070 | 48 | 2/15/19 | (79,125) |
| Twitter, Inc. | 1,175 | 3,376,950 | 35 | 2/15/19 | (94,000) |
| UnitedHealth Group, Inc. | 275 | 6,850,800 | 290 | 1/18/19 | (2,475) |
| Vertex Pharmaceuticals, Inc. | 385 | 6,379,835 | 175 | 1/25/19 | (144,375) |
| Visa, Inc., Class A | 1,470 | 19,395,180 | 144 | 1/25/19 | (83,055) |
| Walt Disney Co. (The) | 710 | 7,785,150 | 113 | 2/1/19 | (125,670) |
| Waste Management, Inc. | 560 | 4,983,440 | 95 | 1/18/19 | (5,600) |
| Total | | | | | \$ (4,570,163) |

Abbreviations:

ADR American Depositary Receipt

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Statement of Assets and Liabilities

| Assets | December 31, 2018 |
|--|-----------------------|
| Unaffiliated investments, at value (identified cost, \$481,181,668) | \$ 698,367,068 |
| Affiliated investment, at value (identified cost, \$13,921,682) | 13,922,043 |
| Dividends receivable | 532,785 |
| Dividends receivable from affiliated investment | 23,746 |
| Receivable for premiums on written options | 941,043 |
| Receivable from the transfer agent | 124,401 |
| Tax reclaims receivable | 40,688 |
| Total assets | \$ 713,951,774 |
| Liabilities | |
| Written options outstanding, at value (premiums received, \$5,520,822) | \$ 4,570,163 |
| Due to custodian | 941,043 |
| Payable to affiliates: | |
| Investment adviser fee | 617,352 |
| Trustees' fees | 8,623 |
| Accrued expenses | 237,721 |
| Total liabilities | \$ 6,374,902 |
| Net Assets | \$ 707,576,872 |
| Sources of Net Assets | |
| Common shares, \$0.01 par value, unlimited number of shares authorized, 47,759,423 shares issued and outstanding | \$ 477,594 |
| Additional paid-in capital | 481,836,193 |
| Distributable earnings | 225,263,085 |
| Net Assets | \$ 707,576,872 |
| Net Asset Value | |
| (\$707,576,872 ÷ 47,759,423 common shares issued and outstanding) | \$ 14.82 |

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Statement of Operations

| | Year Ended |
|---|------------------------|
| | December 31, 2018 |
| Investment Income | |
| Dividends (net of foreign taxes, \$3,553) | \$ 7,156,144 |
| Dividends from affiliated investment | 165,350 |
| Total investment income | \$ 7,321,494 |
| Expenses | |
| Investment adviser fee | \$ 7,878,699 |
| Trustees' fees and expenses | 32,241 |
| Custodian fee | 275,385 |
| Transfer and dividend disbursing agent fees | 18,655 |
| Legal and accounting services | 79,111 |
| Printing and postage | 292,386 |
| Miscellaneous | 54,121 |
| Total expenses | \$ 8,630,598 |
| Net investment loss | \$ (1,309,104) |
| Realized and Unrealized Gain (Loss) | |
| Net realized gain (loss) | |
| Investment transactions | \$ 62,518,771 |
| Investment transactions - affiliated investment | (2,785) |
| Written options | (4,213,114) |
| Foreign currency transactions | 6,555 |
| Net realized gain | \$ 58,309,427 |
| Change in unrealized appreciation (depreciation) | |
| Investments | \$ (51,069,331) |
| Investments - affiliated investment | 2,004 |
| Written options | (1,477,339) |
| Foreign currency | (5,303) |
| Net change in unrealized appreciation (depreciation) | \$ (52,549,969) |
| Net realized and unrealized gain | \$ 5,759,458 |

| | | |
|---|-----------|------------------|
| Net increase in net assets from operations | \$ | 4,450,354 |
|---|-----------|------------------|

10

See Notes to Financial Statements.

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Statements of Changes in Net Assets

| | Year Ended December 31, | |
|---|-------------------------|------------------------|
| | 2018 | 2017 |
| Increase (Decrease) in Net Assets | | |
| From operations | | |
| Net investment loss | \$ (1,309,104) | \$ (1,073,737) |
| Net realized gain | 58,309,427 | 19,792,296 |
| Net change in unrealized appreciation (depreciation) | (52,549,969) | 131,729,829 |
| Net increase in net assets from operations | \$ 4,450,354 | \$ 150,448,388 |
| Distributions to shareholders⁽¹⁾ | \$ (50,082,808) | \$ (20,135,578) |
| Tax return of capital to shareholders | \$ | \$ (29,904,509) |
| Capital share transactions | | |
| Reinvestment of distributions | \$ 1,644,079 | \$ 76,699 |
| Net increase in net assets from capital share transactions | \$ 1,644,079 | \$ 76,699 |
| Net increase (decrease) in net assets | \$ (43,988,375) | \$ 100,485,000 |
| Net Assets | | |
| At beginning of year | \$ 751,565,247 | \$ 651,080,247 |
| At end of year | \$ 707,576,872 | \$ 751,565,247 |

⁽¹⁾ For the year ended December 31, 2017, the source of distributions was from net realized gain. The current year presentation of distributions conforms with the Disclosure Update and Simplification Rule issued by the Securities and Exchange Commission, effective November 5, 2018.

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Financial Highlights

| | | Year Ended December 31, | | | | |
|---|---|-------------------------|-----------------------------|-------------------|-------------------|-------------------|
| | | 2018 | 2017 | 2016 | 2015 | 2014 |
| Net asset value | Beginning of year | \$ 15.770 | \$ 13.660 | \$ 14.410 | \$ 14.540 | \$ 14.170 |
| Income (Loss) From Operations | | | | | | |
| | Net investment income (loss) ⁽¹⁾ | \$ (0.027) | \$ (0.023) | \$ 0.025 | \$ 0.129 | \$ 0.024 |
| | Net realized and unrealized gain | 0.127 | 3.183 | 0.275 | 0.791 | 1.396 |
| | Total income from operations | \$ 0.100 | \$ 3.160 | \$ 0.300 | \$ 0.920 | \$ 1.420 |
| Less Distributions | | | | | | |
| | From net investment income | \$ | \$ | \$ (0.054) | \$ (0.128) | \$ (0.205) |
| | From net realized gain | (1.050) | (0.423) | (0.126) | (0.551) | (0.845) |
| | Tax return of capital | | (0.627) | (0.870) | (0.371) | |
| | Total distributions | \$ (1.050) | \$ (1.050) | \$ (1.050) | \$ (1.050) | \$ (1.050) |
| Net asset value | End of year | \$ 14.820 | \$ 15.770 | \$ 13.660 | \$ 14.410 | \$ 14.540 |
| Market value | End of year | \$ 14.670 | \$ 15.220 | \$ 12.800 | \$ 13.640 | \$ 13.830 |
| Total Investment Return on Net Asset Value⁽²⁾ | | 0.21% | 24.04%⁽³⁾ | 2.72% | 6.87% | 10.98% |
| Total Investment Return on Market Value⁽²⁾ | | 2.78% | 27.76% | 1.68% | 6.43% | 15.07% |

Ratios/Supplemental Data

| | | | | | |
|---|------------|------------|------------|------------|------------|
| Net assets, end of year (000 s omitted) | \$ 707,577 | \$ 751,565 | \$ 651,080 | \$ 686,627 | \$ 693,110 |
| Ratios (as a percentage of average daily net assets): | | | | | |
| Expenses ⁽⁴⁾ | 1.10% | 1.10% | 1.11% | 1.10% | 1.11% |
| Net investment income (loss) | (0.17)% | (0.15)% | 0.18% | 0.88% | 0.17% |
| Portfolio Turnover | 44% | 48% | 58% | 52% | 77% |

- (1) Computed using average shares outstanding.
- (2) Returns are historical and are calculated by determining the percentage change in net asset value or market value with all distributions reinvested. Distributions are assumed to be reinvested at prices obtained under the Fund's dividend reinvestment plan.
- (3) During the year ended December 31, 2017, the Fund received a payment from an affiliate as reimbursement for certain losses. Excluding this payment, total return at net asset value would have been 23.72%.
- (4) Excludes the effect of custody fee credits, if any, of less than 0.005%. Effective September 1, 2015, custody fee credits, which were earned on cash deposit balances, were discontinued by the custodian.

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Notes to Financial Statements

1 Significant Accounting Policies

Eaton Vance Enhanced Equity Income Fund II (the Fund) is a Massachusetts business trust registered under the Investment Company Act of 1940, as amended (the 1940 Act), as a diversified, closed-end management investment company. The Fund's primary investment objective is to provide current income, with a secondary objective of capital appreciation.

The following is a summary of significant accounting policies of the Fund. The policies are in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP). The Fund is an investment company and follows accounting and reporting guidance in the Financial Accounting Standards Board (FASB) Accounting Standards Codification Topic 946.

A Investment Valuation The following methodologies are used to determine the market value or fair value of investments.

Equity Securities. Equity securities listed on a U.S. securities exchange generally are valued at the last sale or closing price on the day of valuation or, if no sales took place on such date, at the mean between the closing bid and ask prices on the exchange where such securities are principally traded. Equity securities listed on the NASDAQ Global or Global Select Market generally are valued at the NASDAQ official closing price. Unlisted or listed securities for which closing sales prices or closing quotations are not available are valued at the mean between the latest available bid and ask prices.

Derivatives. U.S. exchange-traded options are valued at the mean between the bid and asked prices at valuation time as reported by the Options Price Reporting Authority. Non U.S. exchange-traded options and over-the-counter options are valued by a third party pricing service using techniques that consider factors including the value of the underlying instrument, the volatility of the underlying instrument and the period of time until option expiration.

Affiliated Fund. The Fund may invest in Eaton Vance Cash Reserves Fund, LLC (Cash Reserves Fund), an affiliated investment company managed by Eaton Vance Management (EVM). While Cash Reserves Fund is not a registered money market mutual fund, it conducts all of its investment activities in accordance with the requirements of Rule 2a-7 under the 1940 Act. Investments in Cash Reserves Fund are valued at the closing net asset value per unit on the valuation day. Cash Reserves Fund generally values its investment securities based on available market quotations provided by a third party pricing service.

Fair Valuation. Investments for which valuations or market quotations are not readily available or are deemed unreliable are valued at fair value using methods determined in good faith by or at the direction of the Trustees of the

Fund in a manner that fairly reflects the security's value, or the amount that the Fund might reasonably expect to receive for the security upon its current sale in the ordinary course. Each such determination is based on a consideration of relevant factors, which are likely to vary from one pricing context to another. These factors may include, but are not limited to, the type of security, the existence of any contractual restrictions on the security's disposition, the price and extent of public trading in similar securities of the issuer or of comparable companies or entities, quotations or relevant information obtained from broker/dealers or other market participants, information obtained from the issuer, analysts, and/or the appropriate stock exchange (for exchange-traded securities), an analysis of the company's or entity's financial condition, and an evaluation of the forces that influence the issuer and the market(s) in which the security is purchased and sold.

B Investment Transactions Investment transactions for financial statement purposes are accounted for on a trade date basis. Realized gains and losses on investments sold are determined on the basis of identified cost.

C Income Dividend income is recorded on the ex-dividend date for dividends received in cash and/or securities. However, if the ex-dividend date has passed, certain dividends from foreign securities are recorded as the Fund is informed of the ex-dividend date. Withholding taxes on foreign dividends and capital gains have been provided for in accordance with the Fund's understanding of the applicable countries' tax rules and rates.

D Federal Taxes The Fund's policy is to comply with the provisions of the Internal Revenue Code applicable to regulated investment companies and to distribute to shareholders each year substantially all of its net investment income, and all or substantially all of its net realized capital gains. Accordingly, no provision for federal income or excise tax is necessary.

As of December 31, 2018, the Fund had no uncertain tax positions that would require financial statement recognition, de-recognition, or disclosure. The Fund files a U.S. federal income tax return annually after its fiscal year-end, which is subject to examination by the Internal Revenue Service for a period of three years from the date of filing.

E Foreign Currency Translation Other assets and liabilities initially expressed in foreign currencies are translated each business day into U.S. dollars based upon current exchange rates. Income and expenses denominated in foreign currencies are translated into U.S. dollars based upon currency exchange rates in effect on the respective dates of such transactions.

F Use of Estimates The preparation of the financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of income and expense during the reporting period. Actual results could differ from those estimates.

G Indemnifications Under the Fund's organizational documents, its officers and Trustees may be indemnified against certain liabilities and expenses arising out of the performance of their duties to the Fund. Under Massachusetts law, if certain conditions prevail, shareholders of a Massachusetts business trust (such as the Fund) could be deemed to have personal liability for the obligations of the Fund. However, the Fund's Declaration of Trust contains an express disclaimer of liability on the part of Fund shareholders and the By-laws provide that the Fund shall assume the defense on behalf of any Fund

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Notes to Financial Statements continued

shareholders. Moreover, the By-laws also provide for indemnification out of Fund property of any shareholder held personally liable solely by reason of being or having been a shareholder for all loss or expense arising from such liability. Additionally, in the normal course of business, the Fund enters into agreements with service providers that may contain indemnification clauses. The Fund's maximum exposure under these arrangements is unknown as this would involve future claims that may be made against the Fund that have not yet occurred.

H Written Options Upon the writing of a call or a put option, the premium received by the Fund is included in the Statement of Assets and Liabilities as a liability. The amount of the liability is subsequently marked-to-market to reflect the current market value of the option written, in accordance with the Fund's policies on investment valuations discussed above. Premiums received from writing options which expire are treated as realized gains. Premiums received from writing options which are exercised or are closed are added to or offset against the proceeds or amount paid on the transaction to determine the realized gain or loss. When an index option is exercised, the Fund is required to deliver an amount of cash determined by the excess of the exercise price of the option over the value of the index (in the case of a put) or the excess of the value of the index over the exercise price of the option (in the case of a call) at contract termination. If a put option on a security is exercised, the premium reduces the cost basis of the securities purchased by the Fund. The Fund, as a writer of an option, may have no control over whether the underlying securities or other assets may be sold (call) or purchased (put) and, as a result, bears the market risk of an unfavorable change in the price of the securities or other assets underlying the written option. The Fund may also bear the risk of not being able to enter into a closing transaction if a liquid secondary market does not exist.

2 Distributions to Shareholders and Income Tax Information

Subject to its Managed Distribution Plan, the Fund makes monthly distributions from its cash available for distribution, which consists of the Fund's dividends and interest income after payment of Fund expenses, net option premiums and net realized and unrealized gains on stock investments. The Fund intends to distribute all or substantially all of its net realized capital gains. Distributions are recorded on the ex-dividend date. Distributions to shareholders are determined in accordance with income tax regulations, which may differ from U.S. GAAP. As required by U.S. GAAP, only distributions in excess of tax basis earnings and profits are reported in the financial statements as a return of capital. Permanent differences between book and tax accounting relating to distributions are reclassified to paid-in capital. For tax purposes, distributions from short-term capital gains are considered to be from ordinary income. Distributions in any year may include a substantial return of capital component.

The tax character of distributions declared for the years ended December 31, 2018 and December 31, 2017 was as follows:

| | Year Ended December 31, | |
|--|--------------------------------|---------------|
| | 2018 | 2017 |
| Long-term capital gains | \$ 50,082,808 | \$ 20,135,578 |
| Tax return of capital | \$ | \$ 29,904,509 |
| During the year ended December 31, 2018, distributable earnings was increased by \$1,213,672 and paid-in capital was decreased by \$1,213,672 due to differences between book and tax accounting, primarily for net operating losses, tax straddle transactions and investments in partnerships. These reclassifications had no effect on the net assets or net asset value per share of the Fund. | | |

As of December 31, 2018, the components of distributable earnings (accumulated loss) on a tax basis were as follows:

| | |
|--|----------------|
| Undistributed long-term capital gains | \$ 7,316,876 |
| Net unrealized appreciation | \$ 217,946,209 |
| The cost and unrealized appreciation (depreciation) of investments, including open derivative contracts, of the Fund at December 31, 2018, as determined on a federal income tax basis, were as follows: | |

| | |
|------------------------------------|-----------------------|
| Aggregate cost | \$ 489,772,284 |
| Gross unrealized appreciation | \$ 231,842,780 |
| Gross unrealized depreciation | (13,896,116) |
| Net unrealized appreciation | \$ 217,946,664 |

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Notes to Financial Statements continued

3 Investment Adviser Fee and Other Transactions with Affiliates

The investment adviser fee is earned by EVM as compensation for management and investment advisory services rendered to the Fund. The fee is computed at an annual rate of 1.00% of the Fund's average daily gross assets and is payable monthly. Gross assets as referred to herein represent net assets plus obligations attributable to investment leverage, if any. For the year ended December 31, 2018, the Fund's investment adviser fee amounted to \$7,878,699. The Fund invests its cash in Cash Reserves Fund. EVM does not currently receive a fee for advisory services provided to Cash Reserves Fund. EVM also serves as administrator of the Fund, but receives no compensation.

Trustees and officers of the Fund who are members of EVM's organization receive remuneration for their services to the Fund out of the investment adviser fee. Trustees of the Fund who are not affiliated with EVM may elect to defer receipt of all or a percentage of their annual fees in accordance with the terms of the Trustees Deferred Compensation Plan. For the year ended December 31, 2018, no significant amounts have been deferred. Certain officers and Trustees of the Fund are officers of EVM.

4 Purchases and Sales of Investments

Purchases and sales of investments, other than short-term obligations, aggregated \$342,175,549 and \$398,816,927, respectively, for the year ended December 31, 2018.

5 Common Shares of Beneficial Interest

The Fund may issue common shares pursuant to its dividend reinvestment plan. Common shares issued by the Fund pursuant to its dividend reinvestment plan for the years ended December 31, 2018 and December 31, 2017 were 99,254 and 5,046, respectively.

The Board of Trustees of the Fund approved the continuation of the Fund's share repurchase program that has been in effect since August 6, 2012. Pursuant to the terms of the reauthorization of the program, the Fund may repurchase up to 10% of its common shares outstanding as of September 30, 2013 in open market transactions at a discount to net asset value (NAV). The terms of the reauthorization increased the number of shares available for repurchase. The repurchase program does not obligate the Fund to purchase a specific amount of shares. There were no repurchases of common shares by the Fund for the years ended December 31, 2018 and December 31, 2017.

6 Overdraft Advances

Pursuant to the custodian agreement, State Street Bank and Trust Company (SSBT) may, in its discretion, advance funds to the Fund to make properly authorized payments. When such payments result in an overdraft, the Fund is obligated to repay SSBT at the current rate of interest charged by SSBT for secured loans (currently, the Federal Funds rate plus 2%). This obligation is payable on demand to SSBT. SSBT has a lien on the Fund's assets to the extent of any overdraft. At December 31, 2018, the Fund had a payment due to SSBT pursuant to the foregoing arrangement of \$941,043. Based on the short-term nature of these payments and the variable interest rate, the carrying value of the overdraft advances approximated its fair value at December 31, 2018. If measured at fair value, overdraft advances would have been considered as Level 2 in the fair value hierarchy (see Note 8) at December 31, 2018. The Fund's average overdraft advances during the year ended December 31, 2018 were not significant.

7 Financial Instruments

The Fund may trade in financial instruments with off-balance sheet risk in the normal course of its investing activities. These financial instruments may include written options and may involve, to a varying degree, elements of risk in excess of the amounts recognized for financial statement purposes. The notional or contractual amounts of these instruments represent the investment the Fund has in particular classes of financial instruments and do not necessarily represent the amounts potentially subject to risk. The measurement of the risks associated with these instruments is meaningful only when all related and offsetting transactions are considered. A summary of obligations under these financial instruments at December 31, 2018 is included in the Portfolio of Investments. At December 31, 2018, the Fund had sufficient cash and/or securities to cover commitments under these contracts.

The Fund is subject to equity price risk in the normal course of pursuing its investment objectives. The Fund writes covered call options on individual stocks above the current value of the stock to generate premium income. In writing call options on individual stocks, the Fund in effect, sells potential appreciation in the value of the applicable stock above the exercise price in exchange for the option premium received. The Fund retains the risk of loss, minus the premium received, should the price of the underlying stock decline.

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Notes to Financial Statements continued

The fair value of open derivative instruments (not considered to be hedging instruments for accounting disclosure purposes) and whose primary underlying risk exposure is equity price risk at December 31, 2018 was as follows:

| Derivative | Fair Value | |
|-----------------|------------------|-------------------------------------|
| | Asset Derivative | Liability Derivative ⁽¹⁾ |
| Written options | \$ | \$ (4,570,163) |

⁽¹⁾ Statement of Assets and Liabilities location: Written options outstanding, at value.

The effect of derivative instruments (not considered to be hedging instruments for accounting disclosure purposes) on the Statement of Operations and whose primary underlying risk exposure is equity price risk for the year ended December 31, 2018 was as follows:

| Derivative | Realized Gain (Loss) on Derivatives Recognized in Income ⁽¹⁾ | Change in Unrealized Appreciation (Depreciation) on Derivatives Recognized in Income ⁽²⁾ |
|-----------------|---|---|
| | | |
| Written options | \$ (4,213,114) | \$ (1,477,339) |

⁽¹⁾ Statement of Operations location: Net realized gain (loss) Written options.

⁽²⁾ Statement of Operations location: Change in unrealized appreciation (depreciation) Written options.

The average number of written options contracts outstanding during the year ended December 31, 2018, which is indicative of the volume of this derivative type, was 34,406 contracts.

8 Fair Value Measurements

Under generally accepted accounting principles for fair value measurements, a three-tier hierarchy to prioritize the assumptions, referred to as inputs, is used in valuation techniques to measure fair value. The three-tier hierarchy of inputs is summarized in the three broad levels listed below.

Level 1 quoted prices in active markets for identical investments

Level 2 other significant observable inputs (including quoted prices for similar investments, interest rates, prepayment speeds, credit risk, etc.)

Level 3 significant unobservable inputs (including a fund's own assumptions in determining the fair value of investments)

In cases where the inputs used to measure fair value fall in different levels of the fair value hierarchy, the level disclosed is determined based on the lowest level input that is significant to the fair value measurement in its entirety. The inputs or methodology used for valuing securities are not necessarily an indication of the risk associated with investing in those securities.

At December 31, 2018, the hierarchy of inputs used in valuing the Fund's investments and open derivative instruments, which are carried at value, were as follows:

| Asset Description | Level 1 | Level 2 | Level 3 | Total |
|------------------------------|-----------------------|----------------------|----------------|-----------------------|
| Common Stocks | \$ 698,367,068* | \$ | \$ | \$ 698,367,068 |
| Short-Term Investments | | 13,922,043 | | 13,922,043 |
| Total Investments | \$ 698,367,068 | \$ 13,922,043 | \$ | \$ 712,289,111 |
| Liability Description | | | | |
| Written Covered Call Options | \$ (4,570,163) | \$ | \$ | \$ (4,570,163) |
| Total | \$ (4,570,163) | \$ | \$ | \$ (4,570,163) |

* The level classification by major category of investments is the same as the category presentation in the Portfolio of Investments.

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Report of Independent Registered Public Accounting Firm

To the Trustees and Shareholders of Eaton Vance Enhanced Equity Income Fund II:

Opinion on the Financial Statements and Financial Highlights

We have audited the accompanying statement of assets and liabilities of Eaton Vance Enhanced Equity Income Fund II (the Fund), including the portfolio of investments, as of December 31, 2018, the related statement of operations for the year then ended, the statements of changes in net assets for each of the two years in the period then ended, the financial highlights for each of the five years in the period then ended, and the related notes. In our opinion, the financial statements and financial highlights present fairly, in all material respects, the financial position of the Fund as of December 31, 2018, and the results of its operations for the year then ended, the changes in its net assets for each of the two years in the period then ended, and the financial highlights for each of the five years in the period then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements and financial highlights are the responsibility of the Fund's management. Our responsibility is to express an opinion on the Fund's financial statements and financial highlights 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 Fund 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 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 and financial highlights are free of material misstatement, whether due to error or fraud. The Fund is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Fund's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements and financial highlights, 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 and financial highlights. 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 and financial highlights. Our procedures included confirmation of securities owned as of December 31, 2018, by correspondence with the custodian and brokers; when replies were not received from brokers, we performed other auditing procedures. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche LLP

Boston, Massachusetts

February 19, 2019

We have served as the auditor of one or more Eaton Vance investment companies since 1959.

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Federal Tax Information (Unaudited)

The Form 1099-DIV you received in February 2019 showed the tax status of all distributions paid to your account in calendar year 2018. Shareholders are advised to consult their own tax adviser with respect to the tax consequences of their investment in the Fund. As required by the Internal Revenue Code and/or regulations, shareholders must be notified regarding the status of capital gains dividends.

Capital Gains Dividends. The Fund hereby designates as a capital gain dividend with respect to the taxable year ended December 31, 2018, \$57,399,684 or, if subsequently determined to be different, the net capital gain of such year.

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Dividend Reinvestment Plan

The Fund offers a dividend reinvestment plan (Plan) pursuant to which shareholders may elect to have distributions automatically reinvested in common shares (Shares) of the Fund. You may elect to participate in the Plan by completing the Dividend Reinvestment Plan Application Form. If you do not participate, you will receive all distributions in cash paid by check mailed directly to you by American Stock Transfer & Trust Company, LLC (AST) as dividend paying agent. On the distribution payment date, if the NAV per Share is equal to or less than the market price per Share plus estimated brokerage commissions, then new Shares will be issued. The number of Shares shall be determined by the greater of the NAV per Share or 95% of the market price. Otherwise, Shares generally will be purchased on the open market by AST, the Plan agent (Agent). Distributions subject to income tax (if any) are taxable whether or not Shares are reinvested.

If your Shares are in the name of a brokerage firm, bank, or other nominee, you can ask the firm or nominee to participate in the Plan on your behalf. If the nominee does not offer the Plan, you will need to request that the Fund's transfer agent re-register your Shares in your name or you will not be able to participate.

The Agent's service fee for handling distributions will be paid by the Fund. Plan participants will be charged their pro rata share of brokerage commissions on all open-market purchases.

Plan participants may withdraw from the Plan at any time by writing to the Agent at the address noted on the following page. If you withdraw, you will receive Shares in your name for all Shares credited to your account under the Plan. If a participant elects by written notice to the Agent to sell part or all of his or her Shares and remit the proceeds, the Agent is authorized to deduct a \$5.00 fee plus brokerage commissions from the proceeds.

If you wish to participate in the Plan and your Shares are held in your own name, you may complete the form on the following page and deliver it to the Agent. Any inquiries regarding the Plan can be directed to the Agent at 1-866-439-6787.

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Application for Participation in Dividend Reinvestment Plan

This form is for shareholders who hold their common shares in their own names. If your common shares are held in the name of a brokerage firm, bank, or other nominee, you should contact your nominee to see if it will participate in the Plan on your behalf. If you wish to participate in the Plan, but your brokerage firm, bank, or nominee is unable to participate on your behalf, you should request that your common shares be re-registered in your own name which will enable your participation in the Plan.

The following authorization and appointment is given with the understanding that I may terminate it at any time by terminating my participation in the Plan as provided in the terms and conditions of the Plan.

Please print exact name on account

Shareholder signature

Date

Shareholder signature

Date

Please sign exactly as your common shares are registered. All persons whose names appear on the share certificate must sign.

YOU SHOULD NOT RETURN THIS FORM IF YOU WISH TO RECEIVE YOUR DISTRIBUTIONS IN CASH. THIS IS NOT A PROXY.

This authorization form, when signed, should be mailed to the following address:

Eaton Vance Enhanced Equity Income Fund II

c/o American Stock Transfer & Trust Company, LLC

P.O. Box 922

Wall Street Station

New York, NY 10269-0560

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Management and Organization

Fund Management. The Trustees of Eaton Vance Enhanced Equity Income Fund II (the Fund) are responsible for the overall management and supervision of the Fund's affairs. The Trustees and officers of the Fund are listed below. Except as indicated, each individual has held the office shown or other offices in the same company for the last five years. The noninterested Trustees consist of those Trustees who are not interested persons of the Fund, as that term is defined under the 1940 Act. The business address of each Trustee and officer is Two International Place, Boston, Massachusetts 02110. As used below, EVC refers to Eaton Vance Corp., EV refers to Eaton Vance, Inc., EVM refers to Eaton Vance Management, BMR refers to Boston Management and Research and EVD refers to Eaton Vance Distributors, Inc. EVC and EV are the corporate parent and trustee, respectively, of EVM and BMR. EVD is a wholly-owned subsidiary of EVC. Each officer affiliated with Eaton Vance may hold a position with other Eaton Vance affiliates that is comparable to his or her position with EVM listed below. Each Trustee oversees 175 portfolios in the Eaton Vance Complex (including all master and feeder funds in a master feeder structure). Each officer serves as an officer of certain other Eaton Vance funds. Each Trustee serves for a three year term. Each officer serves until his or her successor is elected.

| Name and Year of Birth | Position(s) with the | Term Expiring; | Principal Occupation(s) and Directorships |
|------------------------------------|-------------------------|---|---|
| | Fund | Trustee Since ⁽¹⁾ | During Past Five Years and Other Relevant Experience |
| Interested Trustee | | | |
| Thomas E. Faust Jr. 1958 | Class I Trustee | Until 2020. Trustee since 2007. | Chairman, Chief Executive Officer and President of EVC, Director and President of EV, Chief Executive Officer and President of EVM and BMR, and Director of EVD. Trustee and/or officer of 175 registered investment companies. Mr. Faust is an interested person because of his positions with EVM, BMR, EVD, EVC and EV, which are affiliates of the Fund. Directorships in the Last Five Years. ⁽²⁾ Director of EVC and Hexavest Inc. (investment management firm). |

[Noninterested Trustees](#)

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| | | | |
|--|-----------|---------------------|---|
| Mark R. Fetting 1954 | Class III | Until 2019. | Private investor. Formerly held various positions at Legg Mason, Inc. (investment management firm) (2000-2012), including President, Chief Executive Officer, Director and Chairman (2008-2012), Senior Executive Vice President (2004-2008) and Executive Vice President (2001-2004). Formerly, President of Legg Mason family of funds (2001-2008). Formerly, Division President and Senior Officer of Prudential Financial Group, Inc. and related companies (investment management firm) (1991-2000). |
| | Trustee | Trustee since 2016. | |
| Directorships in the Last Five Years. None. | | | |
| Cynthia E. Frost 1961 | Class I | Until 2020. | Private investor. Formerly, Chief Investment Officer of Brown University (university endowment) (2000-2012). Formerly, Portfolio Strategist for Duke Management Company (university endowment manager) (1995-2000). Formerly, Managing Director, Cambridge Associates (investment consulting company) (1989-1995). Formerly, Consultant, Bain and Company (management consulting firm) (1987-1989). Formerly, Senior Equity Analyst, BA Investment Management Company (1983-1985). |
| | Trustee | Trustee since 2014. | |
| Directorships in the Last Five Years. None. | | | |
| George J. Gorman 1952 | Class II | Until 2021. | Principal at George J. Gorman LLC (consulting firm). Formerly, Senior Partner at Ernst & Young LLP (a registered public accounting firm) (1974-2009). |
| | Trustee | Trustee since 2014. | |
| Directorships in the Last Five Years. Formerly, Trustee of the BofA Funds Series Trust (11 funds) (2011-2014) and of the Ashmore Funds (9 funds) (2010-2014). | | | |
| Valerie A. Mosley 1960 | Class III | Until 2019. | Chairwoman and Chief Executive Officer of Valmo Ventures (a consulting and investment firm). Former Partner and Senior Vice President, Portfolio Manager and Investment Strategist at Wellington Management Company, LLP (investment management firm) (1992-2012). Former Chief Investment Officer, PG Corbin Asset Management (1990-1992). Formerly worked in institutional corporate bond sales at Kidder Peabody (1986-1990). |
| | Trustee | Trustee since 2014. | |
| Directorships in the Last Five Years. ⁽²⁾ Director of Envestnet, Inc. (provider of intelligent systems for wealth management and financial wellness) (since 2018). | | | |

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Management and Organization continued

| Name and Year of Birth | Position(s) with the Fund | Term Expiring; Trustee Since⁽¹⁾ | Principal Occupation(s) and Directorships During Past Five Years and Other Relevant Experience |
|--|--|--|--|
| Noninterested Trustees (continued) | | | |
| William H. Park 1947 | Chairperson of the Board and Class II Trustee | Until 2021. Chairperson of the Board since 2016 and Trustee since 2003. | Private investor. Formerly, Consultant (management and transactional) (2012-2014). Formerly, Chief Financial Officer, Aveon Group L.P. (investment management firm) (2010-2011). Formerly, Vice Chairman, Commercial Industrial Finance Corp. (specialty finance company) (2006-2010). Formerly, President and Chief Executive Officer, Prizm Capital Management, LLC (investment management firm) (2002-2005). Formerly, Executive Vice President and Chief Financial Officer, United Asset Management Corporation (investment management firm) (1982-2001). Formerly, Senior Manager, Price Waterhouse (now PricewaterhouseCoopers) (a registered public accounting firm) (1972-1981). |
| Directorships in the Last Five Years.⁽²⁾ None. | | | |
| Helen Frame Peters 1948 | Class II Trustee | Until 2021. Trustee since 2008. | Professor of Finance, Carroll School of Management, Boston College. Formerly, Dean, Carroll School of Management, Boston College (2000-2002). Formerly, Chief Investment Officer, Fixed Income, Scudder Kemper Investments (investment management firm) (1998-1999). Formerly, Chief Investment Officer, Equity and Fixed Income, Colonial Management Associates (investment management firm) (1991-1998). |
| Directorships in the Last Five Years.⁽²⁾ None. | | | |
| Keith Quinton ⁽³⁾ | Class I Trustee | Until 2020. | Independent Investment Committee Member at New Hampshire Retirement System (since 2017). Advisory |

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| | | | |
|--------------------------------|-----------|---------------------|--|
| 1958 | | Trustee since 2018. | Committee member at Northfield Information Services, Inc. (risk management analytics provider) (since 2016). Formerly, Portfolio Manager and Senior Quantitative Analyst at Fidelity Investments (investment management firm) (2001-2014). |
| | | | Directorships in the Last Five Years. Director of New Hampshire Municipal Bond Bank (since 2016). |
| Marcus L. Smith ⁽³⁾ | Class III | Until 2019. | Member of Posse Boston Advisory Board (foundation) (since 2015); Trustee at University of Mount Union (since 2008). |
| 1966 | Trustee | Trustee since 2018. | Formerly, Portfolio Manager at MFS Investment Management (investment management firm) (1994-2017). |
| | | | Directorships in the Last Five Years. Director of MSCI Inc. (global provider of investment decision support tools) (since 2017). Director of DCT Industrial Trust Inc. (logistics real estate company) (since 2017). |
| Susan J. Sutherland | Class II | Until 2021. | Private investor. Formerly, Associate, Counsel and Partner at Skadden, Arps, Slate, Meagher & Flom LLP (law firm) (1982-2013). |
| 1957 | Trustee | Trustee since 2015. | Directorships in the Last Five Years. Formerly, Director of Montpelier Re Holdings Ltd. (global provider of customized insurance and reinsurance products) (2013-2015). |
| Scott E. Wennerholm | Class I | Until 2020. | Formerly, Trustee at Wheelock College (postsecondary institution) (2012-2018). Formerly, Consultant at GF Parish Group (executive recruiting firm) (2016-2017). Formerly, Chief Operating Officer and Executive Vice President at BNY Mellon Asset Management (investment management firm) (2005-2011). Formerly, Chief Operating Officer and Chief Financial Officer at Natixis Global Asset Management (investment management firm) (1997-2004). Formerly, Vice President at Fidelity Investments Institutional Services (investment management firm) (1994-1997). |
| 1959 | Trustee | Trustee since 2016. | Directorships in the Last Five Years. None. |

| Name and Year of Birth | Position(s) | Officer Since ⁽⁴⁾ | Principal Occupation(s) During Past Five Years |
|---|------------------|---------------------------------|---|
| | with the Fund | | |
| Principal Officers who are not Trustees | | | |
| Edward J. Perkin 1972 | President | 2014 | Chief Equity Investment Officer and Vice President of EVM and BMR since 2014. Formerly, Chief Investment Officer, International and Emerging Markets Equity, and Managing Director, Portfolio Manager, Europe, EAFE and Global at Goldman Sachs Asset Management (2002-2014). Also Vice President of Calvert Research and Management (CRM). |

Eaton Vance

Enhanced Equity Income Fund II

December 31, 2018

Management and Organization continued

| Name and Year of Birth | Position(s) with the Fund | Officer Since ⁽⁴⁾ | Principal Occupation(s) During Past Five Years |
|---|---|------------------------------|--|
| Principal Officers who are not Trustees (continued) | | | |
| Maureen A. Gemma 1960 | Vice President, Secretary and Chief Legal Officer | 2005 | Vice President of EVM and BMR. Also Vice President of CRM. |
| James F. Kirchner 1967 | Treasurer | 2007 | Vice President of EVM and BMR. Also Vice President of CRM. |
| Richard F. Froio 1968 | Chief Compliance Officer | 2017 | Vice President of EVM and BMR since 2017. Formerly, Deputy Chief Compliance Officer (Adviser/Funds) and Chief Compliance Officer (Distribution) at PIMCO (2012-2017) and Managing Director at BlackRock/Barclays Global Investors (2009-2012). |

(1) Year first appointed to serve as Trustee for a fund in the Eaton Vance family of funds. Each Trustee has served continuously since appointment unless indicated otherwise. Each Trustee holds office until the annual meeting for the year in which his or her term expires and until his or her successor is elected and qualified, subject to a prior death, resignation, retirement, disqualification or removal.

(2) During their respective tenures, the Trustees (except for Mmes. Frost and Sutherland and Messrs. Fetting, Gorman, Quinton, Smith and Wennerholm) also served as Board members of one or more of the following funds (which operated in the years noted): eUnits™ 2 Year U.S. Market Participation Trust: Upside to Cap / Buffered Downside (launched in 2012 and terminated in 2014); and eUnits™ 2 Year U.S. Market Participation Trust II: Upside to Cap / Buffered Downside (launched in 2012 and terminated in 2014). However, Ms. Mosley did not serve as a Board member of eUnits™ 2 Year U.S. Market Participation Trust: Upside to Cap / Buffered

Downside (launched in 2012 and terminated in 2014).

- (3) Messrs. Quinton and Smith began serving as Trustees effective October 1, 2018.
- (4) Year first elected to serve as officer of a fund in the Eaton Vance family of funds when the officer has served continuously. Otherwise, year of most recent election as an officer of a fund in the Eaton Vance family of funds. Titles may have changed since initial election.

Eaton Vance Funds

IMPORTANT NOTICES

Privacy. The Eaton Vance organization is committed to ensuring your financial privacy. Each of the financial institutions identified below has in effect the following policy (Privacy Policy) with respect to nonpublic personal information about its customers:

Only such information received from you, through application forms or otherwise, and information about your Eaton Vance fund transactions will be collected. This may include information such as name, address, social security number, tax status, account balances and transactions.

None of such information about you (or former customers) will be disclosed to anyone, except as permitted by law (which includes disclosure to employees necessary to service your account). In the normal course of servicing a customer's account, Eaton Vance may share information with unaffiliated third parties that perform various required services such as transfer agents, custodians and broker-dealers.

Policies and procedures (including physical, electronic and procedural safeguards) are in place that are designed to protect the confidentiality of such information.

We reserve the right to change our Privacy Policy at any time upon proper notification to you. Customers may want to review our Privacy Policy periodically for changes by accessing the link on our homepage: www.eatonvance.com. Our pledge of privacy applies to the following entities within the Eaton Vance organization: the Eaton Vance Family of Funds, Eaton Vance Management, Eaton Vance Investment Counsel, Eaton Vance Distributors, Inc., Eaton Vance Trust Company, Eaton Vance Management (International) Limited, Eaton Vance Advisers International Ltd., Eaton Vance Management's Real Estate Investment Group and Boston Management and Research. In addition, our Privacy Policy applies only to those Eaton Vance customers who are individuals and who have a direct relationship with us. If a customer's account (i.e., fund shares) is held in the name of a third-party financial advisor/broker-dealer, it is likely that only such advisor's privacy policies apply to the customer. This notice supersedes all previously issued privacy disclosures. For more information about Eaton Vance's Privacy Policy, please call 1-800-262-1122.

Delivery of Shareholder Documents. The Securities and Exchange Commission (SEC) permits funds to deliver only one copy of shareholder documents, including prospectuses, proxy statements and shareholder reports, to fund investors with multiple accounts at the same residential or post office box address. This practice is often called householding and it helps eliminate duplicate mailings to shareholders. *American Stock Transfer & Trust Company, LLC (AST)*, the closed-end funds transfer agent, or your financial advisor, may household the mailing of your documents indefinitely unless you instruct AST, or your financial advisor, otherwise. If you would prefer that your Eaton Vance documents not be househanded, please contact AST or your financial advisor. Your instructions that householding not apply to delivery of your Eaton Vance documents will typically be effective within 30 days of

receipt by AST or your financial advisor.

Portfolio Holdings. Each Eaton Vance Fund and its underlying Portfolio(s) (if applicable) will file a schedule of portfolio holdings on Form N-Q with the SEC for the first and third quarters of each fiscal year. The Form N-Q will be available on the Eaton Vance website at www.eatonvance.com, by calling Eaton Vance at 1-800-262-1122 or in the EDGAR database on the SEC's website at www.sec.gov. Form N-Q may also be reviewed and copied at the SEC's public reference room in Washington, D.C. (call 1-800-732-0330 for information on the operation of the public reference room).

Proxy Voting. From time to time, funds are required to vote proxies related to the securities held by the funds. The Eaton Vance Funds or their underlying Portfolios (if applicable) vote proxies according to a set of policies and procedures approved by the Funds' and Portfolios' Boards. You may obtain a description of these policies and procedures and information on how the Funds or Portfolios voted proxies relating to portfolio securities during the most recent 12-month period ended June 30, without charge, upon request, by calling 1-800-262-1122 and by accessing the SEC's website at www.sec.gov.

Share Repurchase Program. The Fund's Board of Trustees has approved a share repurchase program authorizing the Fund to repurchase up to 10% of its outstanding common shares as of the approved date in open-market transactions at a discount to net asset value. The repurchase program does not obligate the Fund to purchase a specific amount of shares. The Fund's repurchase activity, including the number of shares purchased, average price and average discount to net asset value, is disclosed in the Fund's annual and semi-annual reports to shareholders.

Additional Notice to Shareholders. If applicable, a Fund may also redeem or purchase its outstanding preferred shares in order to maintain compliance with regulatory requirements, borrowing or rating agency requirements or for other purposes as it deems appropriate or necessary.

Closed-End Fund Information. Eaton Vance closed-end funds make fund performance data and certain information about portfolio characteristics available on the Eaton Vance website shortly after the end of each month. Other information about the funds is available on the website. The funds' net asset value per share is readily accessible on the Eaton Vance website. Portfolio holdings for the most recent month-end are also posted to the website approximately 30 days following the end of the month. This information is available at www.eatonvance.com on the fund information pages under Individual Investors' Closed-End Funds.

[Investment Adviser and Administrator](#)

Eaton Vance Management

Two International Place

Boston, MA 02110

[Custodian](#)

State Street Bank and Trust Company

State Street Financial Center, One Lincoln Street

Boston, MA 02111

[Transfer Agent](#)

American Stock Transfer & Trust Company, LLC

6201 15th Avenue

Brooklyn, NY 11219

[Independent Registered Public Accounting Firm](#)

Deloitte & Touche LLP

200 Berkeley Street

Boston, MA 02116-5022

[Fund Offices](#)

Two International Place

Boston, MA 02110

2426 12.31.18

Item 2. Code of Ethics

The registrant has adopted a code of ethics applicable to its Principal Executive Officer, Principal Financial Officer and Principal Accounting Officer. The registrant undertakes to provide a copy of such code of ethics to any person upon request, without charge, by calling 1-800-262-1122. The registrant has not amended the code of ethics as described in Form N-CSR during the period covered by this report. The registrant has not granted any waiver, including an implicit waiver, from a provision of the code of ethics as described in Form N-CSR during the period covered by this report.

Item 3. Audit Committee Financial Expert

The registrant's Board has designated George J. Gorman and William H. Park, each an independent trustee, as audit committee financial experts. Mr. Gorman is a certified public accountant who is the Principal at George J. Gorman LLC (a consulting firm). Previously, Mr. Gorman served in various capacities at Ernst & Young LLP (a registered public accounting firm), including as Senior Partner. Mr. Gorman also has experience serving as an independent trustee and audit committee financial expert of other mutual fund complexes. Mr. Park is a certified public accountant who is a private investor. Previously, he served as a consultant, as the Chief Financial Officer of Aveon Group, L.P. (an investment management firm), as the Vice Chairman of Commercial Industrial Finance Corp. (specialty finance company), as President and Chief Executive Officer of Prizm Capital Management, LLC (investment management firm), as Executive Vice President and Chief Financial Officer of United Asset Management Corporation (an institutional investment management firm) and as a Senior Manager at Price Waterhouse (now PricewaterhouseCoopers) (a registered public accounting firm).

Item 4. Principal Accountant Fees and Services**(a) (d)**

The following table presents the aggregate fees billed to the registrant for the registrant's fiscal years ended December 31, 2017 and December 31, 2018 by the registrant's principal accountant, Deloitte & Touche LLP (D&T), for professional services rendered for the audit of the registrant's annual financial statements and fees billed for other services rendered by D&T during such periods.

| Fiscal Years Ended | 12/31/17 | 12/31/18 |
|-----------------------------------|------------------|------------------|
| Audit Fees | \$ 49,170 | \$ 49,170 |
| Audit-Related Fees ⁽¹⁾ | \$ 0 | \$ 0 |
| Tax Fees ⁽²⁾ | \$ 21,298 | \$ 21,798 |
| All Other Fees ⁽³⁾ | \$ 0 | \$ 0 |
| Total | \$ 70,468 | \$ 70,968 |

- (1) Audit-related fees consist of the aggregate fees billed for assurance and related services that are reasonably related to the performance of the audit of financial statements and are not reported under the category of audit fees.
- (2) Tax fees consist of the aggregate fees billed for professional services rendered by the principal accountant relating to tax compliance, tax advice, and tax planning and specifically include fees for tax return preparation and other related tax compliance/planning matters.

(3) All other fees consist of the aggregate fees billed for products and services provided by the principal accountant other than audit, audit-related, and tax services.

(e)(1) The registrant's audit committee has adopted policies and procedures relating to the pre-approval of services provided by the registrant's principal accountant (the Pre-Approval Policies). The Pre-Approval Policies establish a framework intended to assist the audit committee in the proper discharge of its pre-approval responsibilities. As a general matter, the Pre-Approval Policies (i) specify certain types of audit, audit-related, tax, and other services determined to be pre-approved by the audit committee; and (ii) delineate specific procedures governing the mechanics of the pre-approval process, including the approval and monitoring of audit and non-audit service fees. Unless a service is specifically pre-approved under the Pre-Approval Policies, it must be separately pre-approved by the audit committee.

The Pre-Approval Policies and the types of audit and non-audit services pre-approved therein must be reviewed and ratified by the registrant's audit committee at least annually. The registrant's audit committee maintains full responsibility for the appointment, compensation, and oversight of the work of the registrant's principal accountant.

(e)(2) No services described in paragraphs (b)-(d) above were approved by the registrant's audit committee pursuant to the de minimis exception set forth in Rule 2-01(c)(7)(i)(C) of Regulation S-X.

(f) Not applicable.

(g) The following table presents (i) the aggregate non-audit fees (i.e., fees for audit-related, tax, and other services) billed to the registrant by D&T for the registrant's fiscal years ended December 31, 2017 and December 31, 2018; and (ii) the aggregate non-audit fees (i.e., fees for audit-related, tax, and other services) billed to the Eaton Vance organization by D&T for the same time periods.

| Fiscal Years Ended | 12/31/17 | 12/31/18 |
|----------------------------------|-----------------|-----------------|
| Registrant | \$ 21,298 | \$ 21,798 |
| Eaton Vance⁽¹⁾ | \$ 148,018 | \$ 126,485 |

(1) The investment adviser to the registrant, as well as any of its affiliates that provide ongoing services to the registrant, are subsidiaries of Eaton Vance Corp.

(h) The registrant's audit committee has considered whether the provision by the registrant's principal accountant of non-audit services to the registrant's investment adviser and any entity controlling, controlled by, or under common control with the adviser that provides ongoing services to the registrant that were not pre-approved pursuant to Rule 2-01(c)(7)(ii) of Regulation S-X is compatible with maintaining the principal accountant's independence.

Item 5. Audit Committee of Listed Registrants

The registrant has a separately-designated standing audit committee established in accordance with Section 3(a)(58)(A) of the Securities and Exchange Act of 1934, as amended. George J. Gorman (Chair), Valerie A. Mosley, William H. Park and Scott E. Wennerholm are the members of the registrant's audit committee.

Item 6. Schedule of Investments

Please see schedule of investments contained in the Report to Stockholders included under Item 1 of this Form N-CSR.

Item 7. Disclosure of Proxy Voting Policies and Procedures for Closed-End Management Investment Companies

The Board of Trustees of the Trust has adopted a proxy voting policy and procedure (the "Fund Policy"), pursuant to which the Trustees have delegated proxy voting responsibility to the Fund's investment adviser and adopted the investment adviser's proxy voting policies and procedures (the "Policies") which are described below. The Trustees will review the Fund's proxy voting records from time to time and will annually consider approving the Policies for the upcoming year. In the event that a conflict of interest arises between the Fund's shareholders and the investment adviser, the administrator, or any of their affiliates or any affiliate of the Fund, the investment adviser will generally refrain from voting the proxies related to the companies giving rise to such conflict until it consults with the Board's Special Committee except as contemplated under the Fund Policy. The Board's Special Committee will instruct the investment adviser on the appropriate course of action.

The Policies are designed to promote accountability of a company's management to its shareholders and to align the interests of management with those shareholders. An independent proxy voting service ("Agent"), currently Institutional Shareholder Services, Inc., has been retained to assist in the voting of proxies through the provision of vote analysis, implementation and recordkeeping and disclosure services. The investment adviser will generally vote proxies through the Agent. The Agent is required to vote all proxies and/or refer them back to the investment adviser pursuant

to the Policies. It is generally the policy of the investment adviser to vote in

accordance with the recommendation of the Agent. The Agent shall refer to the investment adviser proxies relating to mergers and restructurings, and the disposition of assets, termination, liquidation and mergers contained in mutual fund proxies. The investment adviser will normally vote against anti-takeover measures and other proposals designed to limit the ability of shareholders to act on possible transactions, except in the case of closed-end management investment companies. The investment adviser generally supports management on social and environmental proposals. The investment adviser may abstain from voting from time to time where it determines that the costs associated with voting a proxy outweighs the benefits derived from exercising the right to vote or the economic effect on shareholders interests or the value of the portfolio holding is indeterminable or insignificant.

In addition, the investment adviser will monitor situations that may result in a conflict of interest between the Fund's shareholders and the investment adviser, the administrator, or any of their affiliates or any affiliate of the Fund by maintaining a list of significant existing and prospective corporate clients. The investment adviser's personnel responsible for reviewing and voting proxies on behalf of the Fund will report any proxy received or expected to be received from a company included on that list to the personnel of the investment adviser identified in the Policies. If such personnel expects to instruct the Agent to vote such proxies in a manner inconsistent with the guidelines of the Policies or the recommendation of the Agent, the personnel will consult with members of senior management of the investment adviser to determine if a material conflict of interests exists. If it is determined that a material conflict does exist, the investment adviser will seek instruction on how to vote from the Special Committee.

Information on how the Fund voted proxies relating to portfolio securities during the most recent 12 month period ended June 30 is available (1) without charge, upon request, by calling 1-800-262-1122, and (2) on the Securities and Exchange Commission's website at <http://www.sec.gov>.

Item 8. Portfolio Managers of Closed-End Management Investment Companies

Eaton Vance Management (EVM or Eaton Vance) is the investment adviser of the Fund. Michael A. Allison, Yana S. Barton and Lewis R. Piantedosi comprise the investment team responsible for the overall and day-to-day management of the Fund's investments.

Mr. Allison is a Vice President of EVM, is a member of EVM's Equity Strategy Committee and has been a portfolio manager of the Fund since July 2008. Ms. Barton and Mr. Piantedosi are Vice Presidents of EVM and have been portfolio managers of the Fund since September 2014. Messrs. Allison and Piantedosi and Ms. Barton have managed other Eaton Vance portfolios for over five years. This information is provided as of the date of filing this report.

The following table shows, as of the Fund's most recent fiscal year end, the number of accounts each portfolio manager managed in each of the listed categories and the total assets (in millions of dollars) in the accounts managed within each category. The table also shows the number of accounts with respect to which the advisory fee is based on the performance of the account, if any, and the total assets (in millions of dollars) in those accounts.

| | Number of All Accounts | Total Assets of All Accounts | Number of Accounts Paying a Performance Fee | Total Assets of Accounts Paying a Performance Fee |
|---|------------------------------|---------------------------------|--|---|
| Michael A. Allison | | | | |
| Registered Investment Companies | 16 | \$ 29,333.2 | 0 | \$ 0 |
| Other Pooled Investment Vehicles | 14 | \$ 19,890.7 ⁽³⁾ | 0 | \$ 0 |
| Other Accounts | 10 | \$ 13.6 | 0 | \$ 0 |
| Yana S. Barton | | | | |
| Registered Investment Companies | 5 | \$ 17,403.9 | 0 | \$ 0 |
| Other Pooled Investment Vehicles | 15 | \$ 19,907.2 ⁽³⁾ | 0 | \$ 0 |
| Other Accounts | 7 | \$ 184.8 ⁽⁴⁾ | 0 | \$ 0 |
| Lewis R. Piantedosi⁽¹⁾⁽²⁾ | | | | |
| Registered Investment Companies | 6 | \$ 17,849.7 | 0 | \$ 0 |
| Other Pooled Investment Vehicles | 12 | \$ 14,055.9 ⁽³⁾ | 0 | \$ 0 |
| Other Accounts | 7 | \$ 184.8 ⁽⁴⁾ | 0 | \$ 0 |

- (1) This portfolio manager serves as portfolio manager of one or more registered investment companies that invests or may invest in one or more underlying registered investment companies in the Eaton Vance family of funds or other pooled investment vehicles sponsored by Eaton Vance. The underlying investment companies may be managed by this portfolio manager or another portfolio manager.
- (2) This portfolio manager provides advisory services for certain of the Other Accounts on a nondiscretionary or model basis.
- (3) Certain of these Other Pooled Investment Vehicles invest a substantial portion of their assets either in a registered investment company or in a separate pooled investment vehicle managed by this portfolio manager or another Eaton Vance portfolio manager.
- (4) For Other Accounts that are part of a wrap account program, the number of accounts is the number of sponsors for which the portfolio manager provides advisory services rather than the number of individual customer accounts within each wrap account program.

The following table shows the dollar range of Fund shares beneficially owned by each portfolio manager as of the Fund's most recent fiscal year end.

| Portfolio Manager | Dollar Range of Equity Securities Beneficially Owned in the Fund |
|---------------------|---|
| Michael A. Allison | \$10,001 – \$50,000 |
| Yana S. Barton | None |
| Lewis R. Piantedosi | None |

Potential for Conflicts of Interest. It is possible that conflicts of interest may arise in connection with a portfolio manager's management of the Fund's investments on the one hand and the investments of other accounts for which a portfolio manager is responsible on the other. For example, a portfolio manager may have conflicts of interest in allocating management time, resources and investment opportunities among the Fund and other accounts he or she advises. In addition, due to differences in the investment strategies or restrictions between the Fund and the other accounts, the portfolio manager may take action with respect to another account that differs from the action taken with respect to the Fund. In some cases, another account managed by a portfolio manager may compensate the investment

adviser based on the performance of the securities held by that account. The existence of such a performance based fee may create additional conflicts of interest for the portfolio manager in the allocation of management time, resources and investment opportunities. Whenever conflicts of interest arise, the portfolio manager will endeavor to exercise his or her discretion in a manner that he or she believes is equitable to all interested persons. EVM has adopted several policies and procedures designed to address these potential conflicts including a code of ethics and policies that govern the investment adviser's trading practices, including among other things the aggregation and allocation of trades among clients, brokerage allocations, cross trades and best execution.

Compensation Structure for EVM

Compensation of EVM's portfolio managers and other investment professionals has the following primary components: (1) a base salary, (2) an annual cash bonus, (3) annual non-cash compensation consisting of options to purchase shares of EVC nonvoting common stock and/or restricted shares of EVC nonvoting common stock that generally are subject to a vesting schedule and (4) (for equity portfolio managers) a Deferred Alpha Incentive Plan, which pays a deferred cash award tied to future excess returns in certain equity strategy portfolios. EVM's investment professionals also receive certain retirement, insurance and other benefits that are broadly available to EVM's employees. Compensation of EVM's investment professionals is reviewed primarily on an annual basis. Cash bonuses, stock-based compensation awards, and adjustments in base salary are typically paid or put into effect at or shortly after the October 31st fiscal year end of EVC.

Method to Determine Compensation. EVM compensates its portfolio managers based primarily on the scale and complexity of their portfolio responsibilities and the total return performance of managed funds and accounts versus the benchmark(s) stated in the prospectus, as well as an appropriate peer group (as described below). In addition to rankings within peer groups of funds on the basis of absolute performance, consideration may also be given to relative risk-adjusted performance. Risk-adjusted performance measures include, but are not limited to, the Sharpe Ratio (Sharpe Ratio uses standard deviation and excess return to determine reward per unit of risk). Performance is normally based on periods ending on the September 30th preceding fiscal year end. Fund performance is normally evaluated primarily versus peer groups of funds as determined by Lipper Inc. and/or Morningstar, Inc. When a fund's peer group as determined by Lipper or Morningstar is deemed by EVM's management not to provide a fair comparison, performance may instead be evaluated primarily against a custom peer group or market index. In evaluating the performance of a fund and its manager, primary emphasis is normally placed on three-year performance, with secondary consideration of performance over longer and shorter periods. For funds that are tax-managed or otherwise have an objective of after-tax returns, performance is measured net of taxes. For other funds, performance is evaluated on a pre-tax basis. For funds with an investment objective other than total return (such as current income), consideration will also be given to the fund's success in achieving its objective. For managers responsible for multiple funds and accounts, investment performance is evaluated on an aggregate basis, based on averages or weighted averages among managed funds and accounts. Funds and accounts that have performance-based advisory fees are not accorded disproportionate weightings in measuring aggregate portfolio manager performance. A portion of the compensation payable to equity portfolio managers and investment professionals will be determined based on the ability of one or more accounts managed by such manager to achieve a specified target average annual gross return over a three year period in excess of the account benchmark. The cash award to be payable at the end of the three year term will be established at the inception of the term and will be adjusted positively or negatively to the extent that the average annual gross return varies from the specified target return.

The compensation of portfolio managers with other job responsibilities (such as heading an investment group or providing analytical support to other portfolios) includes consideration of the scope of such responsibilities and the managers' performance in meeting them.

EVM seeks to compensate portfolio managers commensurate with their responsibilities and performance, and competitive with other firms within the investment management industry. EVM participates in investment-industry compensation surveys and utilizes survey data as a factor in determining salary, bonus and stock-based compensation levels for portfolio managers and other investment professionals. Salaries, bonuses and stock-based compensation are also influenced by the operating performance of EVM and its parent company. The overall annual cash bonus pool is generally based on a substantially fixed percentage of pre-bonus adjusted operating income. While the salaries of EVM's portfolio managers are comparatively fixed, cash bonuses and stock-based compensation may fluctuate significantly from year to year, based on changes in manager performance and other factors as described herein. For a high performing portfolio manager, cash bonuses and stock-based compensation may represent a substantial portion of total compensation.

Item 9. Purchases of Equity Securities by Closed-End Management Investment Company and Affiliated Purchasers

No such purchases this period.

Item 10. Submission of Matters to a Vote of Security Holders

No material changes.

Item 11. Controls and Procedures

(a) It is the conclusion of the registrant's principal executive officer and principal financial officer that the effectiveness of the registrant's current disclosure controls and procedures (such disclosure controls and procedures having been evaluated within 90 days of the date of this filing) provide reasonable assurance that the information required to be disclosed by the registrant has been recorded, processed, summarized and reported within the time period specified in the Commission's rules and forms and that the information required to be disclosed by the registrant has been accumulated and communicated to the registrant's principal executive officer and principal financial officer in order to allow timely decisions regarding required disclosure.

(b) There have been no changes in the registrant's internal controls over financial reporting during the second fiscal quarter of the period covered by this report that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

Item 12. Disclosure of Securities Lending Activities for Closed-End Management Investment Companies

The Fund does not engage in securities lending.

Item 13. Exhibits

- (a)(1) Registrant's Code of Ethics Not applicable (please see Item 2).
- (a)(2)(i) Treasurer's Section 302 certification.
- (a)(2)(ii) President's Section 302 certification.
- (b) Combined Section 906 certification.
- (c) Registrant's notices to shareholders pursuant to Registrant's exemptive order granting an exemption from Section 19(b) of the 1940 Act and Rule 19b-1 thereunder regarding distributions paid pursuant to the Registrant's Managed Distribution Plan.

Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Eaton Vance Enhanced Equity Income Fund II

By: /s/ Edward J. Perkin
Edward J. Perkin
President

Date: February 25, 2019

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By: /s/ James F. Kirchner
James F. Kirchner
Treasurer

Date: February 25, 2019

By: /s/ Edward J. Perkin
Edward J. Perkin
President

Date: February 25, 2019