

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

Pioneer Diversified High Income Trust
Form N-CSRS
December 29, 2016

OMB APPROVAL
OMB Number: 3235-0570
Expires: January 31, 2017
Estimated average burden
hours per response.....20.6

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 811-22014

Pioneer Diversified High Income Trust
(Exact name of registrant as specified in charter)

60 State Street, Boston, MA 02109
(Address of principal executive offices) (ZIP code)

Terrence J. Cullen, Pioneer Investment Management, Inc.,
60 State Street, Boston, MA 02109
(Name and address of agent for service)

Registrant's telephone number, including area code: (617) 742-7825

Date of fiscal year end: April 30

Date of reporting period: May 1, 2016 through October 31, 2016

Form N-CSR is to be used by management investment companies to file reports with the Commission not later than 10 days after the transmission to stockholders of any report that is required to be transmitted to stockholders under Rule 30e-1 under the Investment Company Act of 1940 (17 CFR 270.30e-1). The Commission may use the information provided on Form N-CSR in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-CSR, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-CSR unless the Form displays a currently valid Office of Management and Budget ("OMB") control number. Please direct comments concerning the accuracy of the information collection burden estimate and any suggestions for reducing the burden to Secretary, Securities and Exchange Commission, 450 Fifth Street, NW, Washington, DC 20549-0609. The OMB has reviewed this collection of information

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

under the clearance requirements of 44 U.S.C. ss. 3507.

ITEM 1. REPORTS TO STOCKHOLDERS.

Pioneer Diversified
High Income Trust

Semiannual Report | October 31, 2016

Ticker Symbol: HNW

[LOGO] PIONEER
Investment (R)

visit us: us.pioneerinvestments.com

Table of Contents

| | |
|---|----|
| President's Letter | 2 |
| Portfolio Management Discussion | 4 |
| Portfolio Summary | 11 |
| Prices and Distributions | 12 |
| Performance Update | 13 |
| Schedule of Investments | 14 |
| Financial Statements | 47 |
| Financial Highlights | 51 |
| Notes to Financial Statements | 53 |
| Approval of Investment Advisory Agreement | 68 |
| Trustees, Officers and Service Providers | 72 |

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 1

President's Letter

Dear Shareowner,

While investors were greeted with a challenging market environment for the first several weeks of the new year, the U.S. market generated modest single-digit returns for both stocks and bonds through September 30th (the Bloomberg Barclays Aggregate Bond Index was up by 5.8% through September 30, 2016, and the Standard & Poor's 500 Index was up by 7.8%). Yet, it is becoming increasingly clear that the investment landscape is undergoing significant change. For the past eight

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

years, global central banks have been the dominant force in the markets by maintaining government bond yields at close to zero in an effort to stimulate economic growth. With little room to lower rates further, however, central banks may be losing their effectiveness. Many economies around the world are experiencing slow growth as they face a variety of challenges, including the shifting geopolitics driving "Brexit" - the United Kingdom's pending exit from the European Union - as well as related movements in Europe, limited productivity gains, aging populations, and transitioning economic models in China and other emerging markets. In the United States, gross domestic product (GDP) grew at a rate of approximately 1.2% in the first half of 2016, but GDP growth registered a strong uptick in the third quarter of the year, driven primarily by U.S. consumers.

Investors currently face a difficult environment. Government bond yields, as noted earlier, had been near zero for most of the year and offered minimal opportunity to produce income. However, recent developments such as the Federal Reserve's decision to increase the Federal funds rate before the end of 2016 have driven yields slightly higher. The central bank-driven bull market in riskier assets has pushed up valuations towards historic highs in the equity and investment-grade and high-yield corporate bond markets. Central banks have pledged to move gradually to normalize interest-rate policies as the global economy recovers, but it will take many years for this historic credit cycle to unwind. Politics may also influence markets or investor sentiment given the current global political landscape. Donald Trump's surprising victory in the November U.S. presidential election seems to have sparked a late-year market rally, given the pro-growth proposals he promoted on the campaign trail, but it is unclear just how many of his policy initiatives will be implemented. In addition, continued challenges with Brexit and other geopolitical issues have the potential to increase market volatility going forward. Against this backdrop, investors are likely to face ongoing challenges when it comes to finding opportunities for both income and capital appreciation, and while much has been made of passive investing, we believe all investment decisions are active choices.

2 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Throughout Pioneer's history, we have believed in the importance of active management. During challenging market conditions, we view the value of active management as even more compelling. Our experienced and tenured investment teams focus on identifying value across global markets using proprietary research, careful risk management, and a long-term perspective. We believe our shareowners can benefit from the experience and tenure of our investment teams as well as the insights generated from our extensive research process.

As always, and particularly during times of market uncertainty, we encourage you to work with your financial advisor to develop an overall investment plan that addresses both your short- and long-term goals, and to implement such a plan in a disciplined manner.

We greatly appreciate the trust you have placed in us and look forward to continuing to serve you in the future.

Sincerely,

/s/ Lisa M. Jones

Lisa M. Jones
President and CEO
Pioneer Investment Management USA Inc.
December 19, 2016

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

Any information in this shareowner report regarding market or economic trends or the factors influencing the Fund's historical or future performance are statements of opinion as of the date of this report. Past performance is no guarantee of future results.

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 3

Portfolio Management Discussion | 10/31/16

Credit-sensitive and cyclically sensitive securities produced generally strong results in the global markets during the six-month period ended October 31, 2016. In the following interview, Andrew Feltus, Charles Melchreit, Jonathan Sharkey, and Chin Liu discuss the factors that affected the performance of Pioneer Diversified High Income Trust during the six-month period. Mr. Feltus, Director of High Yield and Bank Loans, a senior vice president and a portfolio manager at Pioneer; Mr. Melchreit, Director of Investment-Grade Management, a senior vice president and a portfolio manager at Pioneer; Mr. Sharkey, a senior vice president and a portfolio manager at Pioneer; and Mr. Liu, a vice president and a portfolio manager at Pioneer, are responsible for the day-to-day management of the Trust.

Q How did the Trust perform during the six months ended October 31, 2016?

A Pioneer Diversified High Income Trust returned 9.73% at net asset value and 7.04% at market price during the six-month period ended October 31, 2016. During the same six-month period, the Trust's custom benchmark returned 4.78%. The custom benchmark is based on equal weights of the Bank of America Merrill Lynch (BofA ML) Global High Yield and Emerging Markets Plus (GHY and EMP) Index, which returned 4.69% at net asset value during the six-month period, and the Credit Suisse (CS) Leveraged Loan Index, which returned 4.87%. Unlike the Trust, the custom benchmark does not use leverage. While the use of leverage increases investment opportunity, it also increases investment risk.

During the same six-month period, the average return (at market price) of the 32 closed end funds in Lipper's High Yield Closed End Funds Category (which may or may not be leveraged) was 9.00%, and the average return (at market price) of the 22 closed end funds in Lipper's Loan Participation Closed End Funds Category (which may or may not be leveraged) was 10.32%. In addition, the average return (at market price) of the 40 closed end funds in Morningstar's High Yield Bond Funds Category (which may or may not be leveraged) was 7.60%, and the average return (at market price) of the 27 closed end funds in Morningstar's Bank Loan Funds Category (which may or may not be leveraged), was 11.18%.

The shares of the Trust were selling at a 7.83% discount to net asset value at the end of the period on October 31, 2016.

On October 31, the 30-day SEC yield on the Trust's shares was 12.80%*.

* The 30-day SEC yield is a standardized formula that is based on the hypothetical annualized earning power (investment income only) of the Trust's portfolio securities during the period indicated.

4 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Q How would you describe the investment environment in the fixed-income markets during the six-month period ended October 31, 2016?

A Higher-yielding, more credit-sensitive securities rallied for most of the

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

six-month period, carrying forward the positive momentum established in February 2016, prior to the start of the period, when oil and other commodity prices began rising. At the same time, investors took encouragement from signs of improvement in the global economy and the U.S. Federal Reserve System's (the Fed's) decision to make a single, small hike in the Federal funds rate in December 2015.

The only noteworthy interruption in the rally occurred in the latter part of June, when the markets reacted to the unexpected news that the British electorate had voted in favor of exiting the European Union ("Brexit"). While the initial market reaction to Brexit was extremely negative, it was short-lived (about two days), and corporate debt quickly recovered, with domestic high-yield corporate bonds and emerging markets debt performing particularly well over the full period, led by the energy and metals & mining sectors. Most other credit-linked debt, including bank loans and investment-grade corporates, also tended to perform well during the period, although securities denominated in the British pound and the euro tended to underperform domestic and emerging markets debt due to the fallout over the Brexit vote.

Q What factors affected the Trust's performance relative to its customized benchmark during the six-month period ended October 31, 2016?

A Led by high-yield energy and metals & mining industry bonds, the U.S. high-yield market outperformed other fixed-income markets during the period. The Trust's relatively large overweight in U.S. high yield, therefore, was a key driver of benchmark-relative outperformance over the six-month period. In addition, solid security selection results within the high-yield corporates allocation benefited the Trust's benchmark-relative returns. The Trust's exposure to emerging markets debt, especially emerging markets corporates, also lent strong support to the Trust's benchmark-relative performance. We de-emphasized both British and European securities as well as their underlying currencies in the portfolio during the period, which was another factor that aided the Trust's performance relative to the benchmark, as the six-month period was a weak one for both European-based securities and currencies.

The Trust's use of leverage, or borrowed funds, also provided solid support to benchmark-relative returns. The use of leverage increases risk and has the effect of amplifying the size of market swings on the portfolio. Just as the use of leverage can exaggerate negative results during market downturns

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 5

when prices of higher-yielding bonds decline, leverage can also enhance gains when high-yield and emerging markets bond prices rise, as they did during the six-month period.

As part of our diversification** strategy, we maintained a healthy exposure to insurance-linked securities in the Trust's portfolio during the period. The performance of insurance-linked debt derives from the claims experience of property-and-casualty insurers. These securities, including so-called "catastrophe bonds," which cover natural disasters, generated solid results for the Trust during the six months, and benefited benchmark-relative performance. The portfolio's positions in floating-rate bank loans also aided the Trust's benchmark-relative results during the period, returning 5.55% over the six months, compared with a return of 4.87% for the CS Leveraged Loan Index. The returns of the bank-loan positions derived primarily from the rebound in the energy sector and solid gains in consumer non-cyclicals and capital goods.

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

In addition, while the Trust's investments in emerging markets currencies tended to help benchmark-relative results, one notable exception was the portfolio's exposure to the Mexican peso, which underperformed during the six-month period and detracted from performance.

Finally, the Trust's short-duration position aided benchmark-relative performance during the period. (Duration is a measure of the sensitivity of the price, or the value of principal, of a fixed-income investment to a change in interest rates, expressed as a number of years.)

Q What were some of the individual investments in the Trust's portfolio that had noteworthy impacts on the Trust's performance, either positively or negatively, during the six-month period ended October 31, 2016?

A Security selection results, in general, were successful and contributed positively to the Trust's benchmark-relative performance during the period, led by portfolio positions in the high-yield debt of energy and utilities issuers. In energy, the two strongest performers for the Trust were the debt of Williams Companies, a pipeline corporation, and of Sanchez Energy, an exploration-and-production company based in Texas. Among utilities holdings in the portfolio, top performers included bonds of Terraform Power and Terraform Global, two clean-energy utilities. Both companies were spinoffs of SunEdison, a producer of solar energy equipment that subsequently went bankrupt. Analysts were concerned that the relationship between SunEdison and the spin-offs could put the assets of Terraform Power and Terraform Global at risk, but SunEdison's declaration of bankruptcy provided a clearer picture of the company's situation, and the market ultimately gained confidence that SunEdison's issues would not

** Diversification does not assure a profit nor protect against loss.

6 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

negatively affect the performance of the spin-offs. As a result, the bonds of Terraform Power and Terraform Global rallied.

Underperforming securities in the Trust's portfolio during the period included bonds issued by California Resources, an exploration-and-production company. The company's bonds lost value after it swapped some of its debt for second-lien loans. In addition, the debt of utility firm Talen Energy performed poorly amid investor concerns about the company's business strategy. Among the Trust's European high-yield holdings, bonds of Valeant Pharmaceuticals lost value during the period and detracted from benchmark-relative performance.

Q How did the level of leverage in the Trust change over the six-month period ended October 31, 2016?

A The Trust employs leverage through a credit agreement.

At the end of the six-month period on October 31, 2016, 28.3% of the Trust's total managed assets were financed by leverage (or borrowed funds), compared with 29.1% of the Trust's total managed assets financed by leverage at the start of the period on May 1, 2016. The absolute amount of funds borrowed by the Trust did not change. The reduction in the percentage of leveraged funds was the result of appreciation in the value of the Trust's holdings.

Q Did the Trust invest in any derivative securities during the six-month period ended October 31, 2016? If so, did the use of derivatives have a

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

material impact on benchmark-relative performance?

A We did invest in currency forward transactions during the period to hedge the value of the portfolio's holdings in foreign currencies. The currency forwards had a positive effect on the Trust's benchmark-relative performance by offsetting declines in the value of the euro during the period.

Q Did the Trust's yield, or distributions to shareholders, change during the six-month period ended October 31, 2016?

A The Trust's distributions to shareholders were unchanged and remained stable during the six-month period. We should note, however, that the Trust has drawn on accumulated net investment income in paying the Trust's distributions in recent periods, but these reserves may be depleted over time.

Q What is your investment outlook?

A Going forward, we think the market participants will be less reliant on the direction of monetary policy and more attentive to fiscal policy; that is, taxes and spending rather than money supply and interest rates. That could lead to a steepening of the yield curve, with greater space between the yields

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 7

of longer-maturity and shorter-maturity securities. We have already begun to see evidence of that, in fact, as longer-maturity yields have risen in recent weeks. In response, we have maintained a short-duration stance, relative to the benchmarks, to protect the portfolio against a back-up in interest rates, which would undermine the principal of longer-maturity debt.

The election of Donald Trump as the next U.S. President several days after the conclusion of the Trust's six-month period surprised the financial markets. Prior to the election, however, we had already been positioning the Trust in anticipation of increased financial stimulus from the U.S. government - even though most observers expected the Fed to tighten monetary policy by raising the Federal funds rate before the end of the calendar year - as both presidential candidates had called for more infrastructure spending during the election season. Increased government spending would likely create more jobs as well as possibly stimulate additional economic activity. At the same time, we expect that we may see more volatility in the financial markets resulting not only from policy uncertainties in the United States, but also from abroad, including concerns over upcoming elections and referenda in Europe.

In managing the Trust, we intend to maintain a highly diversified portfolio, with exposures to domestic and international high-yield bonds, both corporate and government (sovereign) bonds in the emerging markets, floating-rate bank loans, and insurance-linked debt. Domestic high-yield bonds appear somewhat more expensive on the margins following their robust rally in recent months. Floating-rate bank loans, meanwhile, appear attractively priced and have the added benefit of offering increasing yield if the Fed, as expected, begins acting more aggressively to raise short-term rates. Meanwhile, catastrophe bonds, the performance of which is tied to the incidence of property damage claims related to natural disasters, have become more expensive recently, and so we expect to focus on owning only those insurance-linked instruments that we feel offer attractive risk-adjusted returns.

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

8 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Please refer to the Schedule of Investments on pages 14-46 for a full listing of Trust securities.

All investments are subject to risk, including the possible loss of principal. In the past several years, financial markets have experienced increased volatility, depressed valuations, decreased liquidity and heightened uncertainty. These conditions may continue, recur, worsen or spread.

Investments in high-yield or lower-rated securities are subject to greater-than-average risk. The Trust may invest in securities of issuers that are in default or that are in bankruptcy.

Investing in foreign and/or emerging markets securities involves risks relating to interest rates, currency exchange rates, economic, and political conditions.

When interest rates rise, the prices of debt securities in the Trust will generally fall. Conversely, when interest rates fall the prices of debt securities in the Trust generally will rise. Investments in the Trust are subject to possible loss due to the financial failure of the issuers of the underlying securities and the issuers' inability to meet their debt obligations.

Interest rates in the U.S. recently have been historically low, so the Trust faces a heightened risk that interest rates may rise. A general rise in interest rates may cause investors to move out of fixed income securities on a large scale, which could adversely affect the price and liquidity of fixed income securities.

The Trust may invest a significant amount of its total assets in illiquid securities. Illiquid securities may be difficult to dispose of at a price reflective of their value at the times when the Trust believes it is desirable to do so and the market price of illiquid securities is generally more volatile than that of more liquid securities. Illiquid securities also are more difficult to value, and investment of the Trust's assets in illiquid securities may restrict the Trust's ability to take advantage of market opportunities.

The Trust is authorized to borrow from banks and issue debt securities, which are forms of leverage. Leverage creates significant risks, including the risk that the Trust's incremental income or capital appreciation for investments purchased with the proceeds of leverage will not be sufficient to cover the cost of the leverage, which may adversely affect the return for shareholders.

The Trust is required to maintain certain regulatory and other asset coverage requirements in connection with its use of leverage. In order to maintain required asset coverage levels, the Trust may be required to reduce the amount of leverage employed by the Trust, alter the composition of its investment portfolio or take other actions at what might be inopportune times in the market. Such actions could reduce the net earnings or returns to shareowners over time, which is likely to result in a decrease in the market value of the Trust's shares.

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 9

Certain securities in which the Trust invests, including floating rate loans, once sold, may not settle for an extended period (for example, several weeks or even longer). The Trust will not receive its sale proceeds until that time, which may constrain the Trust's ability to meet its obligations.

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

Insurance-linked securities may include event-linked bonds (also known as insurance-linked bonds or catastrophe bonds). The return of principal and the payment of interest on event-linked bonds are contingent on the non-occurrence of a predefined "trigger" event that leads to physical or economic loss, such as a hurricane or an aerospace catastrophe.

Risks of investing in the Trust are discussed in greater detail in the Trust's original offering prospectus and in shareowner reports issued from time to time.

These risks may increase share price volatility.

Any information in this shareholder report regarding market or economic trends or the factors influencing the Fund's historical or future performance are statements of opinion as of the date of this report. Past performance is no guarantee of future results.

10 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Portfolio Summary | 10/31/16

Portfolio Diversification*

(As a percentage of total investment portfolio)

[THE FOLLOWING DATA WAS REPRESENTED AS A PIE CHART IN THE PRINTED MATERIAL]

| | |
|---|-------|
| Corporate Bonds & Notes | 62.9% |
| Senior Secured Floating Rate Loan Interests | 23.0% |
| U.S. Government And Agency Obligation | 3.9% |
| Commercial Mortgage-Backed Securities | 2.2% |
| Convertible Bonds & Notes | 1.6% |
| Sovereign Debt Obligations | 1.5% |
| Treasury Bill | 1.1% |
| Preferred Stocks | 1.0% |
| Asset Backed Securities | 0.8% |
| Commercial Papers | 0.5% |
| Tax Exempt Obligation | 0.5% |
| Collateralized Mortgage Obligations | 0.4% |
| Convertible Preferred Stock | 0.3% |
| Certificate Of Deposit | 0.2% |
| Common Stocks | 0.1% |
| Warrant | 0.0%+ |
| Call Options Purchased | 0.0%+ |

* Includes investments in Insurance Linked Securities totaling 16.7% of total investment portfolio.

+ Amount rounds to less than 0.1%.

10 Largest Holdings

(As a percentage of total long-term holdings)**

1. U.S. Treasury Notes, 0.54%, 4/30/18

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

-
2. Fixed Income Trust Series 2013-A, 0.0%, 10/15/97 (144A)

 3. Gleneagles Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 11/30/20

 4. Gullane Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 11/30/20

 5. Pangaea Re Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 12/20/16

 6. Pangaea Re Segregated Account (Artex SAC, Ltd.), Series 2016-1, Variable Rate Notes, 2/1/20

 7. Queen Street X Re, Ltd., 6.054%, 6/8/18 (144A) (Cat Bond)

 8. East Lane Re VI, Ltd., 2.954%, 3/14/18 (144A) (Cat Bond)

 9. Hercules, Inc., 6.5%, 6/30/29

 10. Minerva Luxembourg SA, 7.75%, 1/31/23 (144A)

** This list excludes temporary cash investments and derivative instruments. The portfolio is actively managed, and current holdings may be different. The holdings listed should not be considered recommendations to buy or sell any security listed.

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 11

Prices and Distributions | 10/31/16

Market Value per Share

| | 10/31/16 | 4/30/16 |
|--------------|----------|---------|
| Market Value | \$16.00 | \$15.60 |
| (Discount) | (7.8)% | (6.2)% |

Net Asset Value per Share

| | 10/31/16 | 4/30/16 |
|-----------------|----------|---------|
| Net Asset Value | \$17.35 | \$16.63 |

Distributions per Share*

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | Net Investment Income | Short-Term Capital Gains | Long-Term Capital Gains |
|-------------------|--------------------------|-----------------------------|----------------------------|
| 5/1/16 - 10/31/16 | \$0.69 | \$ -- | \$ -- |

Yields

| | 10/31/16 | 4/30/16 |
|------------------|----------|---------|
| 30-Day SEC Yield | 12.80% | 9.03% |

The data shown above represents past performance, which is no guarantee of future results.

* The amount of distributions made to shareowners during the period was in excess of the net investment income earned by the Trust during the period. The Trust has accumulated undistributed net investment income which is part of the Trust's NAV. A portion of this accumulated net investment income was distributed to shareowners during the period. A decrease in distributions may have a negative effect on the market value of the Trust's shares.

12 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Performance Update | 10/31/16

Investment Returns

The mountain chart on the right shows the change in market value, plus reinvested dividends and distributions, of a \$10,000 investment made in shares of Pioneer Diversified High Income Trust during the periods shown, compared to that of the combined (50%/50%) Bank of America Merrill Lynch Global High Yield and Emerging Markets Plus Index (BofA ML Global HY and EMP Index) and the Credit Suisse (CS) Leveraged Loan Index.

Average Annual Total Returns
(As of October 31, 2016)

| Period | Net Asset Value (NAV) | Market Price | 50% BofA ML Global HY and EMP Index/ 50% CS Leveraged Loan Index |
|--------|--------------------------------|-----------------|--|
| | | | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | | |
|---------------|-------|-------|-------|
| Life of Trust | | | |
| (5/30/2007) | 7.76% | 6.31% | 5.47% |
| 5 years | 8.31 | 6.06 | 5.68 |
| 1 year | 11.79 | 14.57 | 7.58 |

[THE FOLLOWING DATA WAS REPRESENTED AS A MOUNTAIN CHART IN THE PRINTED MATERIAL]

Value of \$10,000 Investment

| | Pioneer Diversified High Income Trust | 50% BofA ML Global HY and EMP Index 50% CS Leveraged Loan Index |
|-------|--|--|
| 10/06 | \$10,000 | \$10,000 |
| 10/07 | \$ 8,661 | \$10,631 |
| 10/08 | \$ 6,149 | \$ 8,142 |
| 10/09 | \$ 9,362 | \$11,211 |
| 10/10 | \$12,687 | \$12,828 |
| 10/11 | \$13,259 | \$13,278 |
| 10/12 | \$15,197 | \$14,803 |
| 10/13 | \$17,562 | \$15,839 |
| 10/14 | \$18,676 | \$16,499 |
| 10/15 | \$15,532 | \$16,269 |
| 10/16 | \$17,794 | \$17,503 |

Call 1-800-225-6292 or visit us.pioneerinvestments.com for the most recent month-end performance results. Current performance may be lower or higher than the performance data quoted.

Performance data shown represents past performance. Past performance is no guarantee of future results. Investment return and market price will fluctuate, and your shares may trade below NAV due to such factors as interest rate changes and the perceived credit quality of borrowers.

Total investment return does not reflect broker sales charges or commissions. All performance is for common shares of the Trust.

Shares of closed-end funds, unlike open-end funds, are not continuously offered. There is a one-time public offering and, once issued, shares of closed-end funds are bought and sold in the open market through a stock exchange and frequently trade at prices lower than their NAV. NAV per share is total assets less total liabilities, which include preferred shares or borrowings, as applicable, divided by the number of common shares outstanding.

When NAV is lower than market price, dividends are assumed to be reinvested at the greater of NAV or 95% of the market price. When NAV is higher, dividends are assumed to be reinvested at prices obtained through open-market purchases under the Trust's dividend reinvestment plan.

The performance table and graph do not reflect the deduction of fees and taxes that a shareowner would pay on Trust distributions or the sale of Trust shares. Had these fees and taxes been reflected, performance would have been lower.

The BofA ML Global High Yield and Emerging Markets Plus Index is an unmanaged index that tracks the performance of the below- and border-line investment-grade global debt markets denominated in the major developed market currencies. The

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

Index includes sovereign issuers rated BBB1 and lower along with corporate issues rated BB1 and lower. There are no restrictions on issuer country of domicile. The CS Leveraged Loan Index is unmanaged and is designed to mirror the investible universe of the U.S. dollar-denominated leveraged loan market. The CS Leveraged Loan Index consists of tradable term loans with at least one year to maturity and rated BBB or lower.

Index returns are calculated monthly, assume reinvestment of dividends and, unlike Trust returns, do not reflect any fees, expenses or sales charges. The indices do not use leverage. It is not possible to invest directly in an index.

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 13

Schedule of Investments | 10/31/16 (unaudited)

| Principal Amount USD (\$) | | Value |
|------------------------------|---|-------|
| | ASSET BACKED SECURITIES -- 1.1% of Net Assets | |
| 250,000 | American Credit Acceptance Receivables Trust, Series 2014-2, Class D, 4.96%, 5/10/21 (144A) | \$ |
| 299,996 | Axis Equipment Finance Receivables III LLC, Series 2015-1A, Class E, 5.27%, 5/20/20 (144A) | |
| 80,239 | Continental Airlines Pass Through Trust, Series 1998-1, Class B, 6.748%, 3/15/17 | |
| 400,000 (a) | NCF Dealer Floorplan Master Trust, Series 2016-1A, Class C, 9.026%, 3/21/22 (144A) | |
| 500,000 | VB-S1 Issuer LLC, Series 2016-1A, Class F, 6.901%, 6/15/46 (144A) | |
| | TOTAL ASSET BACKED SECURITIES (Cost \$1,513,798) | \$ |
| | COLLATERALIZED MORTGAGE OBLIGATIONS -- 0.5% of Net Assets | |
| 54,163 | Global Mortgage Securitization, Ltd., Series 2004-A, Class B1, 5.25%, 11/25/32 (144A) | \$ |
| 109,454 | Global Mortgage Securitization, Ltd., Series 2005-A, Class B3, 5.25%, 4/25/32 (144A) | |
| 290,000 (b) | GMAT Trust, Series 2013-1A, Class M, 5.0%, 11/25/43 (144A) | |
| 315,602 (c) | GMAT Trust, Series 2015-1A, Class A1, 4.25%, 9/25/20 (144A) | |
| | TOTAL COLLATERALIZED MORTGAGE OBLIGATIONS (Cost \$745,338) | \$ |
| | COMMERCIAL MORTGAGE-BACKED SECURITIES -- 3.1% of Net Assets | |
| 375,000 (a) | BAMLL Commercial Mortgage Securities Trust, Series 2014-INLD, Class F, 3.037%, 12/15/29 (144A) | \$ |
| 135,696 (b) | Bear Stearns Commercial Mortgage Securities Trust, Series 2005-PWR7, Class B, 5.214%, 2/11/41 | |
| 260,000 (a) | CFCRE Mortgage Trust, Series 2015-RUM, Class E, 5.135%, 7/15/30 (144A) | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | |
|-------------|--|
| 500,000 (b) | Citigroup Commercial Mortgage Trust, Series 2014-GC23, Class E, 3.208%, 7/10/47 (144A) |
| 500,000 (b) | COBALT CMBS Commercial Mortgage Trust, Series 2007-C3, Class C, 5.758%, 5/15/46 |
| 300,000 (b) | COMM Mortgage Trust, Series 2007-C9, Class H, 5.813%, 12/10/49 (144A) |
| 250,000 (b) | COMM Mortgage Trust, Series 2012-CR2, Class E, 4.855%, 8/15/45 (144A) |
| 370,451 (a) | EQTY Mezzanine Trust, Series 2014-INMZ, Class M, 5.28%, 5/8/31 (144A) |
| 170,000 (a) | EQTY Mortgage Trust, Series 2014-INNS, Class E, 3.98%, 5/8/31 (144A) |

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

14 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Principal
Amount
USD (\$)

Value

| Principal Amount USD (\$) | | Value |
|---------------------------|--|-------|
| | COMMERCIAL MORTGAGE-BACKED SECURITIES -- (continued) | |
| 103,851 | Homeowner Assistance Program Reverse Mortgage Loan Trust, Series 2013-RM1, Class A, 4.0%, 5/26/53 (144A) | \$ |
| 150,000 | JP Morgan Chase Commercial Mortgage Securities Trust, Series 2006-CB16, Class AJ, 5.623%, 5/12/45 | |
| 550,000 (a) | JP Morgan Chase Commercial Mortgage Securities Trust, Series 2014-INN, Class E, 4.135%, 6/15/29 (144A) | |
| 475,889 (b) | LB-UBS Commercial Mortgage Trust, Series 2006-C1, Class AJ, 5.276%, 2/15/41 | |
| 500,000 (b) | Morgan Stanley Capital I Trust, Series 2007-T25, Class AJ, 5.574%, 11/12/49 | |
| 250,000 | Wells Fargo Commercial Mortgage Trust, Series 2016-BNK1, Class D, 3.0%, 8/15/49 (144A) | |

| | | |
|--|---|----|
| | TOTAL COMMERCIAL MORTGAGE-BACKED SECURITIES (Cost \$4,525,603) | \$ |
|--|---|----|

| Principal Amount USD (\$) | | Value |
|---------------------------|---|-------|
| | SENIOR SECURED FLOATING RATE LOAN INTERESTS -- 32.3% of Net Assets* (a) | |
| | AUTOMOBILES & COMPONENTS -- 2.2% | |
| | Auto Parts & Equipment -- 1.3% | |
| 346,037 | Electrical Components International, Inc., Term Loan, 5.75%, 5/28/21 | \$ |
| 183,646 | Federal-Mogul Corp., Tranche C Term Loan, 4.75%, 4/15/21 | |
| 152,568 | Key Safety Systems, Inc., Initial Term Loan, 5.5%, 8/29/21 | |
| 250,738 | MPG Holdco I, Inc., Initial Term Loan, 3.75%, 10/20/21 | |
| 177,750 | TI Group Automotive Systems LLC, Initial US Term Loan, 4.5%, 6/30/22 | |
| 783,804 | Tower Automotive Holdings USA LLC, Refinancing Term Loan, 4.0%, 4/23/20 | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | \$ |
|---------|---|----|
| | Automobile Manufacturers -- 0.7% | |
| 839,209 | Chrysler Group LLC, Term Loan B, 3.5%, 5/24/17 | \$ |
| 158,135 | Inteva Products LLC, Term B Loan, 9.75%, 9/8/21 | |
| | | \$ |
| | Tires & Rubber -- 0.2% | |
| 287,500 | Goodyear Tire & Rubber Co., Second Lien Term Loan, 3.86%, 4/30/19 | \$ |
| | Total Automobiles & Components | \$ |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 15

Schedule of Investments | 10/31/16 (unaudited) (continued)

| Principal Amount USD (\$) | | Value |
|---------------------------------|---|-------|
| | CAPITAL GOODS -- 4.0% | |
| | Aerospace & Defense -- 1.1% | |
| 401,237 | Accudyne Industries Borrower SCA/Accudyne Industries LLC, Refinancing Term Loan, 0.0%, 12/13/19 | \$ |
| 299,244 | DAE Aviation Holdings, Inc., Initial Term Loan, 5.25%, 7/7/22 | |
| 525,000 | DynCorp International, Inc., Term Loan B2, 7.75%, 7/7/20 | |
| 227,822 | Vencore, Inc. (fka SI Organization, Inc.), Initial First Lien Term Loan, 5.75%, 11/23/19 | |
| 157,600 | WP CPP Holdings LLC, Second Lien Term Loan B-1, 8.75%, 4/30/21 | |
| | | \$ |
| | Building Products -- 0.8% | |
| 780,743 | Builders FirstSource, Inc., Initial Term Loan, 4.75%, 7/31/22 | \$ |
| 391,096 | Unifrax Holding Co., New Term B Dollar Loan, 4.25%, 11/28/18 | |
| | | \$ |
| | Construction Machinery & Heavy Trucks -- 0.3% | |
| 386,100 | Navistar, Inc., Tranche B Term Loan, 6.5%, 8/7/20 | \$ |
| | Electrical Components & Equipment -- 0.3% | |
| 418,585 | WireCo WorldGroup, Inc., Initial First Lien Term Loan, 6.5%, 9/29/23 | \$ |
| | Industrial Conglomerates -- 0.6% | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|---------|---|-------------|
| 398,303 | Doosan Infracore International, Inc. (Doosan Holdings Europe, Ltd.), Tranche B Term Loan, 4.5%, 5/28/21 | \$ |
| 500,000 | DTI Holdco, Inc., Initial Term Loan, 0.0%, 10/2/23 | |
| 10,552 | Kleopatra Holdings 2 SCA, Initial German Borrower Dollar Term Loan, 4.25%, 4/28/20 | |
| 24,691 | Kleopatra Holdings 2 SCA, Initial US Dollar Term Loan, 4.25%, 4/28/20 | |
| | | ----- \$ |
| | Industrial Machinery -- 0.5% | |
| 189,525 | Blount International, Inc., Initial Term Loan, 7.25%, 4/12/23 | \$ |
| 495,000 | NN, Inc., Tranche B Term Loan, 5.0%, 10/19/22 | |
| | | ----- \$ |
| | Trading Companies & Distributors -- 0.4% | |
| 280,735 | AWAS Finance Luxembourg 2012 SA, Term Loan, 3.63%, 7/16/18 | \$ |

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

16 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| Principal Amount USD (\$) | | Value |
|------------------------------|---|-------------|
| | Trading Companies & Distributors -- (continued) | |
| 235,736 | WESCO Distribution, Inc., Tranche B-1 Loan, 3.75%, 12/12/19 | \$ |
| | | ----- \$ |
| | Total Capital Goods | ----- \$ |
| | COMMERCIAL & PROFESSIONAL SERVICES -- 0.6% | |
| | Environmental & Facilities Services -- 0.5% | |
| 500,000 | Granite Acquisition, Inc., Second Lien Term B Loan, 8.25%, 12/19/22 | \$ |
| 300,000 | Safway Group Holding LLC, Initial Term Loan, 5.75%, 8/21/23 | |
| | | ----- \$ |
| | Security & Alarm Services -- 0.1% | |
| 126,614 | Protection One, Inc., First Lien Term B Loan, 4.75%, 7/1/21 | \$ |
| | | ----- \$ |
| | Total Commercial & Professional Services | ----- \$ |
| | CONSUMER DURABLES & APPAREL -- 0.6% | |
| | Consumer Electronics -- 0.2% | |
| 315,000 | Redbox Automated Retail LLC, First Lien Term B Loan, 0.0%, 9/27/21 | \$ |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|---------|--|----|
| 150,000 | Home Furnishings -- 0.1% Serta Simmons Holdings LLC, Second Lien Term Loan, 0.0%, 10/21/24 | \$ |
| 250,000 | Housewares & Specialties -- 0.2% GP Investments Acquisition Corp., Term Loan, 0.0%, 6/22/23 | \$ |
| 164,514 | Leisure Products -- 0.1% Bombardier Recreational Products, Inc., Term B Loan, 3.75%, 6/30/23 | \$ |
| | Total Consumer Durables & Apparel | \$ |
| 294,750 | CONSUMER SERVICES -- 2.1% Casinos & Gaming -- 0.2% Scientific Games International, Inc., Initial Term B-2 Loan, 6.0%, 10/1/21 | \$ |
| 315,635 | Education Services -- 0.5% Cengage Learning Acquisitions, Inc., 2016 Refinancing Term Loan, 5.25%, 6/7/23 | \$ |
| 480,541 | Laureate Education, Inc., Series 2021 Extended Term Loan, 8.868%, 3/17/21 | \$ |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 17

Schedule of Investments | 10/31/16 (unaudited) (continued)

| Principal Amount USD (\$) | | Value |
|---------------------------------|---|-------|
| 378,010 | Leisure Facilities -- 0.3% Fitness International LLC, Term B Loan, 6.0%, 7/1/20 | \$ |
| 246,513 | Restaurants -- 0.6% Landry's, Inc. (fka Landry's Restaurants, Inc.), Term Loan B, 4.0%, 10/4/23 | \$ |
| 529,800 | NPC International, Inc., Term Loan, 4.75%, 12/28/18 | \$ |
| 742,500 | Specialized Consumer Services -- 0.5% KC MergerSub, Inc., Term B-1 Loan, 5.25%, 8/12/22 | \$ |
| | Total Consumer Services | \$ |
| | DIVERSIFIED FINANCIALS -- 0.3% Consumer Finance -- 0.1% | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|---------|---|----|
| 212,985 | Trans Union LLC, Term B-2 Loan, 3.5%, 4/9/21 | \$ |
| <hr/> | | |
| 246,250 | Specialized Finance -- 0.2% DBRS, Ltd., Initial Term Loan, 6.25%, 3/4/22 | \$ |
| <hr/> | | |
| | Total Diversified Financials | \$ |
| <hr/> | | |
| 461,551 | ENERGY -- 2.4% Integrated Oil & Gas -- 0.3% TerraForm AP Acquisition Holdings LLC, Term Loan, 8.5%, 6/27/22 | \$ |
| <hr/> | | |
| 744,680 | Oil & Gas Drilling -- 0.5% Jonah Energy LLC, Initial Second Lien Term Loan, 7.5%, 5/12/21 | \$ |
| <hr/> | | |
| 538,684 | Oil & Gas Equipment & Services -- 0.2% FR Dixie Acquisition Corp., Term Loan, 5.75%, 12/18/20 | \$ |
| <hr/> | | |
| 250,000 | Oil & Gas Exploration & Production -- 1.4% California Resources Corp., Term Loan, 11.375%, 12/31/21 | \$ |
| 400,000 | Chesapeake Energy Corp., Term Loan Class A, 8.5%, 8/23/21 | |
| 587,913 | EP Energy LLC (fka Everest Acquisition LLC), Term Loan, 9.75%, 6/30/21 | |
| 750,000 | Gulf Finance LLC, Tranche B Term Loan, 6.25%, 8/25/23 | |
| <hr/> | | |
| | Total Energy | \$ |
| <hr/> | | |
| 500,000 | FOOD, BEVERAGE & TOBACCO -- 0.7% Packaged Foods & Meats -- 0.7% Amplify Snack Brands, Inc., Term Loan, 6.5%, 9/2/23 | \$ |
| 472,542 | Dole Food Co., Inc., Tranche B Term Loan, 4.56%, 11/1/18 | |
| <hr/> | | |
| | Total Food, Beverage & Tobacco | \$ |

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

18 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| Principal Amount USD (\$) | | Value |
|---------------------------------|---|-------|
| 233,552 | HEALTH CARE EQUIPMENT & SERVICES -- 3.2% Health Care Equipment -- 0.2% Kinetic Concepts, Inc., Dollar Term F Loan, 5.0%, 11/4/20 | \$ |
| 233,397 | Health Care Facilities -- 1.3% CHS/Community Health Systems, Inc., Incremental | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|-------------|--|-------------|
| | 2018 Term F Loan, 4.083%, 12/31/18 | \$ |
| 245,672 | CHS/Community Health Systems, Inc., Incremental | |
| | 2019 Term G Loan, 3.75%, 12/31/19 | |
| 452,027 | CHS/Community Health Systems, Inc., Incremental | |
| | 2021 Term H Loan, 4.0%, 1/27/21 | |
| 192,563 | HCA, Inc., Tranche B-6 Term Loan, 3.784%, 3/17/23 | |
| 314,518 | Kindred Healthcare, Inc., Incremental Term Loan, | |
| | 4.25%, 4/9/21 | |
| 498,750 | Prospect Medical Holdings, Inc., Term Loan, | |
| | 7.0%, 6/30/22 | |
| | | ----- \$ |
| | | |
| | Health Care Services -- 1.2% | |
| 333,351 | Bioscrip, Inc., Initial Term B Loan, 6.5%, 7/31/20 | \$ |
| 200,011 | Bioscrip, Inc., Term Loan, 6.5%, 7/31/20 | |
| 200,000 | Genoa Healthcare Co., LLC, Initial Second Lien Term | |
| | Loan, 0.0%, 10/28/24 | |
| 346,500 | HC Group Holdings III, Inc., Initial First Lien Term | |
| | Loan, 6.0%, 4/7/22 | |
| 250,000 | Inventiv Group Holdings, Inc., Initial Term Loan, | |
| | 0.0%, 11/9/23 | |
| 199,875 | National Mentor Holdings, Inc., Tranche B Term Loan, | |
| | 4.25%, 1/31/21 | |
| 99,746 | NVA Holdings, Inc., First Lien Term Loan, 4.75%, | |
| | 8/14/21 | |
| 200,000 | NVA Holdings, Inc., Second Lien Term Loan, | |
| | 0.0%, 8/14/22 | |
| | | ----- \$ |
| | | |
| | Health Care Supplies -- 0.2% | |
| 230,069 | Alere, Inc., Term Loan B, 4.25%, 6/20/22 | \$ |
| | | |
| | Health Care Technology -- 0.3% | |
| 234,636 | IMS Health, Inc., Tranche B-1 Dollar Term Loan, | \$ |
| | 3.5%, 3/17/21 | |
| 375,258 (d) | Medical Card System, Inc., Term Loan, 1.5%, 5/31/19 | \$ |
| | | ----- \$ |
| | | ----- \$ |
| | Total Health Care Equipment & Services | \$ |
| | | |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 19

Schedule of Investments | 10/31/16 (unaudited) (continued)

| Principal Amount USD (\$) | | Value |
|---------------------------------|---------------------------------------|-------|
| | | |
| | HOUSEHOLD & PERSONAL PRODUCTS -- 0.3% | |
| | Personal Products -- 0.3% | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|----------------|--|----|
| 100,000 | Atrium Innovations, Inc., Second Lien Term Loan, 7.75%, 8/13/21 | \$ |
| 127,547 | NBTY, Inc., Dollar Term Loan B, 5.0%, 5/5/23 | |
| 250,000 | Revlon Consumer Products Corp., Initial Term Loan B, 4.25%, 9/7/23 | \$ |
| | Total Household & Personal Products | \$ |
| ----- | | |
| | INSURANCE -- 1.8% | |
| | Life & Health Insurance -- 0.3% | |
| 496,392 | Integro, Ltd., Initial Term Loan, 6.75%, 10/31/22 | \$ |
| ----- | | |
| | Multi-Line Insurance -- 0.1% | |
| 166,068 | Alliant Holdings I LLC, Term Loan B, 4.753%, 8/12/22 | \$ |
| ----- | | |
| | Property & Casualty Insurance -- 1.4% | |
| 593,765 | Confie Seguros Holding II Co., Second Lien Term Loan, 10.25%, 5/8/19 | \$ |
| 512,172 | Confie Seguros Holding II Co., Term B Loan, 0.0%, 4/19/22 | |
| 929,179 | USI, Inc., Initial Term Loan, 4.25%, 12/27/19 | |
| | | \$ |
| | Total Insurance | \$ |
| ----- | | |
| | MATERIALS -- 3.8% | |
| | Construction Materials -- 0.3% | |
| 96,098 | Faenza Acquisition GmbH (CeramTec Acquisition Corp.), Dollar Term B-3 Loan, 4.25%, 8/30/20 | \$ |
| 314,408 | Faenza Acquisition GmbH (CeramTec Acquisition Corp.), Initial Dollar Term B-1 Loan, 4.25%, 8/30/20 | |
| 34,850 | Faenza Acquisition GmbH (CeramTec Acquisition Corp.), Initial Dollar Term B-2 Loan, 4.25%, 8/30/20 | |
| | | \$ |
| ----- | | |
| | Diversified Chemicals -- 0.2% | |
| 272,250 | Univar USA, Inc., Initial Dollar Term Loan, 4.25%, 7/1/22 | \$ |
| ----- | | |
| | Diversified Metals & Mining -- 0.4% | |
| 500,000 | Global Brass and Copper, Inc., Initial Term Loan, 5.25%, 7/18/23 | \$ |
| 75,256 (e) (f) | PT Bakrie & Brothers Tbk, Facility Term Loan B, 8.15%, 11/25/14 | |
| | | \$ |
| ----- | | |
| | Forest Products -- 0.2% | |
| 250,000 | Expera Specialty Solutions LLC, Term Loan B, 0.0%, 10/31/23 | \$ |
| ----- | | |

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

20 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| Principal Amount USD (\$) | | Value |
|---------------------------------|--|-------------|
| | Metal & Glass Containers -- 0.9% | |
| 525,232 | Tank Holding Corp., Initial Term Loan, 5.25%, 3/16/22 | \$ |
| 740,625 | Tekni-Plex, Inc., USD Term Loan, 4.5%, 6/1/22 | \$ |
| | | ----- \$ |
| | Paper Packaging -- 0.4% | |
| 629,815 | Caraustar Industries, Inc., Incremental Term Loan, 8.0%, 5/1/19 | \$ |
| | | ----- \$ |
| | Paper Products -- 0.5% | |
| 287,111 | Appvion, Inc., Term Commitment, 6.25%, 6/28/19 | \$ |
| 228,147 | Exopack Holdings SA, USD Term Loan, 4.5%, 5/8/19 | \$ |
| 270,101 | Ranpak Corp., Second Lien Initial Term Loan, 8.25%, 10/3/22 | \$ |
| | | ----- \$ |
| | Specialty Chemicals -- 0.6% | |
| 495,000 | Macdermid, Inc. (Platform Specialty Products Corp.) Term Loan B3, 5.5%, 6/7/20 | \$ |
| 350,000 | Omnova Solutions, Inc., Term B-2 Loan, 5.25%, 8/25/23 | \$ |
| | | ----- \$ |
| | Steel -- 0.3% | |
| 498,750 | Zekelman Industries, Inc. (fka JMC Steel Group, Inc.), Term Loan, 6.0%, 6/14/21 | \$ |
| | | ----- \$ |
| | Total Materials | \$ |
| | | ----- \$ |
| | MEDIA -- 2.6% | |
| | Advertising -- 0.8% | |
| 936,053 | Affinion Group, Inc., Tranche B Term Loan, 6.75%, 4/30/18 | \$ |
| 250,000 | CB Poly Investments LLC, First Lien Closing Date Term Loan, 6.25%, 8/16/23 | \$ |
| | | ----- \$ |
| | Broadcasting -- 0.9% | |
| 255,000 | Hubbard Radio LLC, Term Loan, 4.25%, 5/27/22 | \$ |
| 298,500 | Learfield Communications, Inc., First Lien 2014 Replacement Term Loan, 4.25%, 10/9/20 | \$ |
| 294,000 | MediArena Acquisition BV (fka AP NMT Acquisition BV), First Lien Dollar Term B Loan, 6.75%, 8/13/21 | \$ |
| 454,954 | Univision Communications, Inc., Replacement First Lien Term Loan, 4.0%, 3/1/20 | \$ |
| | | ----- \$ |
| | Movies & Entertainment -- 0.0%+ | |
| 10,622 | Cinedigm Digital Funding I LLC, Term Loan, 3.75%, 2/28/18 | \$ |
| | | ----- \$ |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 21

Schedule of Investments | 10/31/16 (unaudited) (continued)

| Principal Amount USD (\$) | | Value |
|---------------------------------|---|-------|
| 320,938 | Publishing -- 0.9% Houghton Mifflin Holdings, Inc., Term Loan, 4.0%, 5/28/21 | \$ |
| 68,439 | Lee Enterprises, Inc., First Lien Term Loan, 7.25%, 3/31/19 | |
| 922,688 | McGraw-Hill Global Education Holdings LLC, First Lien Term B Loan, 5.0%, 5/4/22 | |
| | Total Media | \$ |
| | PHARMACEUTICALS, BIOTECHNOLOGY & LIFE SCIENCES -- 1.6% | |
| 393,889 | Biotechnology -- 0.3% Lantheus Medical Imaging, Inc., Term Loan, 7.0%, 6/30/22 | \$ |
| 990,000 | Life Sciences Tools & Services -- 1.0% Albany Molecular Research, Inc., Term Loan B, 5.75%, 7/16/21 | \$ |
| 423,428 | Catalent Pharma Solutions, Inc., Dollar Term Loan, 4.25%, 5/20/21 | \$ |
| 545,875 | Pharmaceuticals -- 0.3% Concordia Healthcare Corp., Initial Dollar Term Loan, 5.25%, 10/21/21 | \$ |
| | Total Pharmaceuticals, Biotechnology & Life Sciences | \$ |
| 273,910 | REAL ESTATE -- 0.8% Retail REITs -- 0.5% DTZ US Borrower LLC, First Lien Initial Term Loan, 4.25%, 11/4/21 | \$ |
| 500,000 | DTZ US Borrower LLC, Second Lien Initial Term Loan, 9.25%, 11/4/22 | \$ |
| 496,231 | Specialized REIT -- 0.3% Communications Sales & Leasing, Inc. (CSL Capital, LLC), Term Loan, 8.25%, 10/24/22 | \$ |
| | Total Real Estate | \$ |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|------------|--|----|
| | RETAILING -- 0.7% | |
| | Automotive Retail -- 0.4% | |
| 535,253 | CWGS Group LLC, Term Loan, 5.75%, 2/20/20 | \$ |
| <hr/> | | |
| | Computer & Electronics Retail -- 0.1% | |
| 46,241 (g) | Targus Group International, Inc., Tranche A-2 Term Loan, 15.0% (15.0% PIK 0.0% cash), 12/31/19 | \$ |

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

22 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| Principal Amount USD (\$) | | Value |
|------------------------------|--|----------|
| <hr/> | | |
| 138,721 (g) | Computer & Electronics Retail -- (continued) Targus Group International, Inc., Tranche B Term Loan, 15.0% (15.0% PIK 0.0% cash), 12/31/19 | \$ |
| | | <hr/> \$ |
| <hr/> | | |
| 101,010 | Specialty Stores -- 0.2% | \$ |
| 156,107 | Dollar Tree, Inc., Term B-3 Loan, 3.0%, 7/6/22 | <hr/> \$ |
| | PetSmart, Inc., Tranche B-2 Loan, 4.0%, 3/11/22 | <hr/> \$ |
| | Total Retailing | <hr/> \$ |
| <hr/> | | |
| | SEMICONDUCTORS & SEMICONDUCTOR EQUIPMENT -- 0.4% | |
| 498,724 | Semiconductors -- 0.4% | |
| | M/A-COM Technology Solutions Holdings, Inc., Initial Term Loan, 4.628%, 5/7/21 | \$ |
| | Total Semiconductors & Semiconductor Equipment | <hr/> \$ |
| <hr/> | | |
| | SOFTWARE & SERVICES -- 1.6% | |
| 500,000 | Application Software -- 0.5% | |
| | STG-Fairway Acquisitions, Inc., First Lien Term Loan, 6.25%, 6/30/22 | \$ |
| 250,000 | VF Holding Corp., First Lien Initial Term Loan, 4.75%, 6/30/23 | <hr/> \$ |
| <hr/> | | |
| 250,000 | Internet Software & Services -- 0.2% | |
| | Avast Software BV, Initial Dollar Term Loan, 0.0%, 9/30/22 | \$ |
| <hr/> | | |
| 244,375 | IT Consulting & Other Services -- 0.9% | |
| | Evergreen Skills Lux S.a.r.l., First Lien Initial Term Loan, 5.837%, 4/28/21 | \$ |
| 300,000 | Rocket Software, Inc., Second Lien Term Loan, 10.5%, 10/14/24 | <hr/> \$ |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|---------|---|--|
| 618,750 | Sitel Worldwide Corp., First Lien Term B-1 Loan, 6.5%, 9/18/21 | |
| 221,250 | TaxACT, Inc. (H.D. Vest, Inc.), Initial Term Loan, 7.0%, 1/3/23 | |

\$

Total Software & Services

\$

| | | |
|--------|---|--|
| | TECHNOLOGY HARDWARE & EQUIPMENT -- 0.3% | |
| | Communications Equipment -- 0.0%+ | |
| 64,644 | CommScope, Inc., Tranche 4 Term Loan, 3.538%, 1/14/18 | |

\$

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 23

Schedule of Investments | 10/31/16 (unaudited) (continued)

Principal
Amount
USD (\$)

Value

| | | |
|---------|---|--|
| | Electronic Components -- 0.3% | |
| 453,100 | Mirion Technologies (Finance) LLC (Mirion Technologies, Inc.), First Lien Initial Term Loan, 5.75%, 3/31/22 | |

\$

Total Technology Hardware & Equipment

\$

| | | |
|---------|---|--|
| | TELECOMMUNICATION SERVICES -- 0.5% | |
| | Integrated Telecommunication Services -- 0.5% | |
| 492,500 | GCI Holdings, Inc., New Term B Loan, 4.0%, 2/2/22 | |
| 197,827 | Securus Technologies Holdings, Inc., Term Loan B2, 5.25%, 4/30/20 | |

\$

Total Telecommunication Services

\$

| | | |
|---------|---|--|
| | TRANSPORTATION -- 0.9% | |
| | Marine -- 0.6% | |
| 606,576 | Commercial Barge Line Co., Initial Term Loan, 9.75%, 11/12/20 | |
| 224,289 | Navios Maritime Partners LP, Term Loan, 5.25%, 6/27/18 | |

\$

\$

| | | |
|---------|---|--|
| | Trucking -- 0.3% | |
| 492,405 | YRC Worldwide, Inc., Initial Term Loan, 8.0%, 2/13/19 | |

\$

Total Transportation

\$

| | | |
|---------|---|--|
| | UTILITIES -- 0.9% | |
| | Electric Utilities -- 0.5% | |
| 386,877 | APLH Holdings Limited Partnership, Term Loan, | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | | |
|-------|-------------|---|-------|
| | | 6.0%, 4/13/23 | \$ |
| | 325,000 | Talen Energy Supply LLC, Term Loan B, 0.0%, 10/18/23 | ----- |
| | | | \$ |
| ----- | | | |
| | 500,000 | Independent Power Producers & Energy Traders -- 0.4% | |
| | | Dynegy Finance IV, Inc., Term Loan, 5.0%, 6/27/23 | \$ |
| | | Total Utilities | \$ |
| ----- | | | |
| | | TOTAL SENIOR SECURED FLOATING RATE LOAN INTERESTS (Cost \$46,800,276) | \$ 4 |
| ----- | | | |
| | | CORPORATE BONDS & NOTES -- 88.3% of Net Assets | |
| | | AUTOMOBILES & COMPONENTS -- 0.7% | |
| | | Auto Parts & Equipment -- 0.7% | |
| EUR | 165,000 (g) | IHO Verwaltungs GmbH, 3.25% (4.0% PIK 0.0% cash), 9/15/23 (144A) | \$ |
| EUR | 395,000 (g) | IHO Verwaltungs GmbH, 3.75% (4.5% PIK 0.0% cash), 9/15/26 (144A) | |

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

24 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| | | | Value |
|-------|-------------------|---|-------|
| ----- | | | |
| | 454,000 | Auto Parts & Equipment -- (continued) International Automotive Components Group SA, 9.125%, 6/1/18 (144A) | \$ |
| | | Total Automobiles & Components | \$ |
| ----- | | | |
| | 200,000 | BANKS -- 5.5% | |
| | 300,000 (b) | Diversified Banks -- 5.5% | |
| | | Access Bank Plc, 10.5%, 10/19/21 (144A) | \$ |
| | | Banco de Galicia y Buenos Aires, 8.25%, 7/19/26 (144A) | |
| | 525,000 | Banco de Galicia y Buenos Aires, 8.75%, 5/4/18 (144A) | |
| | 400,000 (b) | Banco Macro SA, 9.75%, 12/18/36 | |
| | 200,000 (b) (h) | Banco Santander SA, 6.375% | |
| | 325,000 (b) (h) | Bank of America Corp., 6.25% | |
| | 680,000 | Banque Ouest Africaine de Developpement, 5.5%, 5/6/21 (144A) | |
| | 950,000 (b) (h) | BNP Paribas SA, 7.625% (144A) | |
| | 1,000,000 (b) (h) | Credit Agricole SA, 7.875% (144A) | |
| IDR | 2,730,000,000 | European Investment Bank, 7.2%, 7/9/19 (144A) | |
| | 350,000 (b) (h) | ING Groep NV, 6.5% | |
| | 200,000 (b) (h) | Royal Bank of Scotland Group Plc, 7.5% | |
| | 500,000 (b) (h) | Royal Bank of Scotland Group Plc, 8.0% | |
| | 200,000 (b) (h) | Royal Bank of Scotland Group Plc, 8.625% | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|-----------------|---|----|
| 200,000 | Sberbank of Russia Via SB Capital SA, 5.25%, 5/23/23 (144A) | |
| 460,000 (b) (h) | Societe Generale SA, 7.375% (144A) | |
| 245,000 | Trade & Development Bank of Mongolia LLC, 9.375%, 5/19/20 (144A) | |
| 750,000 | UBS AG / Stamford CT, 7.625%, 8/17/22 | |
| | Total Banks | \$ |
| ----- | | |
| | CAPITAL GOODS -- 2.7% | |
| | Aerospace & Defense -- 0.6% | |
| 400,000 | ADS Tactical, Inc., 11.0%, 4/1/18 (144A) | \$ |
| 610,932 (g) | DynCorp International, Inc., 11.875% (1.5% PIK 10.375% cash), 11/30/20 | |
| | | \$ |
| ----- | | |
| | Agricultural & Farm Machinery -- 0.3% | |
| 475,000 | Titan International, Inc., 6.875%, 10/1/20 | \$ |
| ----- | | |
| | Building Products -- 0.2% | |
| 300,000 | USG Corp., 7.875%, 3/30/20 (144A) | \$ |
| ----- | | |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 25

Schedule of Investments | 10/31/16 (unaudited) (continued)

| Principal Amount USD (\$) | | Value |
|---------------------------------|--|-------|
| ----- | | |
| 360,000 | Construction Machinery & Heavy Trucks -- 0.3% Meritor, Inc., 6.75%, 6/15/21 | \$ |
| ----- | | |
| 455,000 | Industrial Conglomerates -- 0.3% JB Poindexter & Co., Inc., 9.0%, 4/1/22 (144A) | \$ |
| ----- | | |
| 560,000 | Industrial Machinery -- 0.7% Apex Tool Group LLC, 7.0%, 2/1/21 (144A) | \$ |
| 450,000 | Cleaver-Brooks, Inc., 8.75%, 12/15/19 (144A) | |
| | | \$ |
| ----- | | |
| 150,000 | Trading Companies & Distributors -- 0.3% H&E Equipment Services, Inc., 7.0%, 9/1/22 | \$ |
| 252,000 | TRAC Intermodal LLC / TRAC Intermodal Corp., 11.0%, 8/15/19 | |
| | | \$ |
| ----- | | |
| | Total Capital Goods | \$ |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | | |
|---------|-----------------|---|----|
| | | COMMERCIAL & PROFESSIONAL SERVICES -- 1.2% | |
| | | Commercial Printing -- 0.2% | |
| 340,000 | | Cenveo Corp., 6.0%, 8/1/19 (144A) | \$ |
| | | Diversified Support Services -- 1.0% | |
| 280,000 | | Broadspectrum, Ltd., 8.375%, 5/15/20 (144A) | \$ |
| 950,000 | | NANA Development Corp., 9.5%, 3/15/19 (144A) | |
| 260,000 | | TMS International Corp., 7.625%, 10/15/21 (144A) | |
| | | | \$ |
| | | | \$ |
| | | Total Commercial & Professional Services | \$ |
| | | CONSUMER DURABLES & APPAREL -- 0.8% | |
| | | Homebuilding -- 0.8% | |
| 135,000 | | Beazer Homes USA, Inc., 8.75%, 3/15/22 (144A) | \$ |
| 350,000 | | Brookfield Residential Properties, Inc., 6.375%, 5/15/25 (144A) | |
| 250,000 | | KB Home, 7.0%, 12/15/21 | |
| 340,000 | | KB Home, 7.625%, 5/15/23 | |
| | | | \$ |
| | | Total Consumer Durables & Apparel | \$ |
| | | CONSUMER SERVICES -- 3.7% | |
| | | Casinos & Gaming -- 1.6% | |
| EUR | 750,000 | Intralot Capital Luxembourg SA, 6.75%, 9/15/21 (144A) | \$ |
| | 854,947 (e) (g) | Mashantucket Western Pequot Tribe, 6.5% (5.5% PIK 1.0% cash), 7/1/36 | |
| | 365,000 | MGM Resorts International, 6.0%, 3/15/23 | |
| | 100,000 | Scientific Games International, Inc., 6.25%, 9/1/20 | |
| | 1,050,000 | Scientific Games International, Inc., 10.0%, 12/1/22 | |
| | | | \$ |

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

26 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| Principal Amount USD (\$) | | Value |
|---------------------------------|---|-------|
| | Hotels, Resorts & Cruise Lines -- 0.5% | |
| 245,000 | Viking Cruises, Ltd., 6.25%, 5/15/25 (144A) | \$ |
| 425,000 | Viking Cruises, Ltd., 8.5%, 10/15/22 (144A) | |
| | | \$ |
| | Restaurants -- 0.3% | |
| 495,000 | Landry's, Inc., 6.75%, 10/15/24 (144A) | \$ |
| | Specialized Consumer Services -- 1.3% | |
| 1,153,000 | Constellis Holdings LLC / Constellis Finance Corp., | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | | |
|-----------------|--|---|-------------|
| | | 9.75%, 5/15/20 (144A) | \$ |
| 160,000 | | Monitronics International, Inc., 9.125%, 4/1/20 | |
| 290,000 | | Prime Security Services Borrower LLC / Prime Finance, Inc., 9.25%, 5/15/23 (144A) | |
| 315,000 | | StoneMor Partners LP / Cornerstone Family Services of WV, 7.875%, 6/1/21 | |
| | | | ----- \$ |
| | | Total Consumer Services | ----- \$ |
| ----- | | | |
| | | DIVERSIFIED FINANCIALS -- 2.0% | |
| | | Consumer Finance -- 1.3% | |
| 600,000 | | Credito Real SAB de CV SOFOM ER, 7.25%, 7/20/23 (144A) | \$ |
| 445,000 | | Jefferies Finance LLC / JFIN Co-Issuer Corp., 7.375%, 4/1/20 (144A) | |
| 345,000 | | Navient Corp., 6.625%, 7/26/21 | |
| 203,374 | | Tarjeta Naranja SA, 9.0%, 1/28/17 (144A) | |
| 440,000 | | TMX Finance LLC / TitleMax Finance Corp., 8.5%, 9/15/18 (144A) | |
| | | | ----- \$ |
| ----- | | | |
| | | Investment Banking & Brokerage -- 0.2% | |
| 240,000 (b) (h) | | Goldman Sachs Capital II, 4.0% | \$ |
| ----- | | | |
| | | Specialized Finance -- 0.5% | |
| 175,000 | | Nationstar Mortgage LLC / Nationstar Capital Corp., 6.5%, 7/1/21 | \$ |
| 580,000 | | Nationstar Mortgage LLC / Nationstar Capital Corp., 6.5%, 6/1/22 | |
| | | | ----- \$ |
| | | Total Diversified Financials | ----- \$ |
| ----- | | | |
| | | ENERGY -- 10.2% | |
| | | Integrated Oil & Gas -- 0.5% | |
| 410,000 | | Petrobras Global Finance BV, 6.25%, 3/17/24 | \$ |
| MXN 540,000 | | Petroleos Mexicanos, 7.19%, 9/12/24 (144A) | |
| 325,000 | | YPF SA, 8.875%, 12/19/18 (144A) | |
| | | | ----- \$ |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 27

Schedule of Investments | 10/31/16 (unaudited) (continued)

| | |
|------------------------------|-------|
| Principal Amount USD (\$) | Value |
|------------------------------|-------|

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|-------------|--|-------------|
| | Oil & Gas Drilling -- 0.5% | |
| 160,000 | Drill Rigs Holdings, Inc., 6.5%, 10/1/17 (144A) | \$ |
| 442,000 | Rowan Cos., Inc., 5.4%, 12/1/42 | |
| 62,000 | Rowan Cos., Inc., 5.85%, 1/15/44 | |
| 320,000 | Shelf Drill Holdings, Ltd., 8.625%, 11/1/18 (144A) | |
| | | ----- \$ |
| ----- | | |
| | Oil & Gas Equipment & Services -- 0.8% | |
| 540,000 | Archrock Partners LP / Archrock Partners Finance Corp., 6.0%, 10/1/22 | \$ |
| 425,000 | McDermott International, Inc., 8.0%, 5/1/21 (144A) | |
| 310,000 | Weatherford International, Ltd., 5.95%, 4/15/42 | |
| | | ----- \$ |
| ----- | | |
| | Oil & Gas Exploration & Production -- 4.1% | |
| 200,000 | California Resources Corp., 8.0%, 12/15/22 (144A) | \$ |
| 250,000 | Extraction Oil & Gas Holdings LLC / Extraction Finance Corp., 7.875%, 7/15/21 (144A) | |
| 360,000 | GeoPark Latin America, Ltd., Agencia en Chile, 7.5%, 2/11/20 (144A) | |
| 410,000 | Great Western Petroleum LLC / Great Western Finance, Inc., 9.0%, 9/30/21 (144A) | |
| 740,000 | Gulfport Energy Corp., 6.0%, 10/15/24 (144A) | |
| 402,000 | Halcon Resources Corp., 12.0%, 2/15/22 (144A) | |
| 600,000 (e) | Midstates Petroleum Co., Inc., 9.25%, 6/1/21 | |
| 450,000 | Novatek OAO via Novatek Finance, Ltd., 4.422%, 12/13/22 (144A) | |
| 470,000 | PDC Energy, Inc., 7.75%, 10/15/22 | |
| 506,000 (g) | PetroQuest Energy, Inc., 10.0% (9.0% PIK 1.0% cash), 2/15/21 (144A) | |
| 240,000 (e) | Quicksilver Resources, Inc., 7.125%, 11/30/16 | |
| 375,000 | Rice Energy, Inc., 6.25%, 5/1/22 | |
| 870,000 | Sanchez Energy Corp., 7.75%, 6/15/21 | |
| 150,000 | Whiting Petroleum Corp., 5.0%, 3/15/19 | |
| 480,000 | Whiting Petroleum Corp., 5.75%, 3/15/21 | |
| 300,000 | WPX Energy, Inc., 7.5%, 8/1/20 | |
| 150,000 | WPX Energy, Inc., 8.25%, 8/1/23 | |
| | | ----- \$ |
| ----- | | |
| | Oil & Gas Refining & Marketing -- 0.4% | |
| 669,000 | Calumet Specialty Products Partners LP / Calumet Finance Corp., 6.5%, 4/15/21 | \$ |
| ----- | | |
| | Oil & Gas Storage & Transportation -- 3.9% | |
| 220,000 | Blue Racer Midstream LLC / Blue Racer Finance Corp., 6.125%, 11/15/22 (144A) | \$ |

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

28 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Principal
Amount
USD (\$)

Value

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|-------------|--|------|
| ----- | | |
| | Oil & Gas Storage & Transportation -- (continued) | |
| 200,000 | Cheniere Corpus Christi Holdings LLC, 7.0%, 6/30/24 (144A) | \$ |
| 230,000 | DCP Midstream Operating LP, 5.6%, 4/1/44 | |
| 450,000 (a) | Energy Transfer Partners LP, 3.903%, 11/1/66 | |
| 118,000 | EnLink Midstream Partners LP, 5.05%, 4/1/45 | |
| 344,000 | EnLink Midstream Partners LP, 5.6%, 4/1/44 | |
| 950,000 | Genesis Energy LP / Genesis Energy Finance Corp., 6.75%, 8/1/22 | |
| 480,000 | Global Partners LP / GLP Finance Corp., 7.0%, 6/15/23 | |
| 170,000 | PBF Logistics LP / PBF Logistics Finance Corp., 6.875%, 5/15/23 | |
| 925,000 | Sunoco LP / Sunoco Finance Corp., 6.375%, 4/1/23 (144A) | |
| 520,000 | Western Refining Logistics LP / WNRL Finance Corp., 7.5%, 2/15/23 | |
| 1,175,000 | Williams Cos., Inc., 5.75%, 6/24/44 | |
| | ----- | |
| | | \$ |
| | ----- | |
| | Total Energy | \$ 1 |
| ----- | | |
| | FOOD & STAPLES RETAILING -- 0.3% | |
| | Food Retail -- 0.3% | |
| 200,000 | C&S Group Enterprises LLC, 5.375%, 7/15/22 (144A) | \$ |
| 260,000 | Tops Holding LLC / Tops Markets II Corp., 8.0%, 6/15/22 (144A) | |
| | ----- | |
| | Total Food & Staples Retailing | \$ |
| ----- | | |
| | FOOD, BEVERAGE & TOBACCO -- 8.1% | |
| | Agricultural Products -- 0.7% | |
| 900,000 | Pinnacle Operating Corp., 9.0%, 11/15/20 (144A) | \$ |
| 345,000 | Southern States Cooperative, Inc., 10.0%, 8/15/21 (144A) | |
| 225,000 (e) | Tonon Luxembourg SA, 10.5%, 5/14/24 (144A) | |
| | ----- | |
| | | \$ |
| ----- | | |
| | Packaged Foods & Meats -- 6.4% | |
| 225,000 | Agrokor DD, 8.875%, 2/1/20 (144A) | \$ |
| 200,000 | Agrokor DD, 9.875%, 5/1/19 (144A) | |
| 500,000 (e) | CFG Investment SAC, 9.75%, 7/30/19 (144A) | |
| 900,000 | JBS Investments GmbH, 7.25%, 4/3/24 (144A) | |
| 515,000 | Marfrig Holding Europe BV, 6.875%, 6/24/19 (144A) | |
| 975,000 | Marfrig Holding Europe BV, 8.0%, 6/8/23 (144A) | |
| 800,000 | Marfrig Holding Europe BV, 8.375%, 5/9/18 (144A) | |
| 700,000 | Marfrig Holding Europe BV, 11.25%, 9/20/21 (144A) | |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 29

Schedule of Investments | 10/31/16 (unaudited) (continued)

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| Principal Amount USD (\$) | | Value |
|------------------------------|---|-------|
| | Packaged Foods & Meats -- (continued) | |
| 700,000 | MHP SA, 8.25%, 4/2/20 (144A) | \$ |
| 580,000 | Minerva Luxembourg SA, 6.5%, 9/20/26 (144A) | |
| 1,600,000 | Minerva Luxembourg SA, 7.75%, 1/31/23 (144A) | |
| 200,000 | Minerva Luxembourg SA, 12.25%, 2/10/22 (144A) | |
| 600,000 | Pesquera Exalmar SAA, 7.375%, 1/31/20 (144A) | |
| 640,000 | Post Holdings, Inc., 6.75%, 12/1/21 (144A) | |
| 200,000 | Post Holdings, Inc., 7.75%, 3/15/24 (144A) | |
| | | \$ |
| | Soft Drinks -- 0.2% | |
| 355,000 | Cott Beverages, Inc., 5.375%, 7/1/22 | \$ |
| | Tobacco -- 0.8% | |
| 160,000 | Alliance One International, Inc., 8.5%, 4/15/21 (144A) | \$ |
| 1,250,000 | Alliance One International, Inc., 9.875%, 7/15/21 | |
| | | \$ |
| | Total Food, Beverage & Tobacco | \$ 1 |
| | HEALTH CARE EQUIPMENT & SERVICES -- 1.9% | |
| | Health Care Facilities -- 1.4% | |
| 700,000 | Kindred Healthcare, Inc., 6.375%, 4/15/22 | \$ |
| 445,000 | RegionalCare Hospital Partners Holdings, Inc., 8.25%, 5/1/23 (144A) | |
| 630,000 | Universal Hospital Services, Inc., 7.625%, 8/15/20 | |
| 285,000 | Vizient, Inc., 10.375%, 3/1/24 (144A) | |
| | | \$ |
| | Health Care Services -- 0.3% | |
| 425,000 | BioScrip, Inc., 8.875%, 2/15/21 | \$ |
| | Health Care Technology -- 0.2% | |
| 275,000 | Change Healthcare Holdings, Inc., 11.0%, 12/31/19 | \$ |
| | Total Health Care Equipment & Services | \$ |
| | HOUSEHOLD & PERSONAL PRODUCTS -- 0.3% | |
| | Household Products -- 0.3% | |
| 460,000 | Springs Industries, Inc., 6.25%, 6/1/21 | \$ |
| | Total Household & Personal Products | \$ |
| | INSURANCE -- 27.3% | |
| | Insurance Brokers -- 0.0%+ | |
| GBP 10,489 (a) | Towergate Finance Plc, 8.5%, 3/2/20 (144A) | \$ |
| | Life & Health Insurance -- 0.0%+ | |
| GBP 59,442 | TIG FINCO Plc, 8.75%, 4/2/20 (144A) | \$ |

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

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

30 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| Principal Amount USD (\$) | | Value |
|---------------------------------|--|-------|
| | Property & Casualty Insurance -- 3.9% | |
| 6,000,000 (c) (d) | Fixed Income Trust Series 2013-A, 0.0%, 10/15/97 (144A) | \$ |
| 80,000 (b) (h) | Sirius International Group, Ltd., 7.506% (144A) | \$ |
| | Reinsurance -- 23.4% | |
| 500,000 (a) | Akibare Re, Ltd., 3.578%, 4/7/20 (144A) (Cat Bond) | \$ |
| 500,000 (a) | Aozora Re, Ltd., 3.278%, 4/7/20 (144A) (Cat Bond) | |
| 1,600,000 (i) (j) | Artex Segregated Account (Artex Sac, Ltd.), Variable Rate Notes, 6/15/17 | |
| 750,000 (a) | Bosphorus Re., Ltd., 4.036%, 8/17/18 (144A) | |
| 800,000 (i) (j) | Carnoustie Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 2/28/17 | |
| 1,000,000 (i) (j) | Carnoustie Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 11/30/20 | |
| 750,000 (a) | Citrus Re, Ltd., 7.804%, 2/25/19 (144A) (Cat Bond) | |
| 1,000,000 (i) (j) | Denning 2016 Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 7/7/17 | |
| EUR 1,000,000 (i) (j) | Dundonald Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 1/17/17 | |
| 1,750,000 (a) | East Lane Re VI, Ltd., 2.954%, 3/14/18 (144A) (Cat Bond) | |
| 250,000 (a) | Galileo Re, Ltd., 9.304%, 1/8/19 (144A) (Cat Bond) | |
| 250,000 (a) | Galileo Re, Ltd., 13.804%, 1/8/19 (144A) (Cat Bond) | |
| 900,000 (a) | Gator Re, Ltd., 6.574%, 1/9/17 (144A) (Cat Bond) | |
| 2,400,000 (i) (j) | Gleneagles Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 11/30/20 | |
| 2,500,000 (i) (j) | Gullane Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 11/30/20 | |
| 1,000,000 (i) (j) | Lahinch Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 5/10/21 | |
| 1,450,000 (i) (j) | Lorenz Re, Ltd. (Prime, Ltd.), Variable Rate Notes, 3/31/18 | |
| 1,000,000 (a) | Merna Reinsurance V, Ltd., 2.304%, 4/7/17 (144A) (Cat Bond) | |
| 700,000 (i) (j) | Nairn 2016 Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 8/29/17 | |
| 500,000 (a) | Nakama Re, Ltd., 3.068%, 10/13/21 (144A) (Cat Bond) | |
| 3,000,000 (i) (j) | Pangaea Re Segregated Account (Artex SAC, Ltd.), Series 2015-1, Variable Rate Notes, 2/1/19 | |
| 2,000,000 (i) (j) | Pangaea Re Segregated Account (Artex SAC, Ltd.), Series 2016-1, Variable Rate Notes, 2/1/20 | |
| 2,500,000 (i) (j) | Pangaea Re Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 12/20/16 | |

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

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 31

Schedule of Investments | 10/31/16 (unaudited) (continued)

| Principal Amount USD (\$) | | Value |
|---------------------------------|--|-------|
| | Reinsurance -- (continued) | |
| 2,004,948 (i) (j) | PI-6 Segregated Account (Artex SAC, Ltd.), Series C, Variable Rate Notes, 2/28/17 | \$ |
| 500,000 (a) | Queen Street IX Re, Ltd., 5.804%, 6/8/17 (144A) (Cat Bond) | |
| 2,000,000 (a) | Queen Street X Re, Ltd., 6.054%, 6/8/18 (144A) (Cat Bond) | |
| 1,000,000 (i) (j) | Resilience Re, Ltd., Variable Rate Notes, 6/2/17 (Cat Bond) | |
| 1,250,000 (i) (j) | Shenandoah, Re Ltd., Variable Rate Notes, 7/7/17 | |
| 1,000,000 (i) (j) | Silverton Re, Ltd. (Aon Benfield Securities, Inc.), Variable Rate Notes, 9/18/17 (144A) | |
| 1,000,000 (i) (j) | Silverton Re, Ltd. (Aon Benfield Securities, Inc.), Variable Rate Notes, 9/17/18 (144A) | |
| 1,000,000 (i) (j) | St. Andrews Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 2/28/17 | |
| 1,000,000 (i) (j) | St. Andrews Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 2/1/18 | |
| JPY 150,799,195 (i) (j) | Tralee Segregated Account (Artex SAC, Ltd.), Variable Rate Notes, 7/20/17 | |
| 500,000 (a) | Vitality Re VI, Ltd., 2.404%, 1/8/18 (144A) (Cat Bond) | |
| 1,000,000 (a) | Vitality Re VII, Ltd., 2.954%, 1/7/20 (144A) (Cat Bond) | |
| | Total Insurance | \$ 3 |
| | MATERIALS -- 7.1% | |
| 300,000 | Commodity Chemicals -- 0.8% | |
| 175,000 | Basell Finance Co., BV, 8.1%, 3/15/27 (144A) | \$ |
| 545,000 | Hexion US Finance Corp., 6.625%, 4/15/20 | |
| | Rain CII Carbon LLC / CII Carbon Corp., 8.0%, 12/1/18 (144A) | \$ |
| | Construction Materials -- 0.2% | |
| 215,000 | Cemex SAB de CV, 7.75%, 4/16/26 (144A) | \$ |
| | Copper -- 0.3% | |
| 465,000 | Freeport-McMoRan, Inc., 3.55%, 3/1/22 | \$ |
| | Diversified Chemicals -- 0.5% | |
| 55,000 | Blue Cube Spinco, Inc., 9.75%, 10/15/23 | \$ |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | |
|---------|--|
| 55,000 | Blue Cube Spinco, Inc., 10.0%, 10/15/25 |
| 200,000 | CVR Partners LP / CVR Nitrogen Finance Corp., 9.25%, 6/15/23 (144A) |

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

32 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| Principal Amount USD (\$) | | Value |
|---------------------------------|--|----------|
| 500,000 | Diversified Chemicals -- (continued) Evolution Escrow Issuer LLC, 7.5%, 3/15/22 (144A) | \$ \$ |
| 109,000 | Diversified Metals & Mining -- 1.2% Boart Longyear Management Pty, Ltd., 10.0%, 10/1/18 (144A) | \$ |
| 300,000 | FMG Resources August 2006 Pty, Ltd., 9.75%, 3/1/22 (144A) | |
| 449,080 (d) (e) | Mirabela Nickel, Ltd., 9.5%, 6/24/19 | |
| 180,000 | Prince Mineral Holding Corp., 11.5%, 12/15/19 (144A) | |
| 70,000 | Teck Resources, Ltd., 8.0%, 6/1/21 (144A) | |
| 70,000 | Teck Resources, Ltd., 8.5%, 6/1/24 (144A) | |
| 160,000 | Vale Overseas, Ltd., 6.25%, 8/10/26 | |
| 750,000 | Vedanta Resources Plc, 9.5%, 7/18/18 (144A) | \$ |
| 390,000 | Forest Products -- 0.2% Eldorado International Finance GmbH, 8.625%, 6/16/21 (144A) | \$ |
| 100,000 (g) | Metal & Glass Containers -- 0.8% ARD Finance SA, 7.125% (7.875% PIK 0.0% cash), 9/15/23 (144A) | \$ |
| 320,000 | Ardagh Packaging Finance Plc / Ardagh Holdings USA, Inc., 7.25%, 5/15/24 (144A) | |
| EUR 150,000 | Horizon Holdings I SASU, 7.25%, 8/1/23 (144A) | |
| 475,000 | Reynolds Group Issuer, Inc., 9.875%, 8/15/19 | \$ |
| EUR 1,365,000 | Paper Packaging -- 1.1% SIG Combibloc Holdings SCA, 7.75%, 2/15/23 (144A) | \$ |
| 675,000 | Paper Products -- 1.1% Appvion, Inc., 9.0%, 6/1/20 (144A) | \$ |
| 500,000 | Mercer International, Inc., 7.0%, 12/1/19 | |
| 840,000 | Resolute Forest Products, Inc., 5.875%, 5/15/23 | \$ |
| | Specialty Chemicals -- 0.4% | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|---------|---|-------|
| 410,000 | A Schulman, Inc., 6.875%, 6/1/23 (144A) | \$ |
| 160,000 | Tronox Finance LLC, 6.375%, 8/15/20 | |
| | | ----- |
| | | \$ |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 33

Schedule of Investments | 10/31/16 (unaudited) (continued)

| Principal Amount USD (\$) | | Value |
|---------------------------------|---|-------|
| | Steel -- 0.5% | |
| 250,000 | Evrax Group SA, 9.5%, 4/24/18 (144A) | \$ |
| 499,000 | Optima Specialty Steel, Inc., 12.5%, 12/15/16 (144A) | |
| | | ----- |
| | | \$ |
| | | ----- |
| Total Materials | | \$ 1 |
| | MEDIA -- 1.6% | |
| | Advertising -- 0.1% | |
| 130,000 | MDC Partners, Inc., 6.5%, 5/1/24 (144A) | \$ |
| | Broadcasting -- 0.3% | |
| 315,000 | CSC Holdings LLC, 5.5%, 4/15/27 (144A) | \$ |
| 200,000 | Intelsat Luxembourg SA, 7.75%, 6/1/21 | |
| | | ----- |
| | | \$ |
| | Cable & Satellite -- 0.2% | |
| 220,000 | DISH DBS Corp., 7.75%, 7/1/26 (144A) | \$ |
| | Movies & Entertainment -- 0.4% | |
| 600,000 | Gibson Brands, Inc., 8.875%, 8/1/18 (144A) | \$ |
| 225,000 | Regal Entertainment Group, 5.75%, 2/1/25 | |
| | | ----- |
| | | \$ |
| | Publishing -- 0.6% | |
| 855,000 | Gannett Co., Inc., 6.375%, 10/15/23 | \$ |
| | | ----- |
| Total Media | | \$ |
| | PHARMACEUTICALS, BIOTECHNOLOGY & LIFE SCIENCES -- 1.4% | |
| | Biotechnology -- 0.2% | |
| 300,000 | ConvaTec Healthcare E SA, 10.5%, 12/15/18 (144A) | \$ |
| | Pharmaceuticals -- 1.2% | |
| 208,000 | DPx Holdings BV, 7.5%, 2/1/22 (144A) | \$ |
| 650,000 | Endo Finance LLC / Endo, Ltd. / Endo Finco, Inc., | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | | |
|---|---------|--|----------------------|
| | 240,000 | 6.0%, 7/15/23 (144A) Endo Finance LLC / Endo, Ltd. / Endo Finco, Inc., 6.5%, 2/1/25 (144A) | |
| | 70,000 | Horizon Pharma, Inc. / Horizon Pharma USA, Inc., 8.75%, 11/1/24 (144A) | |
| EUR | 450,000 | VRX Escrow Corp., 4.5%, 5/15/23 | |
| | 345,000 | VRX Escrow Corp., 5.875%, 5/15/23 (144A) | |
| | | | ----- \$ ----- |
| Total Pharmaceuticals, Biotechnology & Life Sciences | | | \$ ----- |

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

34 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| | Principal Amount USD (\$) | | Value |
|--|---------------------------------|---|-------------|
| | | | ----- |
| | 1,520,000 | REAL ESTATE -- 1.1% Specialized REIT -- 1.1% Communications Sales & Leasing, Inc. / CSL Capital LLC, 8.25%, 10/15/23 | \$ ----- |
| Total Real Estate | | | \$ ----- |
| | 235,000 | RETAILING -- 0.5% Computer & Electronics Retail -- 0.1% Rent-A-Center, Inc., 6.625%, 11/15/20 | \$ ----- |
| | 300,000 | Department Stores -- 0.4% Argos Merger Sub, Inc., 7.125%, 3/15/23 (144A) | \$ ----- |
| | 350,000 | Neiman Marcus Group, Ltd., LLC, 8.0%, 10/15/21 (144A) | \$ ----- |
| Total Retailing | | | \$ ----- |
| | 200,000 | SEMICONDUCTORS & SEMICONDUCTOR EQUIPMENT -- 0.2% Semiconductors -- 0.2% Micron Technology, Inc., 5.5%, 2/1/25 | \$ ----- |
| | 150,000 | Micron Technology, Inc., 5.625%, 1/15/26 (144A) | \$ ----- |
| Total Semiconductors & Semiconductor Equipment | | | \$ ----- |
| | 65,000 | SOFTWARE & SERVICES -- 0.6% Data Processing & Outsourced Services -- 0.0%+ NeuStar, Inc., 4.5%, 1/15/23 | \$ ----- |
| | 130,000 | IT Consulting & Other Services -- 0.6% Diamond 1 Finance Corp. / Diamond 2 Finance Corp., | \$ ----- |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | | |
|---------|--|---|----------------------|
| | | 7.125%, 6/15/24 (144A) | \$ |
| 635,000 | | Inception Merger Sub, Inc. / Rackspace Hosting, Inc., 8.625%, 11/15/24 (144A) | |
| | | | ----- \$ ----- |
| | | Total Software & Services | \$ |
| ----- | | | |
| | | TECHNOLOGY HARDWARE & EQUIPMENT -- 0.8% | |
| | | Communications Equipment -- 0.2% | |
| 280,000 | | CommScope Technologies Finance LLC, 6.0%, 6/15/25 (144A) | \$ |
| | | | ----- |
| | | Electronic Equipment & Instruments -- 0.2% | |
| 315,000 | | Zebra Technologies Corp., 7.25%, 10/15/22 | \$ |
| | | | ----- |
| | | Technology Hardware, Storage & Peripherals -- 0.4% | |
| 485,000 | | Diebold, Inc., 8.5%, 4/15/24 (144A) | \$ |
| | | | ----- |
| | | Total Technology Hardware & Equipment | \$ |
| ----- | | | |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 35

Schedule of Investments | 10/31/16 (unaudited) (continued)

| Principal Amount USD (\$) | | | Value |
|---------------------------------|--|---|----------------------|
| ----- | | | |
| | | TELECOMMUNICATION SERVICES -- 3.9% | |
| | | Integrated Telecommunication Services -- 1.9% | |
| 1,165,000 | | Frontier Communications Corp., 8.75%, 4/15/22 | \$ |
| 290,000 | | Frontier Communications Corp., 11.0%, 9/15/25 | |
| 750,000 | | GCI, Inc., 6.875%, 4/15/25 | |
| 600,000 | | Windstream Corp., 7.5%, 6/1/22 | |
| | | | ----- \$ ----- |
| ----- | | | |
| | | Wireless Telecommunication Services -- 2.0% | |
| 250,000 | | Altice Finco SA, 8.125%, 1/15/24 (144A) | \$ |
| 300,000 | | Altice SA, 7.75%, 5/15/22 (144A) | |
| 225,000 | | Digicel Group, Ltd., 8.25%, 9/30/20 (144A) | |
| 750,000 | | Digicel, Ltd., 6.0%, 4/15/21 (144A) | |
| 200,000 | | Mobile Telesystems OJSC via MTS International Funding, Ltd., 5.0%, 5/30/23 (144A) | |
| 340,000 | | Sprint Corp., 7.125%, 6/15/24 | |
| 485,000 | | Sprint Corp., 7.25%, 9/15/21 | |
| 250,000 | | Unison Ground Lease Funding LLC, 5.78%, 3/15/20 (144A) | |
| RUB 14,100,000 | | VimpelCom Holdings BV, 9.0%, 2/13/18 (144A) | |
| | | | ----- \$ ----- |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | Total Telecommunication Services | \$ |
|------------------------|-------------|---|-------|
| ----- | | | |
| TRANSPORTATION -- 2.8% | | | |
| Airlines -- 0.8% | | | |
| 155,000 | | Intrepid Aviation Group Holdings LLC / Intrepid Finance Co., 6.875%, 2/15/19 (144A) | \$ |
| 450,000 | | Intrepid Aviation Group Holdings LLC / Intrepid Finance Co., 8.25%, 7/15/17 (144A) | |
| 500,000 | | TAM Capital 3, Inc., 8.375%, 6/3/21 (144A) | |
| | | | ----- |
| | | | \$ |
| ----- | | | |
| | 395,080 | Airport Services -- 0.3% | |
| | | Aeropuertos Argentina 2000 SA, 10.75%, 12/1/20 (144A) | \$ |
| ----- | | | |
| | | Highways & Railtracks -- 0.2% | |
| MXN | 4,500,000 | Red de Carreteras de Occidente SAPIB de CV, 9.0%, 6/10/28 (144A) | \$ |
| ----- | | | |
| | | Marine -- 0.3% | |
| | 300,000 (e) | Far East Capital, Ltd., SA, 8.0%, 5/2/18 | \$ |
| | 375,000 | Navios South American Logistics, Inc. / Navios Logistics Finance US, Inc., 7.25%, 5/1/22 (144A) | |
| | | | ----- |
| | | | \$ |

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

36 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| Principal Amount USD (\$) | | | Value |
|----------------------------|-------------|--|-------|
| ----- | | | |
| | | Railroads -- 0.6% | |
| | 402,471 (g) | AAF Holdings LLC / AAF Finance Co., 12.0% (12.75% PIK 12.0% cash), 7/1/19 (144A) | \$ |
| | 485,000 | Florida East Coast Holdings Corp., 6.75%, 5/1/19 (144A) | |
| | | | ----- |
| | | | \$ |
| ----- | | | |
| | 1,325,000 | Trucking -- 0.6% | |
| | | Jack Cooper Holdings Corp., 9.25%, 6/1/20 | \$ |
| | | | ----- |
| | | | \$ |
| ----- | | | |
| UTILITIES -- 3.6% | | | |
| Electric Utilities -- 1.2% | | | |
| | 575,000 | Centrais Eletricas Brasileiras SA, 5.75%, 10/27/21 | \$ |
| | 460,000 (b) | Enel S.p.A., 8.75%, 9/24/73 (144A) | |
| | 725,000 | PPL Energy Supply LLC, 6.5%, 6/1/25 | |
| | | | ----- |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | \$ |
|---------------|---|-------|
| | Gas Utilities -- 0.5% | |
| 195,000 | Ferrellgas LP / Ferrellgas Finance Corp., 6.75%, 6/15/23 | \$ |
| 492,450 | Transportadora de Gas del Sur SA, 9.625%, 5/14/20 (144A) | \$ |
| | Independent Power Producers & Energy Traders -- 1.9% | |
| 570,000 | NRG Energy, Inc., 6.625%, 1/15/27 (144A) | \$ |
| 320,000 | NRG Energy, Inc., 7.25%, 5/15/26 (144A) | |
| 1,065,000 | TerraForm Global Operating LLC, 13.75%, 8/15/22 (144A) | |
| 125,000 (c) | TerraForm Power Operating LLC, 9.375%, 2/1/23 (144A) | |
| 585,000 (c) | TerraForm Power Operating LLC, 9.625%, 6/15/25 (144A) | |
| | Total Utilities | \$ |
| | TOTAL CORPORATE BONDS & NOTES (Cost \$125,725,467) | \$ 12 |
| | CONVERTIBLE BONDS & NOTES -- 2.3% of Net Assets | |
| | HEALTH CARE EQUIPMENT & SERVICES -- 1.1% | |
| | Health Care Equipment -- 1.1% | |
| 1,040,000 (c) | Hologic, Inc., 2.0%, 12/15/37 | \$ |
| | Total Health Care Equipment & Services | \$ |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 37

Schedule of Investments | 10/31/16 (unaudited) (continued)

| Principal Amount USD (\$) | | Value |
|---------------------------------|---|-------|
| | MATERIALS -- 1.2% | |
| | Diversified Chemicals -- 1.2% | |
| 1,900,000 (k) | Hercules, Inc., 6.5%, 6/30/29 | \$ |
| | Total Materials | \$ |
| | TOTAL CONVERTIBLE BONDS & NOTES (Cost \$2,251,893) | \$ |
| | U.S. GOVERNMENT AND AGENCY OBLIGATION -- | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | | |
|-----|---------------|---|----|
| | 7,880,000 (a) | 5.4% of Net Assets U.S. Treasury Notes, 0.54%, 4/30/18 | \$ |
| | | TOTAL U.S. GOVERNMENT AND AGENCY OBLIGATION (Cost \$7,882,434) | \$ |
| | | SOVEREIGN DEBT OBLIGATIONS -- 2.2% of Net Assets | |
| | 258,880 | Argentina -- 1.5% | |
| | 360,000 | Province of Salta Argentina, 9.5%, 3/16/22 (144A) | \$ |
| | 230,000 | Provincia de Buenos Aires, 9.125%, 3/16/24 (144A) | |
| | 1,135,000 | Provincia de Buenos Aires, 9.95%, 6/9/21 (144A) | |
| | | Provincia del Chubut Argentina, 7.75%, 7/26/26 (144A) | \$ |
| | 450,000 | Ireland -- 0.3% Vnesheconombank Via VEB Finance Plc, 6.902%, 7/9/20 (144A) | \$ |
| | 500,000 | Kenya -- 0.4% Kenya Government International Bond, 6.875%, 6/24/24 (144A) | \$ |
| MXN | 970,000 | Mexico -- 0.0%+ Mexican Bonos, 7.75%, 11/13/42 | \$ |
| MXN | 329,722 | Mexican Udibonos, 3.5%, 12/14/17 | \$ |
| | | TOTAL SOVEREIGN DEBT OBLIGATIONS (Cost \$2,935,653) | \$ |
| | 1,000,000 (b) | TAX EXEMPT OBLIGATION -- 0.7% of Net Assets (1) North Carolina -- 0.7% Charlotte-Mecklenburg Hospital Authority, Carolinas HealthCare System, Series B, 0.47%, 1/15/26 | \$ |
| | | TOTAL TAX EXEMPT OBLIGATION (Cost \$1,000,000) | \$ |

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

38 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| | | | Value |
|--|----------------|-------------------------------------|-------|
| | | COMMON STOCKS -- 0.2% of Net Assets | |
| | | CAPITAL GOODS -- 0.0%+ | |
| | | Industrial Machinery -- 0.0%+ | |
| | 10,289 (d) (f) | Liberty Tire Recycling LLC | \$ |
| | | Total Capital Goods | \$ |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | | |
|---|----------------|--|-------|
| | | CONSUMER DURABLES & APPAREL -- 0.0%+ | |
| | | Homebuilding -- 0.0%+ | |
| MXN | 89,094 (f) | Desarrolladora Homex SAB de CV | \$ |
| | | | ----- |
| | | | \$ |
| <hr style="border-top: 1px dashed black;"/> | | | |
| | | ENERGY -- 0.0%+ | |
| | | Oil & Gas Exploration & Production -- 0.0%+ | |
| | 11,059 (f) | PetroQuest Energy, Inc. | \$ |
| | | | ----- |
| | | | \$ |
| <hr style="border-top: 1px dashed black;"/> | | | |
| | | HEALTH CARE EQUIPMENT & SERVICES -- 0.0%+ | |
| | | Health Care Technology -- 0.0%+ | |
| | 69,875 (d) (f) | Medical Card System, Inc. | \$ |
| | | | ----- |
| | | | \$ |
| <hr style="border-top: 1px dashed black;"/> | | | |
| | | INSURANCE -- 0.0%+ | |
| | | Insurance Brokers -- 0.0%+ | |
| GBP | 10,233 (d) (f) | TopCo., Ltd. | \$ |
| GBP | 475 (d) (f) | Towergate Finance Plc | \$ |
| | | | ----- |
| | | | \$ |
| <hr style="border-top: 1px dashed black;"/> | | | |
| | | RETAILING -- 0.0%+ | |
| | | Computer & Electronics Retail -- 0.0%+ | |
| | 42,088 (d) (f) | Targus Cayman SubCo., Ltd. | \$ |
| | | | ----- |
| | | | \$ |
| <hr style="border-top: 1px dashed black;"/> | | | |
| | | TRANSPORTATION -- 0.2% | |
| | | Air Freight & Logistics -- 0.2% | |
| | 943 (f) | CEVA Holdings LLC | \$ |
| | | | ----- |
| | | | \$ |
| <hr style="border-top: 1px dashed black;"/> | | | |
| | | | \$ |
| <hr style="border-top: 1px dashed black;"/> | | | |
| | | CONVERTIBLE PREFERRED STOCK -- 0.4% of Net Assets | |
| | | BANKS -- 0.4% | |
| | | Diversified Banks -- 0.4% | |
| | 470 | Bank of America Corp., 7.25% | \$ |
| | | | ----- |
| | | | \$ |
| <hr style="border-top: 1px dashed black;"/> | | | |
| | | | \$ |
| <hr style="border-top: 1px dashed black;"/> | | | |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 39

Schedule of Investments | 10/31/16 (unaudited) (continued)

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| Shares | | | Value |
|------------------------------|-----------------|--|-------|
| | | PREFERRED STOCKS -- 1.4% of Net Assets | |
| | | BANKS -- 0.4% | |
| | | Diversified Banks -- 0.4% | |
| 500 (b) (h) | | AgStar Financial Services ACA, 6.75% (144A) | \$ |
| | | Total Banks | \$ |
| | | DIVERSIFIED FINANCIALS -- 0.7% | |
| | | Other Diversified Financial Services -- 0.7% | |
| 40,675 (b) | | GMAC Capital Trust I, 6.602% | \$ |
| | | Total Diversified Financials | \$ |
| | | INSURANCE -- 0.3% | |
| | | Insurance Brokers -- 0.3% | |
| GBP | 452,745 (d) (f) | Towergate Finance Plc, Class B | \$ |
| | | Total Insurance | \$ |
| | | TOTAL PREFERRED STOCKS (Cost \$2,106,323) | \$ |
| | | WARRANT -- 0.0%+ of Net Assets | |
| | | INSURANCE -- 0.0%+ | |
| | | Insurance Brokers -- 0.0%+ | |
| GBP | 136 (d) (f) (m) | Towergate Finance Plc | \$ |
| | | TOTAL WARRANT (Cost \$-) | \$ |
| Principal Amount USD (\$) | | | Value |
| | | TEMPORARY CASH INVESTMENTS -- 2.6% of Net Assets | |
| | | CERTIFICATE OF DEPOSIT -- 0.3% | |
| 505,000 | | Sumitomo Mitsui Bank, 1.26%, 4/3/17 | \$ |
| | | COMMERCIAL PAPERS -- 0.7% | |
| 505,000 | | BNP Paribas SA, 0.29%, 11/1/16 | \$ |
| 505,000 | | Societe Generale SA, 0.24%, 11/1/16 | \$ |
| | | TREASURY BILL -- 1.6% | |
| 2,305,000 (n) | | U.S. Treasury Bill, 11/10/16 | \$ |
| | | TOTAL TEMPORARY CASH INVESTMENTS (Cost \$3,819,867) | \$ |

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

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

40 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

| Number of Contracts | Description | Counterparty | Strike Price | Expiration Date | Value |
|------------------------|--|----------------------------------|-----------------|--------------------|-------|
| | CALL OPTIONS PURCHASED -- 0.0%+ | | | | |
| MXN 18,332 (o) | Desarrolladora Homex SAB de CV | Bank of New York Mellon Corp. | \$-- (q) | 10/23/22 | \$ |
| MXN 18,332 (p) | Desarrolladora Homex SAB de CV | Bank of New York Mellon Corp. | -- (q) | 10/23/22 | |
| | | | | | \$ |
| | TOTAL CALL OPTIONS PURCHASED (Premiums paid \$0) | | | | \$ |
| | TOTAL INVESTMENTS IN SECURITIES -- 140.5% (Cost -- \$200,824,314) (r) (s) | | | | \$ 20 |
| | OTHER ASSETS AND LIABILITIES -- (40.5)% | | | | \$ (5 |
| | NET ASSETS -- 100.0% | | | | \$ 14 |

REIT Real Estate Investment Trust.

(144A) Security is exempt from registration under Rule 144A of the Securities Act of 1933. Such securities may be resold normally to qualified institutional buyers in a transaction exempt from registration. At October 31, 2016, the value of these securities amounted to \$80,457,743, or 55.6% of total net assets applicable to common shareowners.

(Cat Bond) Catastrophe or Event-linked bond. At October 31, 2016, the value of these securities amounted to \$11,519,090, or 8.0% of total net assets applicable to common shareowners. See Notes to Financial Statements -- Note 1F.

+ Amount rounds to less than 0.1%.

* Senior secured floating rate loan interests in which the Trust invests generally pay interest at rates that are periodically redetermined by reference to a base lending plus a premium. These base lending rates are generally (i) the lending rate offered by one or more major European banks, such as LIBOR (London InterBank Offered Rate), (ii) the prime rate offered by one or more major United States banks, (iii) the rate of a certificate of deposit or (iv) other base lending rates used by commercial lenders. The interest rate shown is the rate accruing at October 31, 2016.

(a) Floating rate note. The rate shown is the coupon rate at October 31, 2016.

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

- (b) The interest rate is subject to change periodically. The interest rate shown is the rate at October 31, 2016.
- (c) Debt obligation initially issued at one coupon which converts to a higher coupon at a specific date. The rate shown is the rate at October 31, 2016.
- (d) Security is valued using fair value methods (other than prices supplied by independent pricing services). See Notes to Financial Statements -- Note 1A.
- (e) Security is in default.
- (f) Non-income producing.
- (g) Payment in Kind (PIK) security which may pay interest in the form of additional principal amount.
- (h) Security is perpetual in nature and has no stated maturity date.

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 41

Schedule of Investments | 10/31/16 (unaudited) (continued)

- (i) Structured reinsurance investment. At October 31, 2016, the value of these securities amounted to \$22,596,220, or 15.6% of total net assets applicable to common shareowners. See Notes to Financial Statements -- Note 1F.
- (j) Rate to be determined.
- (k) Security is priced as a unit.
- (l) Consists of Revenue Bonds unless otherwise indicated.
- (m) Towergate B Preferred warrants are exercisable into 136 Tig FinCo A shares.
- (n) Security issued with a zero coupon. Income is recognized through accretion of discount.
- (o) Option does not become effective until underlying company's outstanding common shares reach a market capitalization of MXN 12.5 Billion.
- (p) Option does not become effective until underlying company's outstanding common shares reach a market capitalization of MXN 15.5 Billion.
- (q) Strike price is 1 Mexican Peso (MXN).
- (r) At October 31, 2016, the net unrealized appreciation on investments based on cost for federal tax purposes of \$202,926,218 was as follows:

Aggregate gross unrealized appreciation for all investments in which

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | |
|--|---------------|
| there is an excess of value over tax cost | \$ 10,227,222 |
| Aggregate gross unrealized depreciation for all investments in which | |
| there is an excess of tax cost over value | (10,061,164) |
| | ----- |
| Net unrealized appreciation | \$ 166,058 |
| | ===== |

For financial reporting purposes net unrealized appreciation on investments was \$2,267,962 and cost of investments aggregated \$200,824,314.

(s) Distributions of Investments by country of issue, as a percentage of long-term holdings based on country of domicile, is as follows:

| | |
|-----------------------------------|--------|
| United States | 62.8% |
| Bermuda | 15.0 |
| Luxembourg | 3.6 |
| Netherlands | 2.7 |
| Argentina | 2.4 |
| Cayman Islands | 2.4 |
| Ireland | 2.4 |
| France | 1.3 |
| Canada | 1.1 |
| Other (individually less than 1%) | 6.3 |
| | ----- |
| | 100.0% |

Purchases and sales of securities (excluding temporary cash investments) for the six months ended October 31, 2016 were as follows:

| | Purchases | Sales |
|----------------------------|--------------|--------------|
| Long-Term U.S. Government | \$12,336,712 | \$ 8,480,369 |
| Other Long-Term Securities | \$37,954,220 | \$50,292,689 |

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

42 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

The Trust is permitted to engage in purchase and sale transactions ("cross trades") with certain funds and accounts for which Pioneer Investment Management, Inc. serves as the investment adviser, as set forth in Rule 17a-7 under the Investment Company Act of 1940, pursuant to procedures adopted by the Board of Trustees. Under these procedures, cross trades are effected at current market prices. During the six months ended October 31, 2016, the Trust engaged in sale pursuant to these procedures amounting to \$208,342, which resulted in a net realized gain of \$7,750.

Principal amounts are denominated in U.S. dollars unless otherwise noted.

EUR -- Euro
 GBP -- British Pound Sterling

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|-----|----|-------------------|
| IDR | -- | Indonesian Rupiah |
| JPY | -- | Japanese Yen |
| MXN | -- | Mexican Peso |
| RUB | -- | Russian Ruble |

Various inputs are used in determining the value of the Trust's investments. These inputs are summarized in the three broad levels below.

Level 1 -- quoted prices in active markets for identical securities.

Level 2 -- other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit risks, etc.). See Notes to Financial Statements -- Note 1A.

Level 3 -- significant unobservable inputs (including the Trust's own assumptions in determining fair value of investments). See Notes to Financial Statements -- Note 1A.

The following is a summary of the inputs used as of October 31, 2016, in valuing the Trust's investments.

| | Level 1 | Level 2 | Level 3 | Total |
|---|---------|--------------|------------|--------------|
| Asset Backed Securities | \$ -- | \$ 1,533,922 | \$ -- | \$ 1,533,922 |
| Collateralized Mortgage Obligations | -- | 707,504 | -- | 707,504 |
| Commercial Mortgage-Backed Securities | -- | 4,452,994 | -- | 4,452,994 |
| Senior Secured Floating Rate Loan Interests | | | | |
| Health Care Equipment & Services | | | | |
| Health Care Technology | -- | 235,920 | 243,918 | 479,838 |
| All Other Senior Secured Floating Rate Loan Interests | -- | 46,201,703 | -- | 46,201,703 |
| Corporate Bonds & Notes | | | | |
| Insurance | | | | |
| Property & Casualty Insurance | -- | 80,500 | 5,569,878 | 5,650,378 |
| Reinsurance | -- | 11,287,240 | 22,596,220 | 33,883,760 |
| Materials | | | | |
| Diversified Metals & Mining | -- | 1,719,270 | 38,172 | 1,757,442 |
| All Other Corporate Bonds & Notes | -- | 86,391,424 | -- | 86,391,424 |
| Convertible Bonds & Notes | -- | 3,333,700 | -- | 3,333,700 |
| U.S. Government and Agency Obligation | -- | 7,888,975 | -- | 7,888,975 |
| Sovereign Debt Obligations | -- | 3,143,207 | -- | 3,143,207 |
| Tax Exempt Obligation | -- | 1,000,000 | -- | 1,000,000 |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 43

Schedule of Investments | 10/31/16 (unaudited) (continued)

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | Level 1 | Level 2 | Level 3 | Total |
|---|---------------------|-----------------------|----------------------|----------------------|
| Common Stocks | | | | |
| Capital Goods | | | | |
| Industrial Machinery | \$ -- | \$ -- | \$ 103 | \$ 103 |
| Health Care Equipment & Services | | | | |
| Health Care Technology | -- | -- | 699 | 699 |
| Insurance | | | | |
| Insurance Brokers | -- | -- | 9,275 | 9,275 |
| Retailing | | | | |
| Computer & Electronics | | | | |
| Retail | -- | -- | 40,825 | 40,825 |
| Transportation | | | | |
| Air Freight & Logistics | -- | 188,662 | -- | 188,662 |
| All Other Common Stocks | 49,987 | -- | -- | 49,987 |
| Convertible Preferred Stocks | 578,570 | -- | -- | 578,570 |
| Preferred Stocks | | | | |
| Insurance | | | | |
| Insurance Brokers | -- | -- | 410,112 | 410,112 |
| All Other Preferred Stock | 1,568,870 | -- | -- | 1,568,870 |
| Warrant | -- | -- | --* | --* |
| Certificate of Deposit | -- | 505,708 | -- | 505,708 |
| Commercial Papers | -- | 1,009,990 | -- | 1,009,990 |
| Treasury Bills | -- | 2,304,928 | -- | 2,304,928 |
| Call Options Purchased | -- | --* | -- | --* |
| Total Investments in Securities | \$ 2,197,427 | \$ 171,985,647 | \$ 28,909,202 | \$203,092,276 |
| Other Financial Instruments | | | | |
| Unrealized appreciation on forward foreign currency contracts | \$ -- | \$ 62,310 | \$ -- | \$ 62,310 |
| Unrealized depreciation on forward foreign currency contracts | -- | (21,843) | -- | (21,843) |
| Total Other Financial Instruments | \$ -- | \$ 40,467 | \$ -- | \$ 40,467 |

* Includes securities that are valued at \$0.

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

44 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

The following is a reconciliation of assets valued using significant unobservable inputs (Level 3):

| Balance as of 4/30/16 | Realized gain (loss) (1) | Change in unrealized appreciation (depreciation) (2) | Purchases | Sales | Accrued discounts/premiums | Transfers in to Level |
|-----------------------|--------------------------|--|-----------|-------|----------------------------|-----------------------|
|-----------------------|--------------------------|--|-----------|-------|----------------------------|-----------------------|

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | | | | | | | |
|-------------------------------|---------------------|--------------------|-------------------|--------------------|-----------------------|------------------|----------------|--|
| Senior | | | | | | | | |
| Secured | | | | | | | | |
| Floating | | | | | | | | |
| Rate Loan | | | | | | | | |
| Interests | | | | | | | | |
| Health Care | | | | | | | | |
| Equipment & Services | | | | | | | | |
| Health Care Technology | \$ 243,918 | \$ -- | \$ (7,339) | \$ -- | \$ -- | \$ 7,339 | \$ | |
| Retailing | | | | | | | | |
| Computer & Electronics | | | | | | | | |
| Retail | 168,351 | -- | (29,594) | 16,610 | -- | -- | | |
| Corporate | | | | | | | | |
| Bonds & Notes | | | | | | | | |
| Capital Goods | | | | | | | | |
| Industrial Machinery | 169,505 | (66,689) | 43,904 | 12,598 | (160,099) | 781 | | |
| Insurance | | | | | | | | |
| Property & Casualty Insurance | 5,247,802 | -- | 311,945 | -- | -- | 10,131 | | |
| Reinsurance | 18,069,562 | (16,594) | 722,950 | 7,482,392 | (3,998,270) | 336,180 | | |
| Materials | | | | | | | | |
| Diversified Metals & Mining | -- | -- | (140,817) | 20,364 | -- | -- | 158,6 | |
| Common Stocks | | | | | | | | |
| Capital Goods | | | | | | | | |
| Industrial Machinery | 103 | -- | -- | -- | -- | -- | | |
| Health Care | | | | | | | | |
| Equipment & Services | | | | | | | | |
| Health Care Technology | -- | -- | -- | 699 | -- | -- | | |
| Insurance | | | | | | | | |
| Insurance Brokers | 156 | -- | 9,119 | -- | -- | -- | | |
| Retailing | | | | | | | | |
| Computer & Electronics | | | | | | | | |
| Retail | 147,308 | -- | (106,483) | -- | -- | -- | | |
| Preferred | | | | | | | | |
| Stocks | | | | | | | | |
| Insurance | | | | | | | | |
| Insurance Brokers | 548,937 | -- | (138,825) | -- | -- | -- | | |
| Reinsurance | 37,500 | -- | (37,500) | -- | -- | -- | | |
| Warrant | | | | | | | | |
| Insurance Brokers | --** | -- | -- | -- | -- | -- | | |
| Total | \$24,633,142 | \$ (83,283) | \$ 627,360 | \$7,532,663 | \$ (4,158,369) | \$354,431 | \$158,6 | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 45

Schedule of Investments | 10/31/16 (unaudited) (continued)

- (1) Realized gain (loss) on these securities is included in the realized gain (loss) from investments in the Statement of Operations.
- (2) Unrealized appreciation (depreciation) on these securities is included in the change in unrealized appreciation (depreciation) from investments in the Statement of Operations.
- * Transfers are calculated on the beginning of period value. For the six months ended October 31, 2016, there were no transfers between Levels 1 and 2. Securities with an aggregate market value of \$158,625 transferred from level 2 to level 3 as there were no longer observable inputs available to determine their value. Securities with an aggregate market value of \$155,367 transferred from Level 3 to Level 2 as there were observable inputs available to determine their value.
- ** Includes securities that are valued at \$0.

Net change in unrealized depreciation of Level 3 investments still held and considered Level 3 at October 31, 2016: \$781,720.

The following table presents additional information about valuation techniques and inputs used for investments categorized as Level 3 at October 31, 2016. These amounts exclude valuations provided by a broker.

| Asset Type | Fair Value 10/31/16 | Valuation Technique (s) | Unobservable Input | Va Ra |
|---|------------------------|----------------------------|---|-----------|
| Senior Secured Floating Rate Loan Interests | \$ 243,918 | Market Comparables | EBITDA Multiples(1) | 4x |
| Corporate Bonds & Notes | \$5,608,050 | Market Comparables | EBITDA Multiples(1) Yield Premium(2) | 5.5 1. |
| Common Stocks | \$ 50,902 | Market Comparables | EBITDA Multiples(1) | 4x |
| Preferred Stocks | \$ 410,112 | Market Comparables | EBITDA Multiples(1) | 5.5 |

- (1) An increase in this unobservable input would result in a higher fair value measurement, while a decrease would result in a lower fair value measurement.
- (2) An increase in this unobservable input would result in a lower fair value measurement, while a decrease would result in a higher fair value measurement.

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

46 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

Statement of Assets and Liabilities | 10/31/16 (unaudited)

| | |
|---|---------------|
| ASSETS: | |
| Investments in securities, at value (cost \$200,824,314) | \$203,092,276 |
| Cash | 1,609,759 |
| Foreign currencies, at value (cost \$571) | 582 |
| Receivables -- | |
| Investment securities sold | 990,269 |
| Interest | 2,147,372 |
| Unrealized appreciation on forward foreign currency contracts | 62,310 |
| <hr style="border-top: 1px dashed black;"/> | |
| Total assets | \$207,902,568 |
| <hr style="border-top: 1px dashed black;"/> | |
| LIABILITIES: | |
| Payables -- | |
| Credit agreement | \$ 57,000,000 |
| Investment securities purchased | 5,985,824 |
| Trustees' fees | 591 |
| Administration fee | 84,281 |
| Unrealized depreciation on forward foreign currency contracts | 21,843 |
| Due to affiliates | 144,826 |
| Accrued expenses | 69,517 |
| <hr style="border-top: 1px dashed black;"/> | |
| Total liabilities | \$ 63,306,882 |
| <hr style="border-top: 1px dashed black;"/> | |
| NET ASSETS: | |
| Paid-in capital | \$194,412,035 |
| Distributions in excess of net investment income | (939,549) |
| Accumulated net realized loss on investments and foreign currency transactions | (51,184,002) |
| Net unrealized appreciation on investments | 2,267,962 |
| Net unrealized appreciation on forward foreign currency contracts and other assets and liabilities denominated in foreign currencies | 39,240 |
| <hr style="border-top: 1px dashed black;"/> | |
| Net assets | \$144,595,686 |
| <hr style="border-top: 1px dashed black;"/> | |
| NET ASSET VALUE PER SHARE: | |
| No par value (unlimited number of shares authorized) | |
| Based on \$144,595,686 / 8,332,790 shares | \$ 17.35 |
| <hr style="border-top: 1px dashed black;"/> | |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 47

Statement of Operations (unaudited)

For the Six Months Ended 10/31/16

| | |
|---------------------------|--------------|
| INVESTMENT INCOME: | |
| Interest | \$ 6,626,682 |
| Dividends | 66,848 |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|--|----|----------------|
| Loan facility and other income | | 201,058 |
| <hr style="border-top: 1px dashed black;"/> | | |
| Total investment income | | \$ 6,894,588 |
| <hr style="border-top: 1px dashed black;"/> | | |
| EXPENSES: | | |
| Management fees | \$ | 850,956 |
| Administrative expense | | 63,369 |
| Transfer agent fees | | 4,648 |
| Shareholder communications expense | | 5,694 |
| Custodian fees | | 17,552 |
| Professional fees | | 49,342 |
| Printing expense | | 3,662 |
| Trustees' fees | | 3,772 |
| Pricing fees | | 16,283 |
| Interest expense | | 414,200 |
| Miscellaneous | | 22,206 |
| <hr style="border-top: 1px dashed black;"/> | | |
| Total expenses | | \$ 1,451,684 |
| <hr style="border-top: 1px dashed black;"/> | | |
| Net investment income | | \$ 5,442,904 |
| <hr style="border-top: 1px dashed black;"/> | | |
| REALIZED AND UNREALIZED GAIN (LOSS) ON INVESTMENTS AND FOREIGN CURRENCY TRANSACTIONS: | | |
| Net realized gain (loss) on: | | |
| Investments | \$ | (1,466,852) |
| Forward foreign currency contracts and other assets and liabilities denominated in foreign currencies | | 149,374 |
| | | \$ (1,317,478) |
| <hr style="border-top: 1px dashed black;"/> | | |
| Change in net unrealized appreciation (depreciation) on: | | |
| Investments | \$ | 7,464,350 |
| Forward foreign currency contracts and other assets and liabilities denominated in foreign currencies | | 185,798 |
| | | \$ 7,650,148 |
| <hr style="border-top: 1px dashed black;"/> | | |
| Net realized and unrealized gain (loss) on investments and foreign currency transactions | | \$ 6,332,670 |
| <hr style="border-top: 1px dashed black;"/> | | |
| Net increase in net assets resulting from operations | | \$11,775,574 |
| <hr style="border-top: 3px double black;"/> | | |

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

48 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Statements of Changes in Net Assets

| | Six Months Ended 10/31/16 (unaudited) | Year Ended 4/30/16 |
|--|--|--------------------------|
| <hr style="border-top: 1px dashed black;"/> | | |
| FROM OPERATIONS: | | |
| Net investment income (loss) | \$ 5,442,904 | \$ 12,884,402 |
| Net realized gain (loss) on investments and foreign currency transactions | (1,317,478) | (10,801,993) |
| Change in net unrealized appreciation (depreciation) on investments and foreign currency transactions | 7,650,148 | (4,289,425) |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | | |
|--|----------------|-----------------|
| Net increase (decrease) in net assets resulting from operations | \$ 11,775,574 | \$ (2,207,016) |
| <hr/> | | |
| DISTRIBUTIONS TO SHAREOWNERS: | | |
| Net investment income and previously undistributed net investment income (\$0.69 and \$1.50 per share, respectively) | \$ (5,749,625) | \$ (12,499,185) |
| <hr/> | | |
| Total distributions to shareowners | \$ (5,749,625) | \$ (12,499,185) |
| <hr/> | | |
| Net increase (decrease) in net assets | \$ 6,025,949 | \$ (14,706,201) |
| NET ASSETS: | | |
| Beginning of period | \$138,569,737 | \$ 153,275,938 |
| <hr/> | | |
| End of period | \$144,595,686 | \$ 138,569,737 |
| <hr/> | | |
| Distributions in excess of net investment income | \$ (939,549) | \$ (632,828) |
| <hr/> | | |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 49

Statement of Cash Flows (unaudited)

For the Six Months Ended 10/31/16

| | |
|---|----------------|
| Cash Flows From Operating Activities: | |
| Net increase in net assets resulting from operations | \$ 11,775,574 |
| <hr/> | |
| Adjustments to reconcile net decrease in net assets resulting from operations to net cash and foreign currencies from operating activities: | |
| Inflation indexed bond income | \$ (144) |
| Purchases of investment securities | (54,630,075) |
| Proceeds from disposition and maturity of investment securities | 57,627,962 |
| Net purchases of temporary cash investments | (430,145) |
| Net accretion and amortization of discount/premium on investment securities | (652,977) |
| Change in unrealized appreciation on investments | (7,464,350) |
| Change in unrealized appreciation on forward foreign currency contracts and foreign currency | (190,566) |
| Net realized loss on investments | 1,466,852 |
| Decrease in interest receivable | 269,645 |
| Decrease in dividends receivable | 8,519 |
| Increase in due to affiliates | 11,397 |
| Increase in trustees' fees payable | 62 |
| Increase in administration fees payable | 1,088 |
| Decrease in accrued expenses payable | (38,764) |
| <hr/> | |
| Net cash and foreign currencies from operating activities | \$ 7,754,078 |
| <hr/> | |
| Cash Flows Used in Financing Activities: | |
| Decrease in due to custodian | \$ (394,439) |
| Distributions to shareowners | (5,749,625) |
| <hr/> | |
| Net cash and foreign currencies used in financing activities | \$ (6,144,064) |
| <hr/> | |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| | |
|--|--------------|
| Effect of Foreign Exchange Fluctuations on Cash: | |
| Effect of foreign exchange fluctuations on cash | \$ 2 |
| ----- | |
| Cash and Foreign Currencies: | |
| Beginning of the period | \$ 325 |
| End of the period | \$ 1,610,341 |
| ===== | |
| Cash Flow Information: | |
| Cash paid for interest | \$ 414,200 |
| ----- | |

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

50 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Financial Highlights

| | Six Months Ended 10/31/16 (unaudited) | Year Ended 4/30/16 | Year Ended 4/30/15 | Year Ended 4/30/14 |
|---|--|--------------------------|--------------------------|--------------------------|
| ----- | | | | |
| Per Share Operating Performance | | | | |
| Net asset value, beginning of period | \$ 16.63 | \$ 18.39 | \$ 20.03 | \$ 21.40 |
| ----- | | | | |
| Increase (decrease) from investment operations: (a) | | | | |
| Net investment income | \$ 0.65 | \$ 1.55 | \$ 1.82 | \$ 1.82 |
| Net realized and unrealized gain (loss) on investments and foreign currency transactions | 0.76 | (1.81) | (1.63) | (1.63) |
| ----- | | | | |
| Net increase (decrease) from investment operations | \$ 1.41 | \$ (0.26) | \$ 0.19 | \$ 0.19 |
| ----- | | | | |
| Distributions to shareowners from: | | | | |
| Net investment income and previously undistributed net investment income | \$ (0.69)* | \$ (1.50) | \$ (1.83)* | \$ (1.83) |
| ----- | | | | |
| Net increase (decrease) in net asset value | \$ 0.72 | \$ (1.76) | \$ (1.64) | \$ (1.64) |
| ----- | | | | |
| Net asset value, end of period (b) | \$ 17.35 | \$ 16.63 | \$ 18.39 | \$ 20.03 |
| ----- | | | | |
| Market value, end of period (b) | \$ 16.00 | \$ 15.60 | \$ 17.42 | \$ 18.39 |
| ===== | | | | |
| Total return at market value (c) | 7.04% (d) | (1.26)% | (7.90)% | (7.90)% |
| Ratios to average net assets of shareowners: | | | | |
| Total expenses plus interest expense (e) (f) | 2.03% (g) | 1.99% | 1.85% | 1.85% |
| Net investment income available to shareowners | 7.63% (g) | 9.11% | 9.52% | 9.52% |
| Portfolio turnover | 27% | 36% | 48% | 48% |
| Net assets of shareowners, end of period (in thousands) | \$144,596 | \$138,570 | \$153,276 | \$153,276 |

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

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 51

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

Financial Highlights (continued)

| | Six Months Ended 10/31/16 (unaudited) | Year Ended 4/30/16 | Year Ended 4/30/15 | Year Ended 4/30/14 |
|---|--|--------------------------|--------------------------|--------------------------|
| Total amount of debt outstanding (in thousands) | \$57,000 | \$57,000 | \$64,000 | \$64,000 |
| Asset coverage per indebtedness (in thousands) | \$ 3,537 | \$ 3,431 | \$ 3,395 | \$ 3,395 |

* The amount of distributions made to shareowners during the period were in excess of the net investment income earned by the Trust during the period. The Trust has accumulated undistributed net investment income which is part of the Trust's NAV. A portion of the accumulated net investment income was distributed to shareowners during the period. A decrease in distributions may have a negative effect on the market value of the Trust's shares.

- (a) The per common share data presented above is based upon the average common shares outstanding for the periods presented.
- (b) Net asset value and market value are published in Barron's on Saturday, The Wall Street Journal on Monday and The New York Times on Monday and Saturday.
- (c) Total investment return is calculated assuming a purchase of common shares at the current market value on the first day and a sale at the current market value on the last day of the periods reported. Dividends and distributions, if any, are assumed for purposes of this calculation to be reinvested at prices obtained under the Trust's dividend reinvestment plan. Total investment return does not reflect brokerage commissions. Past performance is not a guarantee of future results.
- (d) Not annualized.
- (e) Expense ratios do not reflect the effect of distribution payments to preferred shareowners.
- (f) Includes interest expense of 0.58%, 0.50%, 0.43%, 0.45%, 0.48% and 0.56%, respectively.
- (g) Annualized.

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

52 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Notes to Financial Statements | 10/31/16 (unaudited)

1. Organization and Significant Accounting Policies

Pioneer Diversified High Income Trust (the Trust) was organized as a Delaware statutory trust on January 30, 2007. Prior to commencing operations on May 30, 2007, the Trust had no operations other than matters relating to its organization and registration as a diversified, closed-end management investment

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

company under the Investment Company Act of 1940, as amended. The investment objective of the Trust is to seek a high level of current income and the Trust may, as a secondary objective, also seek capital appreciation to the extent that it is consistent with its investment objective.

The Trust's financial statements have been prepared in conformity with U.S. generally accepted accounting principles (U.S. GAAP) that require the management of the Trust to, among other things, make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of income, expenses and gain or loss on investments during the reporting period. Actual results could differ from those estimates.

The Trust is an investment company and follows investment company accounting and reporting guidance under U.S. GAAP. The following is a summary of significant accounting policies followed by the Trust in the preparation of its financial statements:

A. Security Valuation

The net asset value of the Trust is computed once daily, on each day the New York Stock Exchange (NYSE) is open, as of the close of regular trading on the NYSE.

Fixed-income securities are valued by using prices supplied by independent pricing services, which consider such factors as market prices, market events, quotations from one or more brokers, Treasury spreads, yields, maturities and ratings, or may use a pricing matrix or other fair value methods or techniques to provide an estimated value of the security or instrument. A pricing matrix is a means of valuing a debt security on the basis of current market prices for other debt securities, historical trading patterns in the market for fixed-income securities and/or other factors. Valuations may be supplemented by dealers and other sources, as required. Non-U.S. debt securities that are listed on an exchange will be valued at the bid price obtained from an independent third party pricing service.

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 53

Loan interests are valued in accordance with guidelines established by the Board of Trustees at the mean between the last available bid and asked prices from one or more brokers or dealers as obtained from Loan Pricing Corporation, an independent third party pricing service. If price information is not available from Loan Pricing Corporation, or if the price information is deemed to be unreliable, price information will be obtained from an alternative loan interest pricing service. If no reliable price quotes are available from either the primary or alternative pricing service, broker quotes will be solicited.

Event-linked bonds or catastrophe bonds are valued at the bid price obtained from an independent third party pricing service. Other insurance linked securities (including sidecars, collateralized reinsurance and industry loss warranties) may be valued at the bid price obtained from an independent pricing service, or through a third party using a pricing matrix, insurance industry valuation models, or other fair value methods or techniques to provide an estimated value of the instrument.

Equity securities that have traded on an exchange are valued by using the last sale price on the principal exchange where they are traded. Equity securities that have not traded on the date of valuation, or securities for which sale prices are not available, generally are valued using the mean

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

between the last bid and asked prices or, if both last bid and asked prices are not available, at the last quoted bid price. Last sale and bid and asked prices are provided by independent third party pricing services. In the case of equity securities not traded on an exchange, prices are typically determined by independent third party pricing services using a variety of techniques and methods.

Foreign securities are valued in U.S. dollars based on foreign currency exchange rate quotations supplied by a third party pricing service. Trading in non-U.S. equity securities is substantially completed each day at various times prior to the close of the NYSE. The values of such securities used in computing the net asset value of the Trust's shares are determined as of such times. The Trust may use a fair value model developed by an independent pricing service to value non-U.S. equity securities.

Option contracts are generally valued at the mean between the last bid and ask prices on the principal exchange where they are traded. Over-the-counter ("OTC") options and options on swaps ("swaptions") are valued using prices supplied by independent pricing services, which consider such factors as market prices, market events, quotations from one or more brokers, Treasury spreads, yields, maturities and ratings, or may use a pricing matrix or other fair value methods or techniques to provide an estimated value of the security or instrument.

54 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Forward foreign currency exchange contracts are valued daily using the foreign exchange rate or, for longer term forward contract positions, the spot currency rate, in each case provided by a third party pricing service. Contracts whose forward settlement date falls between two quoted days are valued by interpolation.

Shares of open-end registered investment companies (including money market mutual funds) are valued at such funds' net asset value. Repurchase agreements are valued at par. Cash may include overnight time deposits at approved financial institutions.

Securities or loan interests for which independent pricing services are unable to supply prices or for which market prices and/or quotations are not readily available or are considered to be unreliable are valued by a fair valuation team comprised of certain personnel of Pioneer Investment Management, Inc. (PIM), the Trust's investment adviser, pursuant to procedures adopted by the Trust's Board of Trustees. PIM's fair valuation team uses fair value methods approved by the Valuation Committee of the Board of Trustees. PIM's fair valuation team is responsible for monitoring developments that may impact fair valued securities and for discussing and assessing fair values on an ongoing basis, and at least quarterly, with the Valuation Committee of the Board of Trustees.

Inputs used when applying fair value methods to value a security may include credit ratings, the financial condition of the company, current market conditions and comparable securities. The Trust may use fair value methods if it is determined that a significant event has occurred after the close of the exchange or market on which the security trades and prior to the determination of the Trust's net asset value. Examples of a significant event might include political or economic news, corporate restructurings, natural disasters, terrorist activity or trading halts. Thus, the valuation of the Trust's securities may differ significantly from exchange prices and such differences could be material.

At October 31, 2016, ten securities were valued using fair value methods

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

(in addition to securities valued using prices supplied by independent pricing services, broker-dealers or using a third party insurance pricing model) representing 4.4% of net assets. The value of these fair valued securities are \$6,312,982.

B. Investment Income and Transactions

Dividend income is recorded on the ex-dividend date, except that certain dividends from foreign securities where the ex-dividend date may have passed are recorded as soon as the Trust becomes aware of the ex-dividend

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 55

data in the exercise of reasonable diligence. Interest income, including interest on income bearing cash accounts, is recorded on an accrual basis, net of unrecoverable foreign taxes withheld at the applicable country rates.

Discounts and premiums on purchase prices of debt securities are accreted or amortized, respectively, daily, into interest income on an effective yield to maturity basis with a corresponding increase or decrease in the cost basis of the security. Premiums and discounts related to certain mortgage-backed securities are amortized or accreted in proportion to the monthly paydowns.

Security transactions are recorded as of trade date. Gains and losses on sales of investments are calculated on the identified cost method for both financial reporting and federal income tax purposes.

C. Foreign Currency Translation

The books and records of the Trust are maintained in U.S. dollars. Amounts denominated in foreign currencies are translated into U.S. dollars using current exchange rates.

Net realized gains and losses on foreign currency transactions, if any, represent, among other things, the net realized gains and losses on foreign currency contracts, disposition of foreign currencies and the difference between the amount of income accrued and the U.S. dollars actually received. Further, the effects of changes in foreign currency exchange rates on investments are not segregated in the Statement of Operations from the effects of changes in the market price of those securities but are included with the net realized and unrealized gain or loss on investments.

D. Forward Foreign Currency Contracts

The Trust may enter into forward foreign currency contracts (contracts) for the purchase or sale of a specific foreign currency at a fixed price on a future date. All contracts are marked to market daily at the applicable exchange rates, and any resulting unrealized appreciation or depreciation are recorded in the Trust's financial statements. The Trust records realized gains and losses at the time a contract is offset by entry into a closing transaction or extinguished by delivery of the currency. Risks may arise upon entering into these contracts from the potential inability of counterparties to meet the terms of the contracts and from unanticipated movements in the value of foreign currencies relative to the U.S. dollar (see Note 4).

E. Federal Income Taxes

It is the Trust's policy to comply with the requirements of the Internal

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

Revenue Code applicable to regulated investment companies and to distribute all of its net taxable income and net realized capital gains, if any, to its shareowners. Therefore, no federal income tax provision is required. As of

56 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

April 30, 2016, the Trust did not accrue any interest or penalties with respect to uncertain tax positions, which if applicable, would be recorded as an income tax expense in the Statement of Operations. Tax returns filed within the prior three years remain subject to examination by federal and state tax authorities.

The amount and character of income and capital gain distributions to shareowners are determined in accordance with federal income tax rules, which may differ from U.S. GAAP. Distributions in excess of net investment income or net realized gains are temporary overdistributions for financial statement and tax purposes. Capital accounts within the financial statements are adjusted for permanent book/tax differences to reflect tax character, but are not adjusted for temporary differences.

The tax character of current year distributions payable to shareholders will be determined at the end of the current taxable year. The tax character of distributions paid to shareowners during the year ended April 30, 2016 was as follows:

| | |
|--------------------------|---------------|
| | 2016 |
| | |
| Distributions paid from: | |
| Ordinary income | \$ 12,499,185 |
| | |
| Total | \$ 12,499,185 |
| | |

The following shows the components of distributable earnings (losses) on a federal income tax basis at April 30, 2016:

| | |
|-------------------------------|-----------------|
| | 2016 |
| | |
| Distributable earnings: | |
| Undistributed ordinary income | \$ 1,317,872 |
| Capital loss carryforward | (42,579,037) |
| Late year loss deferrals | (7,286,380) |
| Unrealized depreciation | (7,294,753) |
| | |
| Total | \$ (55,842,298) |
| | |

The difference between book-basis and tax-basis unrealized depreciation is primarily attributable to the realization for tax purposes of unrealized gains on investments in passive foreign investment companies, the book/tax

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

differences in the accrual of income on securities in default, the difference between book and tax amortization methods and discounts on fixed income securities and book/tax temporary differences.

F. Insurance-Linked Securities (ILS)

The Trust invests in event-linked bonds. Event-linked bonds are floating rate debt obligations for which the return of principal and the payment of interest are contingent on the non-occurrence of a pre-defined "trigger" event, such

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 57

as a hurricane or an earthquake of a specific magnitude. The trigger event's magnitude may be based on losses to a company or industry, industry indexes or readings of scientific instruments, or may be based on specified actual losses. If a trigger event occurs, as defined within the terms of an event-linked bond, the Trust may lose a portion or all of its accrued interest and/or principal invested in such event-linked bond. The Trust is entitled to receive principal and interest payments so long as no trigger event occurs of the description and magnitude specified by the instrument. In addition to the specified trigger events, event-linked bonds may expose the Trust to other risks, including but not limited to issuer (credit) default, adverse regulatory or jurisdictional interpretations and adverse tax consequences.

The Trust's investments in ILS may include special purpose vehicles ("SPVs") or similar instruments structured to comprise a portion of a reinsurer's catastrophe-oriented business, known as quota share instruments (sometimes referred to as reinsurance sidecars), or to provide reinsurance relating to specific risks to insurance or reinsurance companies through a collateralized instrument, known as collateralized reinsurance. Structured reinsurance investments also may include industry loss warranties ("ILWs"). A traditional ILW takes the form of a bilateral reinsurance contract, but there are also products that take the form of derivatives, collateralized structures, or exchange traded instruments.

Structured reinsurance investments, including quota share instruments, collateralized reinsurance investments and ILWs, generally are subject to the same risks as event-linked bonds. In addition, where the instruments are based on the performance of underlying reinsurance contracts, the Trust has limited transparency into the individual underlying contracts and therefore must rely upon the risk assessment and sound underwriting practices of the issuer. Accordingly, it may be more difficult for PIM to fully evaluate the underlying risk profile of the Trust's structured reinsurance investments and therefore the Trust's assets are placed at greater risk of loss than if PIM had more complete information. Structured reinsurance instruments generally will be considered illiquid securities by the Trust. These securities may be difficult to purchase, sell or unwind. Illiquid securities also may be difficult to value. If the Trust is forced to sell an illiquid asset, the Trust may be forced to sell at a loss.

G. Purchased Options

The Trust may purchase put and call options to seek increase total return. Purchased call and put options entitle the Trust to buy and sell a specified number of shares or units of a particular security, currency or index at a specified price at a specific date or within a specific period of time. Upon the purchase of a call or put option, the premium paid by the Trust is included in the Statement of Assets and Liabilities as an investment. All premiums are

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

58 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

marked-to-market daily, and any unrealized gains or losses are recorded in the Trust's financial statements. As the purchaser of an index option, the Trust has the right to receive a cash payment equal to any depreciation in the value of the index below the strike price of the option (in the case of a put) or equal to any appreciation in the value of the index over the strike price of the option (in the case of a call) as of the valuation date of the option. Premiums paid for purchased calls and put options which have expired are treated as realized losses on investments in the Statement of Operations. Upon the exercise or closing of a purchased put option, the premium is offset against the proceeds on the sale of the underlying security or financial instrument in order to determine the realized gain or loss on investments. Upon the exercise or closing of a purchased call option, the premium is added to the cost of the security or financial instrument. The risk associated with purchasing options is limited to the premium originally paid. The average value of purchased options open during the six months ended October 31, 2016 was \$0. Purchased option contracts outstanding at period end are listed within the Schedule of Investments.

H. Risks

Information regarding the Trust's principal risks is contained in the Trust's original offering prospectus, with additional information included in the Trust's shareowner reports issued from time to time. Please refer to those documents when considering the Trust's principal risks. At times, the Trust's investments may represent industries or industry sectors that are interrelated or have common risks, making the Trust more susceptible to any economic, political, or regulatory developments or other risks affecting those industries and sectors.

The value of securities held by the Trust may go up or down, sometimes rapidly or unpredictably, due to general market conditions, such as real or perceived adverse economic, political or regulatory conditions, inflation, changes in interest rates, lack of liquidity in the bond markets or adverse investor sentiment. In the past several years, financial markets have experienced increased volatility, depressed valuations, decreased liquidity and heightened uncertainty. These conditions may continue, recur, worsen or spread.

The Trust invests in below investment grade (high yield) debt securities, floating rate loans and event-linked bonds sometimes referred to as "catastrophe" bonds or "insurance-linked" bonds. The Trust may invest in securities and other obligations of any credit quality, including those that are rated below investment grade, or are unrated but are determined by the investment adviser to be of equivalent credit quality. Below investment grade securities are commonly referred to as "junk bonds" and are considered

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 59

speculative with respect to the issuer's capacity to pay interest and repay principal. Below investment grade securities, including floating rate loans, involve greater risk of loss, are subject to greater price volatility, and are less liquid and more difficult to value, especially during periods of economic uncertainty or change, than higher rated debt securities. Certain securities in which the Trust invests, including floating rate loans, once sold, may not settle for an extended period (for example, several weeks or even longer). The Trust will not receive its sale

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

proceeds until that time, which may constrain the Trust's ability to meet its obligations. The Trust may invest in securities of issuers that are in default or that are in bankruptcy. The value of collateral, if any, securing a floating rate loan can decline or may be insufficient to meet the issuer's obligations or may be difficult to liquidate. No active trading market may exist for many floating rate loans, and many loans are subject to restrictions on resale. Any secondary market may be subject to irregular trading activity and extended settlement periods. The Trust's investments in certain foreign markets or countries with limited developing markets may subject the Trust to a greater degree of risk than in a developed market. These risks include disruptive political or economic conditions and the possible imposition of adverse governmental laws or currency exchange restrictions.

Interest rates in the U.S. recently have been historically low, so the Trust faces a heightened risk that interest rates may rise. A general rise in interest rates may cause investors to move out of fixed income securities on a large scale, which could adversely affect the price and liquidity of fixed income securities.

I. Automatic Dividend Reinvestment Plan

All shareowners whose shares are registered in their own names automatically participate in the Automatic Dividend Reinvestment Plan (the Plan), under which participants receive all dividends and capital gain distributions (collectively, dividends) in full and fractional shares of the Trust in lieu of cash. Shareowners may elect not to participate in the Plan. Shareowners not participating in the Plan receive all dividends and capital gain distributions in cash. Participation in the Plan is completely voluntary and may be terminated or resumed at any time without penalty by notifying American Stock Transfer & Trust Company, the agent for shareowners in administering the Plan (the Plan Agent), in writing prior to any dividend record date; otherwise such termination or resumption will be effective with respect to any subsequently declared dividend or other distribution.

If a shareowner's shares are held in the name of a brokerage firm, bank or other nominee, the shareowner can ask the firm or nominee to participate in the Plan on the shareowner's behalf. If the firm or nominee does not offer the Plan, dividends will be paid in cash to the shareowner of record. A firm or nominee may reinvest a shareowner's cash dividends in shares of the Trust on terms that differ from the terms of the Plan.

60 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Whenever the Trust declares a dividend on shares payable in cash, participants in the Plan will receive the equivalent in shares acquired by the Plan Agent either (i) through receipt of additional unissued but authorized shares from the Trust or (ii) by purchase of outstanding shares on the New York Stock Exchange or elsewhere. If, on the payment date for any dividend, the net asset value per share is equal to or less than the market price per share plus estimated brokerage trading fees (market premium), the Plan Agent will invest the dividend amount in newly issued shares. The number of newly issued shares to be credited to each account will be determined by dividing the dollar amount of the dividend by the net asset value per share on the date the shares are issued, provided that the maximum discount from the then current market price per share on the date of issuance does not exceed 5%. If, on the payment date for any dividend, the net asset value per share is greater than the market value (market discount), the Plan Agent will invest the dividend amount in shares acquired in open-market purchases. There are no brokerage charges with

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

respect to newly issued shares. However, each participant will pay a pro rata share of brokerage trading fees incurred with respect to the Plan Agent's open-market purchases. Participating in the Plan does not relieve shareowners from any federal, state or local taxes which may be due on dividends paid in any taxable year. Shareowners holding Plan shares in a brokerage account may be able to transfer the shares to another broker and continue to participate in the Plan.

2. Management Agreement

PIM, a wholly owned indirect subsidiary of UniCredit S.p.A. (UniCredit), manages the Trust's portfolio. Management fees payable under the Trust's Advisory Agreement with PIM are calculated daily at the annual rate of 0.85% of the Trust's average daily managed assets. "Managed assets" means (a) the total assets of the Trust, including any form of investment leverage, minus (b) all accrued liabilities incurred in the normal course of operations, which shall not include any liabilities or obligations attributable to investment leverage obtained through (i) indebtedness of any type (including, without limitation, borrowing through a credit facility or the issuance of debt securities), (ii) the issuance of preferred stock or other similar preference securities, and/or (iii) any other means. For the six months ended October 31, 2016 the net management fee was 0.85% (annualized) of the Trust's average daily managed assets, which was equivalent to 1.19% (annualized) of the Trust's average daily net assets.

In addition, under PIM's management and administration agreements, certain other services and costs are paid by PIM and reimbursed by the Trust. At October 31, 2016, \$229,107 was payable to PIM related to management costs, administrative costs and certain other services is included in "Due to affiliates" and "Administration fee" on the Statement of Assets and Liabilities.

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 61

3. Transfer Agent

American Stock Transfer & Trust Company (AST) serves as the transfer agent with respect to the Trust's shares. The Trust pays AST an annual fee, as is agreed to from time to time by the Trust and AST, for providing such services.

In addition, the Trust reimbursed the transfer agent for out-of-pocket expenses incurred by the transfer agent related to shareowner communications activities such as proxy and statement mailings and outgoing calls.

4. Forward Foreign Currency Contracts

During the six months ended October 31, 2016, the Trust had entered into various forward foreign currency contracts that obligate the Trust to deliver or take delivery of currencies at specified future maturity dates. Alternatively, prior to the settlement date of a forward foreign currency contract, the Trust may close out such contract by entering into an offsetting contract.

The average value of contracts open during the six months ended October 31, 2016 was \$(6,630,403).

Open foreign currency contracts at October 31, 2016, were as follows:

| Currency | Currency | In Exchange | Settlement | Unrealized |
|----------|----------|----------------|------------|------------|
|----------|----------|----------------|------------|------------|

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| Sold | Deliver | Purchased | for | Counterparty | Date | Appreciation |
|-------|-------------|-----------|-----------|----------------------------------|----------|--------------|
| JPY | 149,575,028 | USD | 1,468,297 | Citibank NA | 11/30/16 | \$41,113 |
| GBP | 428,895 | USD | 546,976 | Brown Brothers Harriman & Co. | 12/29/16 | 21,197 |
| Total | | | | | | \$62,310 |

| Currency Sold | Deliver | Currency Purchased | In Exchange for | Counterparty | Settlement Date | Unrealized Depreciation |
|---------------|-----------|--------------------|-----------------|----------------------------------|-----------------|-------------------------|
| EUR | 715,392 | USD | 780,850 | Brown Brothers Harriman & Co. | 12/29/16 | \$ (5,830) |
| EUR | 3,700,000 | USD | 4,052,688 | State Street Bank & Trust Co. | 12/29/16 | (16,013) |
| Total | | | | | | \$(21,843) |

EUR Euro
 GBP British Pound Sterling
 JPY Japanese Yen

5. Assets and Liabilities Offsetting

The Trust has entered into an International Swaps and Derivatives Association, Inc. Master Agreement ("ISDA Master Agreement") or similar agreement with substantially all its derivative counterparties. An ISDA Master Agreement is a bilateral agreement between the Trust and a counterparty that governs the trading of certain OTC derivatives and typically contains, among other things, close-out and set-off provisions which apply upon the occurrence of an event

62 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

of default and/or termination event as defined under the relevant ISDA Master Agreement. The ISDA Master Agreement may also give a party the right to terminate all transactions traded under such agreement if, among other things, there is deterioration in the credit quality of the other party. Upon an event of default or a termination of the ISDA Master Agreement, the non-defaulting party has the right to close out all transactions under such agreement and to net amounts owed under each transaction to determine one net amount payable by one party to the other. The right to close out and net payments across all transactions under the ISDA Master Agreement could result in a reduction of the Trust's credit risk to its counterparty equal to any amounts payable by the Trust under the applicable transactions, if any. However, the Trust's right to set off may be restricted or prohibited by the bankruptcy or insolvency laws of the particular jurisdiction to which a specific ISDA counterparty is subject.

The collateral requirements for derivatives transactions under an ISDA Master Agreement are governed by a credit support annex to the ISDA Master Agreement. Collateral requirements are generally determined at the close of business each day and are typically based on changes in market values for each transaction

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

under an ISDA Master Agreement and netted into one amount for such agreement. Generally, the amount of collateral due from or to a counterparty is subject to threshold (a "minimum transfer amount") before a transfer is required, which may vary by counterparty. Collateral pledged for the benefit of the Trust and/or counterparty is held in segregated accounts by the Trust's custodian and cannot be sold, re-pledged, assigned or otherwise used while pledged. Cash that has been segregated to cover the Trust's collateral obligations, if any, will be reported separately in the Statement of Assets and Liabilities as "Restricted Cash". Securities pledged by the Trust as collateral, if any, are identified as such in the Schedule of Investments.

Financial instruments subject to an enforceable master netting agreement such as an ISDA Master Agreement have not been offset on the Statement of Assets and Liabilities. The following charts show gross assets and liabilities of the Trust as of October 31, 2016:

| Counterparty | Derivative Assets Subject to Master Netting Agreement | Derivatives Available for Offset | Non-Cash Collateral Received (a) | Cash Collateral Received (a) | Net Amount of Derivative Assets (b) |
|----------------------------------|---|--|--|------------------------------------|---|
| Brown Brothers Harriman & Co. | \$21,197 | \$(5,830) | \$ -- | \$ -- | \$15,367 |
| Citibank NA | 41,113 | -- | -- | -- | 41,113 |
| Total | \$62,310 | \$(5,830) | \$ -- | \$ -- | \$56,480 |

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 63

| Counterparty | Derivative Liabilities Subject to Master Netting Agreement | Derivatives Available for Offset | Non-Cash Collateral Pledged (a) | Cash Collateral Pledged (a) | Net Amount of Derivative Liabilities (c) |
|----------------------------------|--|--|---------------------------------------|-----------------------------------|--|
| Brown Brothers Harriman & Co. | \$ 5,830 | \$(5,830) | \$ -- | \$ -- | \$ -- |
| State Street Bank & Trust Co. | 16,013 | -- | -- | -- | 16,013 |
| Total | \$21,843 | \$(5,830) | \$ -- | \$ -- | \$ 16,013 |

(a) The amount presented here may be less than the total amount of collateral received/pledged as the net amount of derivative assets and liabilities cannot be less than \$0.

(b) Represents the net amount due from the counterparty in the event of default.

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

(c) Represents the net amount payable to the counterparty in the event of default.

6. Additional Disclosures about Derivative Instruments and Hedging Activities

The Trust's use of derivatives may subject it to the following risks:

Interest rate risk relates to the fluctuations in the value of interest-bearing securities due to changes in the prevailing levels of market interest rates.

Credit risk relates to the ability of the issuer of a financial instrument to make further principal or interest payments on an obligation or commitment that it has to the Trust.

Foreign exchange rate risk relates to fluctuations in the value of an asset or liability due to changes in currency exchange rates.

Equity risk relates to the fluctuations in the value of financial instruments as a result of changes in market prices (other than those arising from interest rate risk or foreign exchange risk), whether caused by factors specific to an individual investment, its issuer, or all factors affecting all instruments traded in a market or market segment.

Commodity risk relates to the risk that the value of a commodity or commodity index will fluctuate based on increases or decreases in the commodities market and factors specific to a particular industry or commodity.

64 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

The fair value of open derivative instruments (not considered to be hedging instruments for accounting disclosure purposes) by risk exposure at October 31, 2016 was as follows:

| Statement of Assets and Liabilities | Interest Rate Risk | Credit Risk | Foreign Exchange Risk | Equity Risk | Commodity Risk |
|---|-----------------------|----------------|--------------------------|----------------|-------------------|
| Assets: | | | | | |
| Unrealized appreciation on forward foreign currency contracts | \$ -- | \$ -- | \$ 62,310 | \$ -- | \$ -- |
| Total Value | \$ -- | \$ -- | \$ 62,310 | \$ -- | \$ -- |
| Liabilities: | | | | | |
| Unrealized depreciation on forward foreign currency contracts | \$ -- | \$ -- | \$ 21,843 | \$ -- | \$ -- |
| Total Value | \$ -- | \$ -- | \$ 21,843 | \$ -- | \$ -- |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

The effect of derivative instruments (not considered to be hedging instruments for accounting disclosure purposes) on the Statement of Operations by risk exposure at October 31, 2016 was as follows:

| Statement of Operations | Interest Rate Risk | Credit Risk | Foreign Exchange Risk | Equity Risk | Commodity Risk |
|--|-----------------------|----------------|--------------------------|----------------|-------------------|
| Net realized gain (loss): | | | | | |
| Forward foreign currency contracts* | \$ -- | \$ -- | \$ 155,389 | \$ -- | \$ -- |
| Total Value | \$ -- | \$ -- | \$ 155,389 | \$ -- | \$ -- |
| Change in net unrealized appreciation (depreciation) on: | | | | | |
| Forward foreign currency contracts* | \$ -- | \$ -- | \$ 190,564 | \$ -- | \$ -- |
| Total Value | \$ -- | \$ -- | \$ 190,564 | \$ -- | \$ -- |

* Included in the amount shown on the Statement of Operations as forward foreign currency contracts and other assets and liabilities denominated in foreign currencies.

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 65

7. Trust Shares

Transactions in shares of beneficial interest for the six months ended October 31, 2016 and the year ended April 30, 2016 were as follows:

| | 10/31/16 | 4/30/16 |
|---|-----------|-----------|
| Shares outstanding at beginning of period | 8,332,790 | 8,332,790 |
| Shares outstanding at end of period | 8,332,790 | 8,332,790 |

8. Credit Agreement

Effective January 29, 2016, the Trust extended the maturity of its existing Revolving Credit Facility (the Credit Agreement) with the Bank of Scotia. There is a \$70 million borrowing limit.

At October 31, 2016, the Trust had a borrowing outstanding under the credit agreement totaling \$57,000,000. The interest rate charged at October 31, 2016

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

was 1.31%. During the six months ended October 31, 2016, the average daily balance was \$57,000,000 at an average interest rate of 1.44%. Interest expense of \$414,200 in connection with the credit agreement is included in the Statement of Operations.

The Trust is required to maintain 300% asset coverage with respect to amounts outstanding under the credit agreement. Asset coverage is calculated by subtracting the Trust's total liabilities not including any bank loans and senior securities, from the Trust's total assets and dividing such amount by the principal amount of the borrowing outstanding.

9. Subsequent Events

A monthly dividend was declared on November 3, 2016 from undistributed and accumulated net investment income of \$0.1150 per share payable November 30, 2016, to shareowners of record on November 16, 2016.

Pioneer Investment Management, Inc. (the "Adviser"), the Trust's investment adviser, is currently an indirect, wholly owned subsidiary of UniCredit S.p.A. ("UniCredit"). On December 12, 2016, UniCredit announced that it has entered into a binding agreement for the sale of its Pioneer Investments business, which includes the Adviser, to Amundi (the "Transaction"). Amundi is headquartered in Paris, France, and, as of September 30, 2016, had more than \$1.1 trillion in assets under management worldwide. The closing of the Transaction is expected to happen in 2017, subject to certain regulatory and antitrust approvals, and other conditions.

Under the Investment Company Act of 1940, the closing of the Transaction will cause the Trust's current investment advisory agreement with the Adviser to terminate. Accordingly, the Trust's Board of Trustees will be asked to approve a new investment advisory agreement for the Trust. If approved by the Board, the Trust's new investment advisory agreement will be submitted to the shareholders of the Trust for their approval.

66 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

ADDITIONAL INFORMATION

During the period, there have been no material changes in the Trust's investment objective or fundamental policies that have not been approved by the shareowners. There have been no changes in the Trust's charter or By-Laws that would delay or prevent a change in control of the Trust which has not been approved by the shareowners. During the period, there have been no changes in the principal risk factors associated with investment in the Trust. There were no changes in the persons who are primarily responsible for the day-to-day management of the Trust's portfolio.

Notice is hereby given in accordance with Section 23(c) of the Investment Company Act of 1940 that the Trust may purchase, from time to time, its shares in the open market.

Results of Shareholder Meeting (unaudited)

At the annual meeting of shareowners held on September 20, 2016, shareowners of Pioneer Diversified High Income Trust were asked to consider the proposals described below. A report of the total votes cast by the Trust's shareholders follows:

Proposal 1 - To elect three Class III Trustees.

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

| Nominee | For | Withheld |
|---------------------|---------------|-------------|
| Class III | | |
| David R. Bock | 6,795,248.286 | 275,885.156 |
| Lisa M. Jones | 6,824,463.083 | 246,670.359 |
| Lorraine H. Monchak | 6,812,622.836 | 258,510.606 |

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 67

Approval of Investment Advisory Agreement

Pioneer Investment Management, Inc. (PIM) serves as the investment adviser to Pioneer Diversified High Income Trust (the Trust) pursuant to an investment advisory agreement between PIM and the Trust. In order for PIM to remain the investment adviser of the Trust, the Trustees of the Trust must determine annually whether to renew the investment advisory agreement for the Trust.

The contract review process began in January 2016 as the Trustees of the Trust agreed on, among other things, an overall approach and timeline for the process. Contract review materials were provided to the Trustees in March 2016 and May 2016. In addition, the Trustees reviewed and discussed the Trust's performance at regularly scheduled meetings throughout the year, and took into account other information related to the Trust provided to the Trustees at regularly scheduled meetings, in connection with the review of the Trust's investment advisory agreement.

In March 2016, the Trustees, among other things, discussed the memorandum provided by Trust counsel that summarized the legal standards and other considerations that are relevant to the Trustees in their deliberations regarding the renewal of the investment advisory agreement, and reviewed and discussed the qualifications of the investment management teams, as well as the level of investment by the Trust's portfolio managers in the Trust. In May 2016, the Trustees, among other things, reviewed the Trust's management fee and total expense ratios, the financial statements of PIM and its parent companies, the profitability analyses provided by PIM, and possible economies of scale. The Trustees also reviewed the profitability of the institutional business of PIM and PIM's affiliate, Pioneer Institutional Asset Management, Inc. (together with PIM, "Pioneer"), as compared to that of PIM's fund management business, and considered the differences between the fees and expenses of the Trust and the fees and expenses of Pioneer's institutional accounts, as well as the different services provided by PIM to the Trust and by Pioneer to the institutional accounts. The Trustees further considered contract review materials in July and September 2016.

At a meeting held on September 13, 2016, based on their evaluation of the information provided by PIM and third parties, the Trustees of the Trust, including the Independent Trustees voting separately, unanimously approved the renewal of the investment advisory agreement for another year. In approving the renewal of the investment advisory agreement, the Trustees considered various factors that they determined were relevant, including the factors described below. The Trustees did not identify any single factor as the controlling factor in determining to approve the renewal of the agreement.

68 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Nature, Extent and Quality of Services

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

The Trustees considered the nature, extent and quality of the services that had been provided by PIM to the Trust, taking into account the investment objective and strategy of the Trust. The Trustees also reviewed PIM's investment approach for the Trust and its research process. The Trustees considered the resources of PIM and the personnel of PIM who provide investment management services to the Trust. They also reviewed the amount of non-Trust assets managed by the portfolio managers of the Trust. The Trustees considered the non-investment resources and personnel of PIM involved in PIM's services to the Trust, including PIM's compliance and legal resources and personnel. The Trustees noted the substantial attention and high priority given by PIM's senior management to the Pioneer fund complex.

The Trustees considered that PIM supervises and monitors the performance of the Trust's service providers and provides the Trust with personnel (including Trust officers) and other resources that are necessary for the Trust's business management and operations. The Trustees also considered that, as administrator, PIM is responsible for the administration of the Trust's business and other affairs. The Trustees considered the fees paid to PIM for the provision of administration services.

Based on these considerations, the Trustees concluded that the nature, extent and quality of services that had been provided by PIM to the Trust were satisfactory and consistent with the terms of the investment advisory agreement.

Performance of the Trust

In considering the Trust's performance, the Trustees regularly review and discuss throughout the year data prepared by PIM and information comparing the Trust's performance with the performance of its peer group of funds as classified by each of Morningstar, Inc. (Morningstar) and Lipper, and with the performance of the Trust's benchmark index. They also discuss the Trust's performance with PIM on a regular basis. The Trustees' regular reviews and discussions were factored into the Trustees' deliberations concerning the renewal of the advisory agreement.

Management Fee and Expenses

The Trustees considered information showing the fees and expenses of the Trust in comparison to the management fees and the expense ratios of a peer group of funds selected on the basis of criteria determined by the Independent Trustees for this purpose using data provided by Strategic Insight Mutual Fund

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 69

Research and Consulting, LLC (Strategic Insight), an independent third party. In all quintile rankings referred to below, first quintile is most favorable to the Trust's shareowners.

The Trustees considered that the Trust's management fee (based on managed assets) for the most recent fiscal year was in the third quintile relative to the management fees paid by other funds in its Strategic Insight peer group for the comparable period. The Trustees considered that the expense ratio (based on managed assets) of the Trust's common shares for the most recent fiscal year was in the second quintile relative to its Strategic Insight peer group for the comparable period.

The Trustees reviewed management fees charged by Pioneer to institutional and other clients, including publicly offered European funds sponsored by affiliates of Pioneer, unaffiliated U.S. registered investment companies (in a sub-advisory capacity), and unaffiliated foreign and domestic separate accounts. The Trustees

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

also considered PIM's costs in providing services to the Trust and Pioneer's costs in providing services to the other clients and considered the differences in management fees and profit margins for Trust and non-Trust services. In evaluating the fees associated with Pioneer's client accounts, the Trustees took into account the respective demands, resources and complexity associated with the Trust and client accounts. The Trustees noted that, in some instances, the fee rates for those clients were lower than the management fee for the Trust and considered that, under the investment advisory agreement with the Trust, PIM performs additional services for the Trust that it does not provide to those other clients or services that are broader in scope, including oversight of the Trust's other service providers and activities related to compliance and the extensive regulatory and tax regimes to which the Trust is subject. The Trustees also considered the different entrepreneurial risks associated with PIM's management of the Trust and Pioneer's management of the other client accounts.

The Trustees concluded that the management fee payable by the Trust to PIM was reasonable in relation to the nature and quality of the services provided by PIM to the Trust.

Profitability

The Trustees considered information provided by PIM regarding the profitability of PIM with respect to the advisory services provided by PIM to the Trust, including the methodology used by PIM in allocating certain of its costs to the management of the Trust. The Trustees also considered PIM's profit margin in connection with the overall operation of the Trust. They further reviewed the financial results, including the profit margins, realized by PIM and its affiliates from non-fund businesses. The Trustees considered PIM's

70 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

profit margins with respect to the Trust in comparison to the limited industry data available and noted that the profitability of any adviser was affected by numerous factors, including its organizational structure and method for allocating expenses. The Trustees concluded that PIM's profitability with respect to the management of the Trust was not unreasonable.

Economies of Scale

The Trustees considered the extent to which PIM may realize economies of scale or other efficiencies in managing and supporting the Trust. Since the Trust is a closed-end fund that has not raised additional capital, the Trustees concluded that economies of scale were not a relevant consideration in the renewal of the investment advisory agreement.

Other Benefits

The Trustees considered the other benefits to PIM from its relationship with the Trust. The Trustees considered the character and amount of fees paid by the Trust, other than under the investment advisory agreement, for services provided by PIM and its affiliates. The Trustees further considered the revenues and profitability of PIM's businesses other than the fund business. Pioneer is the principal U.S. asset management business of Pioneer Global Asset Management, the worldwide asset management business of UniCredit Group, which manages over \$150 billion in assets (including the Funds). Pioneer and the Funds receive reciprocal intangible benefits from the relationship, including mutual brand recognition and, for the Funds, direct and indirect access to the resources of a large global asset manager. The Trustees concluded that any such benefits received by Pioneer as a result of its relationship with the Funds were reasonable and their consideration of the advisory agreement between the Trust

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

and PIM and the fees thereunder were unaffected by Pioneer's possible receipt of any such intangible benefits.

Conclusion

After consideration of the factors described above as well as other factors, the Trustees, including all of the Independent Trustees, concluded that the investment advisory agreement between PIM and the Trust, including the fees payable thereunder, was fair and reasonable and voted to approve the proposed renewal of the investment advisory agreement for the Trust.

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 71

Trustees, Officers and Service Providers

Trustees

Thomas J. Perna, Chairman
David R. Bock
Benjamin M. Friedman
Margaret B.W. Graham
Lisa M. Jones
Lorraine H. Monchak
Marguerite A. Piret
Fred J. Ricciardi
Kenneth J. Taubes

Officers

Lisa M. Jones, President and Chief
Executive Officer
Mark E. Bradley, Treasurer and
Chief Financial Officer
Christopher J. Kelley, Secretary and
Chief Legal Officer

Investment Adviser and Administrator
Pioneer Investment Management, Inc.

Custodian and Sub-Administrator
Brown Brothers Harriman & Co.

Principal Underwriter
Pioneer Funds Distributor, Inc.

Legal Counsel
Morgan, Lewis & Bockius LLP

Transfer Agent
American Stock Transfer & Trust Company

Proxy Voting Policies and Procedures of the Fund are available without charge, upon request, by calling our toll free number (1-800-225-6292). Information regarding how the Fund voted proxies relating to portfolio securities during the most recent 12-month period ended June 30 is publicly available to shareowners at us.pioneerinvestments.com. This information is also available on the Securities and Exchange Commission's web site at www.sec.gov.

72 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

This page for your notes.

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 73

This page for your notes.

74 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

This page for your notes.

Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16 75

This page for your notes.

76 Pioneer Diversified High Income Trust | Semiannual Report | 10/31/16

How to Contact Pioneer

We are pleased to offer a variety of convenient ways for you to contact us for assistance or information.

You can call American Stock Transfer & Trust Company (AST) for:

Account Information

1-800-710-0935

Or write to AST:

For

Write to

General inquiries, lost dividend checks,
change of address, lost stock certificates,
stock transfer

American Stock
Transfer & Trust
Operations Center
6201 15th Ave.
Brooklyn, NY 11219

Dividend reinvestment plan (DRIP)

American Stock
Transfer & Trust
Wall Street Station
P.O. Box 922
New York, NY 10269-0560

Website www.amstock.com

For additional information, please contact your investment advisor or visit our web site us.pioneerinvestments.com.

The Trust files a complete schedule of investments with the Securities and Exchange Commission for the first and third quarters for each fiscal year on Form N-Q. Shareowners may view the filed Form N-Q by visiting the Commission's web site at www.sec.gov. The filed form may also be viewed and copied at the Commission's Public Reference Room in Washington, DC. Information regarding the operations of the Public Reference Room may be obtained by calling 1-800-SEC-0330.

[LOGO] PIONEER
InvestmentS(R)

Pioneer Investment Management, Inc.
60 State Street
Boston, MA 02109
us.pioneerinvestments.com

Securities offered through Pioneer Funds Distributor, Inc.
60 State Street, Boston, MA 02109
Underwriter of Pioneer Mutual Funds, Member SIPC
(C) 2016 Pioneer Investments 21398-09-1216

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

ITEM 2. CODE OF ETHICS.

(a) Disclose whether, as of the end of the period covered by the report, the registrant has adopted a code of ethics that applies to the registrant's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, regardless of whether these individuals are employed by the registrant or a third party. If the registrant has not adopted such a code of ethics, explain why it has not done so.

The registrant has adopted, as of the end of the period covered by this report, a code of ethics that applies to the registrant's principal executive officer, principal financial officer, principal accounting officer and controller.

(b) For purposes of this Item, the term "code of ethics" means written standards that are reasonably designed to deter wrongdoing and to promote:

- (1) Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
- (2) Full, fair, accurate, timely, and understandable disclosure in reports and documents that a registrant files with, or submits to, the Commission and in other public communications made by the registrant;
- (3) Compliance with applicable governmental laws, rules, and regulations;
- (4) The prompt internal reporting of violations of the code to an appropriate person or persons identified in the code; and
- (5) Accountability for adherence to the code.

(c) The registrant must briefly describe the nature of any amendment, during the period covered by the report, to a provision of its code of ethics that applies to the registrant's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, regardless of whether these individuals are employed by the registrant or a third party, and that relates to any element of the code of ethics definition enumerated in paragraph (b) of this Item. The registrant must file a copy of any such amendment as an exhibit pursuant to Item 10(a), unless the registrant has elected to satisfy paragraph (f) of this Item by posting its code of ethics on its website pursuant to paragraph (f)(2) of this Item, or by undertaking to provide its code of ethics to any person without charge, upon request, pursuant to paragraph (f)(3) of this Item.

The registrant has made no amendments to the code of ethics during the period covered by this report.

(d) If the registrant has, during the period covered by the report, granted a waiver, including an implicit waiver, from a provision of the code of ethics to the registrant's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, regardless of whether these individuals are employed by the registrant or a third party, that relates to one or more of the items set forth in paragraph (b) of this Item, the registrant must briefly describe the nature of the waiver, the name of the person to whom the waiver was granted, and the date of the waiver.

Not applicable.

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

(e) If the registrant intends to satisfy the disclosure requirement under paragraph (c) or (d) of this Item regarding an amendment to, or a waiver from, a provision of its code of ethics that applies to the registrant's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions and that relates to any element of the code of ethics definition enumerated in paragraph (b) of this Item by posting such information on its Internet website, disclose the registrant's Internet address and such intention.

Not applicable.

(f) The registrant must:

(1) File with the Commission, pursuant to Item 12(a)(1), a copy of its code of ethics that applies to the registrant's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, as an exhibit to its annual report on this Form N-CSR (see attachment);

(2) Post the text of such code of ethics on its Internet website and disclose, in its most recent report on this Form N-CSR, its Internet address and the fact that it has posted such code of ethics on its Internet website; or

(3) Undertake in its most recent report on this Form N-CSR to provide to any person without charge, upon request, a copy of such code of ethics and explain the manner in which such request may be made. See Item 10(2)

ITEM 3. AUDIT COMMITTEE FINANCIAL EXPERT.

(a) (1) Disclose that the registrant's board of trustees has determined that the registrant either:

(i) Has at least one audit committee financial expert serving on its audit committee; or

(ii) Does not have an audit committee financial expert serving on its audit committee.

The registrant's Board of Trustees has determined that the registrant has at least one audit committee financial expert.

(2) If the registrant provides the disclosure required by paragraph (a)(1)(i) of this Item, it must disclose the name of the audit committee financial expert and whether that person is "independent." In order to be considered "independent" for purposes of this Item, a member of an audit committee may not, other than in his or her capacity as a member of the audit committee, the board of trustees, or any other board committee:

(i) Accept directly or indirectly any consulting, advisory, or other compensatory fee from the issuer; or

(ii) Be an "interested person" of the investment company as defined in Section 2(a)(19) of the Act (15 U.S.C. 80a-2(a)(19)).

Ms. Marguerite A. Piret, an independent trustee, is such an audit committee financial expert.

(3) If the registrant provides the disclosure required by paragraph (a)(1)(ii) of this Item, it must explain why it does not have an audit committee

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

financial expert.

Not applicable.

ITEM 4. PRINCIPAL ACCOUNTANT FEES AND SERVICES.

(a) Disclose, under the caption AUDIT FEES, the aggregate fees billed for each of the last two fiscal years for professional services rendered by the principal accountant for the audit of the registrant's annual financial statements or services that are normally provided by the accountant in connection with statutory and regulatory filings or engagements for those fiscal years.

N/A

(b) Disclose, under the caption AUDIT-RELATED FEES, the aggregate fees billed in each of the last two fiscal years for assurance and related services by the principal accountant that are reasonably related to the performance of the audit of the registrant's financial statements and are not reported under paragraph (a) of this Item. Registrants shall describe the nature of the services comprising the fees disclosed under this category.

N/A

(c) Disclose, under the caption TAX FEES, the aggregate fees billed in each of the last two fiscal years for professional services rendered by the principal accountant for tax compliance, tax advice, and tax planning. Registrants shall describe the nature of the services comprising the fees disclosed under this category.

N/A

(d) Disclose, under the caption ALL OTHER FEES, the aggregate fees billed in each of the last two fiscal years for products and services provided by the principal accountant, other than the services reported in paragraphs (a) through (c) of this Item. Registrants shall describe the nature of the services comprising the fees disclosed under this category.

N/A

(e) (1) Disclose the audit committee's pre-approval policies and procedures described in paragraph (c) (7) of Rule 2-01 of Regulation S-X.

PIONEER FUNDS

APPROVAL OF AUDIT, AUDIT-RELATED, TAX AND OTHER SERVICES PROVIDED BY THE INDEPENDENT AUDITOR

SECTION I - POLICY PURPOSE AND APPLICABILITY

The Pioneer Funds recognize the importance of maintaining the independence of their outside auditors. Maintaining independence is a shared responsibility involving Pioneer Investment Management, Inc ("PIM"), the audit committee and the independent auditors.

The Funds recognize that a Fund's independent auditors: 1) possess knowledge of the Funds, 2) are able to incorporate certain services into the scope of the audit, thereby avoiding redundant work, cost and disruption of Fund personnel and processes, and 3) have expertise that has value to the Funds. As a result, there are situations where it is desirable to use the Fund's independent auditors for services in addition to the annual audit and where the potential for conflicts of interests are minimal. Consequently, this policy, which is

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

intended to comply with Rule 210.2-01(C)(7), sets forth guidelines and procedures to be followed by the Funds when retaining the independent audit firm to perform audit, audit-related tax and other services under those circumstances, while also maintaining independence.

Approval of a service in accordance with this policy for a Fund shall also constitute approval for any other Fund whose pre-approval is required pursuant to Rule 210.2-01(c)(7)(ii).

In addition to the procedures set forth in this policy, any non-audit services that may be provided consistently with Rule 210.2-01 may be approved by the Audit Committee itself and any pre-approval that may be waived in accordance with Rule 210.2-01(c)(7)(i)(C) is hereby waived.

Selection of a Fund's independent auditors and their compensation shall be determined by the Audit Committee and shall not be subject to this policy.

SECTION II - POLICY

| SERVICE CATEGORY | SERVICE CATEGORY DESCRIPTION | SPECIFIC PRE-APPROVED SERVICE SUBCATEGORIES |
|----------------------------|---|---|
| I. AUDIT SERVICES | Services that are directly related to performing the independent audit of the Funds | <ul style="list-style-type: none"> o Accounting research assistance o SEC consultation, registration statements, and reporting o Tax accrual related matters o Implementation of new accounting standards o Compliance letters (e.g. rating agency letters) o Regulatory reviews and assistance regarding financial matters o Semi-annual reviews (if requested) o Comfort letters for closed end offerings |
| II. AUDIT-RELATED SERVICES | Services which are not prohibited under Rule 210.2-01(C)(4) (the "Rule") and are related extensions of the audit services support the audit, or use the knowledge/expertise gained from the audit procedures as a foundation to complete the project. In most cases, if the Audit-Related Services are not performed by the Audit firm, the scope of the Audit Services would likely increase. The Services are typically well-defined and governed by accounting professional standards (AICPA, SEC, etc.) | <ul style="list-style-type: none"> o AICPA attest and agreed-upon procedures o Technology control assessments o Financial reporting control assessments o Enterprise security architecture assessment |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

AUDIT COMMITTEE APPROVAL POLICY

AUDIT COMMITTEE REPORTING POLICY

o "One-time" pre-approval for the audit period for all pre-approved specific service subcategories. Approval of the independent auditors as auditors for a Fund shall constitute pre approval for these services.

o A summary of all such services and related fees reported at each regularly scheduled Audit Committee meeting.

o "One-time" pre-approval for the fund fiscal year within a specified dollar limit for all pre-approved specific service subcategories

o A summary of all such services and related fees (including comparison to specified dollar limits) reported quarterly.

o Specific approval is needed to exceed the pre-approved dollar limit for these services (see general Audit Committee approval policy below for details on obtaining specific approvals)

o Specific approval is needed to use the Fund's auditors for Audit-Related Services not denoted as "pre-approved", or to add a specific service subcategory as "pre-approved"

SECTION III - POLICY DETAIL, CONTINUED

| SERVICE CATEGORY | SERVICE CATEGORY DESCRIPTION | SPECIFIC PRE-APPROVED SERVICE SUBCATEGORIES |
|-------------------|---|---|
| III. TAX SERVICES | Services which are not prohibited by the Rule, if an officer of the Fund determines that using the Fund's auditor to provide these services creates significant synergy in the form of efficiency, minimized disruption, or the ability to maintain a desired level of confidentiality. | <ul style="list-style-type: none"> o Tax planning and support o Tax controversy assistance o Tax compliance, tax returns, excise tax returns and support o Tax opinions |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

AUDIT COMMITTEE APPROVAL POLICY

AUDIT COMMITTEE
REPORTING POLICY

-
- o "One-time" pre-approval for the fund fiscal year within a specified dollar limit
 - o Specific approval is needed to exceed the pre-approved dollar limits for these services (see general Audit Committee approval policy below for details on obtaining specific approvals)
 - o Specific approval is needed to use the Fund's auditors for tax services not denoted as pre-approved, or to add a specific service subcategory as "pre-approved"
- o A summary of all such services and related fees (including comparison to specified dollar limits) reported quarterly.
-

SECTION III - POLICY DETAIL, CONTINUED

| SERVICE CATEGORY | SERVICE CATEGORY DESCRIPTION | SPECIFIC PRE-APPROVED SERVICE SUBCATEGORIES |
|---|--|--|
| IV. OTHER SERVICES A. SYNERGISTIC, UNIQUE QUALIFICATIONS | Services which are not prohibited by the Rule, if an officer of the Fund determines that using the Fund's auditor to provide these services creates significant synergy in the form of efficiency, minimized disruption, the ability to maintain a desired level of confidentiality, or where the Fund's auditors possess unique or superior qualifications to provide these services, resulting in superior value and results for the Fund. | <ul style="list-style-type: none"> o Business Risk Management support o Other control and regulatory compliance projects |

AUDIT COMMITTEE APPROVAL POLICY

AUDIT COMMITTEE
REPORTING POLICY

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

- o "One-time" pre-approval for the fund fiscal year within a specified dollar limit
- o Specific approval is needed to exceed the pre-approved dollar limits for these services (see general Audit Committee approval policy below for details on obtaining specific approvals)
- o Specific approval is needed to use the Fund's auditors for "Synergistic" or "Unique Qualifications" Other Services not denoted as pre-approved to the left, or to add a specific service subcategory as "pre-approved"
- o A summary of all such services and related fees (including comparison to specified dollar limits) reported quarterly.

SECTION III - POLICY DETAIL, CONTINUED

| SERVICE CATEGORY | SERVICE CATEGORY DESCRIPTION | SPECIFIC PROHIBITED SERVICE SUBCATEGORIES |
|---------------------|--|---|
| PROHIBITED SERVICES | Services which result in the auditors losing independence status under the Rule. | <ol style="list-style-type: none"> 1. Bookkeeping or other services related to the accounting records or financial statements of the audit client* 2. Financial information systems design and implementation* 3. Appraisal or valuation services, fairness* opinions, or contribution-in-kind reports 4. Actuarial services (i.e., setting actuarial reserves versus actuarial audit work)* 5. Internal audit outsourcing services* 6. Management functions or human resources 7. Broker or dealer, investment advisor, or investment banking services 8. Legal services and expert services unrelated to the audit 9. Any other service that the Public Company Accounting Oversight Board determines, by regulation, is impermissible |

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

AUDIT COMMITTEE APPROVAL POLICY

AUDIT COMMITTEE REPORTING POLICY

-
- o These services are not to be performed with the exception of the(*) services that may be permitted if they would not be subject to audit procedures at the audit client (as defined in rule 2-01(f)(4)) level the firm providing the service.
 - o A summary of all services and related fees reported at each regularly scheduled Audit Committee meeting will serve as continual confirmation that has not provided any restricted services.
-

GENERAL AUDIT COMMITTEE APPROVAL POLICY:

- o For all projects, the officers of the Funds and the Fund's auditors will each make an assessment to determine that any proposed projects will not impair independence.
 - o Potential services will be classified into the four non-restricted service categories and the "Approval of Audit, Audit-Related, Tax and Other Services" Policy above will be applied. Any services outside the specific pre-approved service subcategories set forth above must be specifically approved by the Audit Committee.
 - o At least quarterly, the Audit Committee shall review a report summarizing the services by service category, including fees, provided by the Audit firm as set forth in the above policy.
-

(2) Disclose the percentage of services described in each of paragraphs (b) through (d) of this Item that were approved by the audit committee pursuant to paragraph (c)(7)(i)(C) of Rule 2-01 of Regulation S-X.

N/A

(f) If greater than 50 percent, disclose the percentage of hours expended on the principal accountants engagement to audit the registrant's financial statements for the most recent fiscal year that were attributed to work performed by persons other than the principal accountant's full-time, permanent employees.

N/A

(g) Disclose the aggregate non-audit fees billed by the registrants accountant for services rendered to the registrant, and rendered to the registrants investment adviser (not including any sub-adviser whose role is primarily portfolio management and is subcontracted with or overseen by another investment adviser), and any entity controlling, controlled by, or under common control with the adviser that provides ongoing services to the registrant for each of the last two fiscal years of the registrant.

N/A

(h) Disclose whether the registrants audit committee of the board of trustees has considered whether the provision of non-audit services that were rendered to the registrants investment adviser (not including any subadviser whose role is primarily portfolio management and is subcontracted with or overseen by another investment adviser), and any entity controlling, controlled by, or under common

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

control with the investment adviser that provides ongoing services to the registrant that were not pre-approved pursuant to paragraph (c)(7)(ii) of Rule 2-01 of Regulation S-X is compatible with maintaining the principal accountant's independence.

N/A

ITEM 5. AUDIT COMMITTEE OF LISTED REGISTRANTS

(a) If the registrant is a listed issuer as defined in Rule 10A-3 under the Exchange Act (17 CFR 240.10A-3), state whether or not the registrant has a separately-designated standing audit committee established in accordance with Section 3(a)(58)(A) of the Exchange Act (15 U.S.C. 78c(a)(58)(A)). If the registrant has such a committee, however designated, identify each committee member. If the entire board of directors is acting as the registrant's audit committee as specified in Section 3(a)(58)(B) of the Exchange Act (15 U.S.C. 78c(a)(58)(B)), so state.

N/A

(b) If applicable, provide the disclosure required by Rule 10A-3(d) under the Exchange Act (17 CFR 240.10A-3(d)) regarding an exemption from the listing standards for audit committees.

N/A

ITEM 6. SCHEDULE OF INVESTMENTS.

File Schedule of Investments in securities of unaffiliated issuers as of the close of the reporting period as set forth in 210.1212 of Regulation S-X [17 CFR 210.12-12], unless the schedule is included as part of the report to shareholders filed under Item 1 of this Form.

Included in Item 1

ITEM 7. DISCLOSURE OF PROXY VOTING POLICIES AND PROCEDURES FOR CLOSED-END MANAGEMENT INVESTMENT COMPANIES.

A closed-end management investment company that is filing an annual report on this Form N-CSR must, unless it invests exclusively in non-voting securities, describe the policies and procedures that it uses to determine how to vote proxies relating to portfolio securities, including the procedures that the company uses when a vote presents a conflict between the interests of its shareholders, on the one hand, and those of the company's investment adviser; principal underwriter; or any affiliated person (as defined in Section 2(a)(3) of the Investment Company Act of 1940 (15 U.S.C. 80a-2(a)(3)) and the rules thereunder) of the company, its investment adviser, or its principal underwriter, on the other. Include any policies and procedures of the company's investment adviser, or any other third party, that the company uses, or that are used on the company's behalf, to determine how to vote proxies relating to portfolio securities.

N/A

ITEM 8. PORTFOLIO MANAGERS OF CLOSED-END MANAGEMENT INVESTMENT COMPANIES.

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

(a) If the registrant is a closed-end management investment company that is filing an annual report on this Form N-CSR, provide the following information:

(1) State the name, title, and length of service of the person or persons employed by or associated with the registrant or an investment adviser of the registrant who are primarily responsible for the day-to-day management of the registrant's portfolio ("Portfolio Manager"). Also state each Portfolio Manager's business experience during the past 5 years.

N/A

ITEM 9. PURCHASES OF EQUITY SECURITIES BY CLOSED-END MANAGEMENT INVESTMENT COMPANY AND AFFILIATED PURCHASERS.

(a) If the registrant is a closed-end management investment company, in the following tabular format, provide the information specified in paragraph (b) of this Item with respect to any purchase made by or on behalf of the registrant or any affiliated purchaser, as defined in Rule 10b-18(a)(3) under the Exchange Act (17 CFR 240.10b-18(a)(3)), of shares or other units of any class of the registrant's equity securities that is registered by the registrant pursuant to Section 12 of the Exchange Act (15 U.S.C. 781).

During the period covered by this report, there were no purchases made by or on behalf of the registrant or any affiliated purchaser as defined in Rule 10b-18(a)(3) under the Securities Exchange Act of 1934 (the Exchange Act), of shares of the registrants equity securities that are registered by the registrant pursuant to Section 12 of the Exchange Act.

ITEM 10. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS.

Describe any material changes to the procedures by which shareholders may recommend nominees to the registrant's board of directors, where those changes were implemented after the registrant last provided disclosure in response to the requirements of Item 407(c)(2)(iv) of Regulation S-R (17 CFR 229.407) (as required by Item 22(b)(15)) of Schedule 14A (17 CFR 240.14a-101), or this Item.

There have been no material changes to the procedures by which the shareholders may recommend nominees to the registrant's board of directors since the registrant last provided disclosure in response to the requirements of Item 407(c)(2)(iv) of Regulation S-R of Schedule 14(A) in its definitive proxy statement, or this item.

ITEM 11. CONTROLS AND PROCEDURES.

(a) Disclose the conclusions of the registrant's principal executive and principal financial officers, or persons performing similar functions, regarding the effectiveness of the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Act (17 CFR 270.30a-3(c))) as of a date within 90 days of the filing date of the report that includes the disclosure required by this paragraph, based on the evaluation of these controls and procedures required by Rule 30a-3(b) under the Act (17 CFR 270.30(a)-3(b) and Rules 13a-15(b) or 15d-15(b) under the Exchange Act (17 CFR 240.13a-15(b) or 240.15d-15(b))).

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

The registrant's principal executive officer and principal financial officer have concluded that the registrant's disclosure controls and procedures are effective based on the evaluation of these controls and procedures as of a date within 90 days of the filing date of this report.

(b) Disclose any change in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the Act (17CFR 270.30a-3(d)) that occurred 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.

There were no significant changes in the registrant's internal control over financial reporting that occurred during the second fiscal quarter of the period covered by this report that have materially affected, or are reasonably likely to materially affect, the registrant's internal control over financial reporting.

The registrant's principal executive officer and principal financial officer, however, voluntarily are reporting the following information:

In August of 2006 the registrant's investment adviser enhanced its internal procedures for reporting performance information required to be included in prospectuses. Those enhancements involved additional internal controls over the appropriateness of performance data generated for this purpose. Such enhancements were made following an internal review which identified prospectuses relating to certain classes of shares of a limited number of registrants where, inadvertently, performance information not reflecting the deduction of applicable sales charges was included. Those prospectuses were revised, and the revised prospectuses were distributed to shareholders.

ITEM 12. EXHIBITS.

(a) File the exhibits listed below as part of this Form. Letter or number the exhibits in the sequence indicated.

(1) Any code of ethics, or amendment thereto, that is the subject of the disclosure required by Item 2, to the extent that the registrant intends to satisfy the Item 2 requirements through filing of an exhibit.

(2) A separate certification for each principal executive officer and principal financial officer of the registrant as required by Rule 30a-2(a) under the Act (17 CFR 270.30a-2(a)) , exactly as set forth below:

Filed herewith.

Edgar Filing: Pioneer Diversified High Income Trust - Form N-CSRS

SIGNATURES

[See General Instruction F]

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.

(Registrant) Pioneer Diversified High Income Trust

By (Signature and Title)* /s/ Lisa M. Jones
Lisa M. Jones, President & Chief Executive Officer

Date December 29, 2016

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 (Signature and Title)* /s/ Lisa M. Jones
Lisa M. Jones, President & Chief Executive Officer

Date December 29, 2016

By (Signature and Title)* /s/ Mark E. Bradley
Mark E. Bradley, Treasurer & Chief Accounting & Financial Officer

Date December 29, 2016

* Print the name and title of each signing officer under his or her signature.