FUNDMARKET INSIGHT REPORT

REFINITIV LIPPER RESEARCH SERIES

DECEMBER 31, 2022

The Month in Closed-End Funds: December 2022

Performance

For the first month in three, equity closed-end funds (CEFs) on average suffered losses on a net-asset-value (NAV) and market basis, declining 3.12% and 4.80%, respectively, for the month. Meanwhile, for the fourth month in five, their fixed income CEF counterparts witnessed monthly losses on a NAV basis (-0.28%) and market basis (-3.15%) for December. But on a quarterly NAV basis, both posted plus-side returns, rising 6.39% and 3.82%, respectively.

The U.S. markets closed mixed at the beginning of December as investors digested a stronger-than-expected nonfarm payrolls report. The Department of Labor reported the U.S. economy added 263,000 new jobs in November, beating expectations of 200,000, with the unemployment rate remaining unchanged at 3.7%. The Bureau of Labor Statistics reported that wage growth accelerated to 5.1% over the past year. The new report stoked fears that another 75 basis-point (bps) rate hike might be back on the table for the Fed's December policy-setting meeting.

The S&P 500 and Nasdaq Composite posted their worst one-day declines in almost a month on Monday, December 5, after stronger-than-expected economic data exacerbated worries that the Fed might need to be more aggressive in its fight against inflation. The Institute of Supply Management's November services report showed the services sector came in a stronger-than-expected 56.5%, signaling the U.S. economy is still expanding at a steady clip. By the week's end, U.S. broad-based indices booked weekly losses as investors assessed fresh data that showed the November U.S. producer-price index rose 0.3%, exceeding analysts' forecasts of a 0.2% gain. The 10-year Treasury yield rose six bps on the week to settle at 3.57%.

U.S. stocks suffered their first back-to-back weekly losses since September as recession fears rose the following week after the Fed hiked its key lending rate by a slower 50 bps to a range of 4.25% to 4.50% but remained hawkish, indicating the Fed funds rate would have to be higher than previously thought a few months ago. While the 10-year Treasury yield declined nine bps on the week to close at 3.48%, the one-month yield rose 13 bps to 3.94%.

The Nasdaq and the S&P 500 indices suffered a third week of losses ahead of the Christmas break as investors appeared to finally take in the notion that the Fed is unlikely to pivot back to interest rate cuts any time soon, even after new data showed the economy might be slowing. November consumer prices increased by just 0.1%, lower than the 0.2% forecasted by analysts, and durable goods orders for November dropped 2.1%. Nonetheless, the 10-year Treasury yield jumped 27 bps for the week to 3.75%.

On the last trading day of the year, stocks suffered another round of declines as investors did a little tax loss harvesting at year end and began to focus on the fourth quarter earnings season—locking in the S&P 500's worst one-year return (-19.44%) since 2008. The 10-year Treasury yield rose 13 bps to 3.88%—climbing 236 bps for the year—its largest calendar-year rise on record according to Dow Jones Market Data.

For 2022, the average equity CEF is down 9.85%, with the domestic equity CEF macro-group (-4.71%) mitigating losses better than its mixed-assets CEF (-15.19%) and world equity CEF (-20.35%) counterparts. On the fixed income side, the average fixed income CEF is down 12.21% for the year, the with world bond CEFs macro-group declining 8.49%, followed by domestic taxable bond CEFs (-9.43%) and municipal bond CEFs (-17.43%).

The Month in Closed-End Funds: December 2022

- For the first month in three, equity CEFs (-3.12% on a NAV basis) on average witnessed negative performance, while their fixed income CEF cohorts (-0.28%) posted losses for the fourth month in five.
- Only 13% of all CEFs traded at a premium to their NAV at month end, with 17% of equity CEFs and 10% of fixed income CEFs trading in premium territory. The high yield CEFs macro-classification witnessed the largest widening of discounts for the month among Lipper's CEF macro-groups—453 bps to a 9.35% median discount.
- For the first month since June 2019, Developed Markets CEFs (-1.11%) mitigated losses better than the other classifications in the equity CEF universe for December.
- For the second month in a row, Emerging Markets Hard Currency Debt CEFs (+2.20%) posted the strongest return in the fixed income CEF universe for December.
- For Q4, equity and fixed income CEFs posted NAV-based returns of 6.39% and 3.82%, respectively.

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In anticipation of continued interest rate hikes into 2023, investors pushed the seven-year and 10-year Treasury yield up 20 bps for the month—settling at 3.96% and 3.88%, respectively, at month end—weighing on fixed income returns. However, the one-year Treasury yield witnessed the only decline for the month but dropping just one bp to 4.73%. The yield curve remained inverted for all maturities from the one-month (+4.12%) to the seven-year (+3.96%) yield—but flattened slightly. The two- and 10-year Treasury yield spread remained negative by 53 bps—narrowing 17 bps from November's month-end closing value.

During the month, the dollar weakened against the euro (-3.84%), the pound (-1.20%), and the yen (-5.97%). Commodity prices were mixed for the month, with front-month gold prices rising 4.22% to close the month at $1,819.70/oz. and front-month crude oil prices falling 0.36% to close at $80.26/bbl.

For the month, only 21% of all CEFs posted NAV-based returns in the black, with just 12% of equity CEFs and 27% of fixed income CEFs chalking up returns in the plus column. For the first month in three, Lipper's mixed-assets CEFs (-2.01%) macro-group outpaced or mitigated losses better than its two equity-based brethren: world equity CEFs (-2.78%) and domestic equity CEFs (-3.58%).

For the first month since June 30, 2019, the Developed Markets CEFs classification (-1.11%) moved to the top of the equity leaderboard, followed by Income & Preferred Stock CEFs (-1.39%) and Sector Equity CEFs (-2.41%). Energy MLP CEFs (-5.87%) suffered the largest losses in the equity universe and was bettered by Diversified Equity CEFs (-5.16%) and Natural Resources CEFs (-5.15%). For the remaining equity classifications, returns ranged from negative 3.78% (Convertible Securities CEFs) to negative 2.70% (Emerging Markets CEFs).

The three of the five-top performing equity CEFs for December were warehoused in Lipper's Emerging Markets CEFs classification. However, at the top of the leaderboard was **Japan Smaller Capitalization Fund Inc.** (**JOF**, housed in the Developed Markets CEFs classification), rising 5.90% on a NAV basis and traded at a 19.00% discount on December 30. Following JOF were **Central and Eastern Europe Fund Inc.** (**CEE**), gaining 4.36% and traded at a 20.06% premium at month end; **Templeton Dragon Fund Inc.** (**TDF**), gaining 3.56% and traded at a 14.41% discount on December 30; **Morgan Stanley China A Share Fund Inc.** (**CAF**), rising 3.28% and traded at a 16.81% discount at month end; and **ASA Gold & Precious Metals Limited** (**ASA**, warehoused in Lipper's Sector Equity CEFs classification), returning 2.55% and traded at a 17.28% discount on December 30.

For the month, the dispersion of performance in individual equity CEFs—ranging from negative 9.72% to positive 5.90%—was significantly narrower than November's spread and skewed to the negative side. The 20 top-performing equity CEFs posted returns at or above positive 0.66%, while the 20-lagging equity CEFs were at or below negative 6.86%.

CLOSED-END FUNDS LAB

TABLE 1 CURRENT-MONTH PERFORMANCE, P&D, P&D SHIFTS (% OF UNIVERSE)

	NAV RETURNS	PREMIUM/DISCOUNT		NOW TRADING AT	
	POSITIVE	BETTER	WORSE	PREMIUM	DISCOUNT
Equity CEFs	12	32	68	17	83
Bond CEFs	27	14	86	10	90
ALL CEFs	**21**	**22**	**78**	**13**	**87**

TABLE 2 AVERAGE NAV RETURNS, SELECTED PERIODS (%)

	DECEMBER	YTD	3-MONTH	CALENDAR-2021
Equity CEFs	-3.12	-9.85	6.39	18.56
Bond CEFs	-0.28	-12.21	3.82	5.66
ALL CEFs	**-1.50**	**-11.18**	**4.92**	**11.29**

TABLE 3 NUMBER OF IPOs, YTD VERSUS PRIOR YEAR

	DECEMBER 2022	CALENDAR-2021
Conventional CEFs	5	13
Interval CEFs	22	24

TABLE 4 AVERAGE SIZE OF IPOs, SELECTED PERIODS, $MIL

THREE MONTHS THROUGH 11/30/2022	135
COMPARABLE YEAR-EARLIER THREE MONTHS	1,118
CALENDAR 2021 AVERAGE	1,217

TABLE 5 NUMBER OF MERGERS & LIQUIDATIONS, YTD VERSUS PRIOR YEAR

	DECEMBER 2022	CALENDAR-2021
ALL CEFs	**21**	**57**

TABLE 6 MEDIAN PREMIUMS AND DISCOUNTS (%)

	30-SEP	31-OCT	30-NOV	30-DEC
Equity CEFs	-10.67	-9.97	-8.19	-10.75
Bond CEFs	-9.43	-9.80	-7.09	-9.61
ALL CEFS	**-9.80**	**-9.90**	**-7.32**	**-9.92**

Source: Refinitiv Lipper, an LSEG Business

For the month, only 32 CEFs in the equity universe posted plus-side returns. The worst performing fund was housed in Lipper's Emerging Markets CEFs classification. At the bottom of the pile was **Herzfeld Caribbean Basin Fund Inc.** (**CUBA**), shedding 9.72% of its November-closing NAV and traded at a 19.12% discount on December 30. The second worst-performing equity CEF was **NXG NextGen Infrastructure Income Fund** (**NXG**, warehoused in the Natural Resources CEFs classification), posting a 9.63% loss and traded at a 22.33% discount at month end.

The U.S. Treasury yield curve remained inverted but flattened slightly during the month, with all maturities except the one-year witnessing gains. The one-year Treasury yield (+4.73%) witnessed the only decline (one bp). All maturities less than 10 years remained above the 10-year Treasury yield (+3.88%), with the six-month Treasury yield posting the strongest yield at 4.76%. At month end, the two- and 10-year Treasury yield spread (-53 bps) narrowed 17 bps for December, improving from its widest spread for the month on December 7 (-84 bps). The one-month yield was inverted for 20 of the 21 trading days of the month—something not seen since October 10, 2019 (when the one-month and 10-year Treasury yields closed the day out at 1.74% and 1.67%, respectively).

For the first month in four, the world income CEFs macro-group outpaced or mitigated losses better than the other macro-groups in the fixed income universe, posting a 0.58% gain on average, followed by domestic taxable bond CEFs (-0.26%) and municipal debt CEFs (-0.53%).

For the first month in 14, investors pushed High Yield CEFs (+1.30%) to the top of the domestic taxable fixed income leaderboard, followed by U.S. Mortgage CEFs (-0.08%) and Loan Participation CEFs (-0.19%). Corporate Debt BBB-Rated CEFs (Leveraged) (-1.25%) posted the largest losses of the group and was bettered by High Yield CEFs (Leveraged) (-0.61%). On the world income side, strong performance from Emerging Markets Hard Currency Debt CEFs (+2.20%) and Global Income CEFs (+0.16%) pushed the subgroup to the top of the fixed income universe for the month.

The municipal debt CEFs macro-group was in the red for the month, declining 0.53% on average, with eight of the nine classifications in the group witnessing losses for November. The New Jersey Municipal Debt CEFs (+0.09%) posted the only plus-side returns, followed by Intermediate Municipal Debt CEFs (-0.04%) and General & Insured Municipal Debt CEFs (-0.19%), while New York Municipal Debt CEFs (-0.80%) was the group laggard. Single state municipal debt CEFs (-0.51%) mitigated losses better than their national municipal debt CEF counterparts (-0.55%) by four bps. For the year, the macro-group is still down a mind numbing 17.43% on a NAV basis.

Seven of the 10 top-performing individual fixed income CEFs were housed in Lipper's world bond CEFs macro-group. However, at the top of the chart was **Opportunistic Credit Interval Fund, I Shares** (**SOFIX**, an interval hybrid CEF housed in the High Yield CEFs classification), returning 16.39%. Following SOFIX, were **Templeton Emerging Markets Income Fund** (**TEI**, housed in the Emerging Markets Hard Currency Debt CEFs classification), returning 4.43% and traded at a 4.02% discount on December 30; **Virtus Stone Harbor Emerging Markets Income Fund** (**EDF**, also housed in the Emerging Markets Hard Currency Debt CEFs classification), returning 2.65% and traded at a 1.42% discount at month end; **Templeton Global Income Fund** (**GIM**, housed in the Global Income CEFs classification), returning 2.63% and traded at a 7.28% premium on December 30; and **abrdn Asia-Pacific Income Fund Inc.** (**FAX**, warehoused in the Global Income CEFs classification), adding 2.53% to its November month-end value and traded at a 15.71% discount at month end.

For the remaining funds in the fixed income CEF universe, monthly NAV-based performance ranged from negative 3.25% for **Highland Income Fund** (**HFRO**, housed in Lipper's Loan Participation CEFs classification) to positive 2.02% for **Virtus Stone Harbor Emerging Markets Total Income Fund** (**EDI**, housed in the Emerging Markets Hard Currency Debt CEFs classification and traded at a 2.01% discount at month end). The 20 top-performing fixed income CEFs posted returns at or above positive 0.92%, while the 20 lagging CEFs posted returns at or below negative 1.48% for the month. There were 97 fixed income CEFs that witnessed positive NAV-based performance for December.

Premium and Discount Behavior

For December, the median discount of all CEFs widened 260 bps to 9.92%—wider than the 12-month moving average median discount (7.49%). Equity CEFs' median discount widened 256 bps to 10.75%, while fixed income CEFs' median discount widened 252 bps to 9.61%. High Yield CEFs' median discounts witnessed the largest widening among the CEF macro-groups—453 bps to 9.35%—while the world equity CEFs macro-group witnessed the smallest widening of discounts—53 bps to 12.64%.

Gabelli Utility Trust (**GUT**, housed in the Utility CEFs classification) traded at the largest premium (+105.75%) in the CEF universe on December 30, while **Destra Multi-Alternative Fund** (**DMA**, housed in the Income & Preferred Stock CEFs classification) traded at the largest discount (-37.51%) at month end.

For the month, 22% of all closed-end funds' discounts or premiums improved, while 78% worsened. In particular, 32% of equity CEFs and 14% of fixed income CEFs saw their individual discounts narrow, premiums widen, or premiums replace discounts. The number of funds traded at premiums on December 30 (58) was 23 less than the number on November 30 (81).

CEF Events and Corporate Actions

IPOs

Manulife Investment Management announced the launch of **Manulife Forest Climate Fund, LP1** (**FCF**), which is a closed-end fund providing qualified U.S. investors with the opportunity to promote climate change mitigation through sustainably managed forests where carbon sequestration is prioritized over timber production. The fund, which along with its affiliated offshore vehicles is targeting $500 million in committed capital, will be invested in a globally diversified portfolio of sustainably managed forestland assets. Manulife Investment Management may seek to provide opportunities for professional investors in certain other jurisdictions, including within the European Union, to be able to invest in the Forest Climate Strategy. As such, Manulife Investment Management is seeking to ensure that the strategy, if offered outside of the United States through an offshore feeder fund, will comply with the requirements of Article 9 of the EU Sustainable Finance Disclosure Regulation. The fund will aim to deliver durable, high-quality carbon value to investors through carbon credits. To achieve its goals, Manulife FCF will focus on acquiring forests with strong carbon potential and high conservation value, in addition to implementing sustainable forest management plans. The fund intends to use carbon credits, conservation easements, value-added strategies, and limited timber harvests to generate high-integrity climate benefits and financial returns for investors. Manulife Forest Climate Fund is structured as a private offering only for qualified purchasers to be conducted pursuant to Rule 506(c) of Regulation D promulgated under the Securities Act. The fund will be distributed in the United States by John Hancock Investment Management Distributors LLC, a member of FINRA, a Manulife IM affiliate.

Rights, Repurchases, Tender Offers

RiverNorth Capital and Income Fund, Inc. (**RSF**) announced that its board of directors has authorized and set the terms of an offering to the fund's stockholders of rights to purchase additional shares of common stock of the fund. In this offering, the fund will issue transferable subscription rights to its stockholders of record as of January 6, 2023, allowing the holder to subscribe for new shares of common stock of the fund. Record date stockholders will receive one right for each share of common stock held on the record date. For every three rights held, a holder of rights may buy one new share of common stock of the fund. Record date stockholders who exercise their rights will not be entitled to distributions payable during January 2023 on shares issued in connection with the rights offering, but they will be entitled to distributions payable during February 2023 on these shares. The rights are expected to be listed and tradable on the New York Stock Exchange (NYSE) under the ticker: RSF.RT. Record date stockholders who fully exercise all rights initially issued to them in the primary subscription will be entitled to buy those shares of common stock that are not purchased by other record date stockholders. The subscription price per share of common stock will be determined based upon a formula equal to 90% of the reported net asset value (NAV) or 95% of the market price per share of common stock, whichever is higher on the expiration date. Market price per share of common stock will be determined based on the average of the last reported sales price of a share of common stock on the NYSE for the five trading days preceding (and not including) the expiration date. The subscription period will expire on January 27, 2023, unless extended by the board.

Delaware Investments National Municipal Income Fund (**VFL**) announced the final results of its tender offer for up to 10,478,347 of its common shares, representing up to 50% of its issued and outstanding common shares, with a par value of $0.01 per share. The offer expired on Tuesday, December 13, 2022. Based on a count by Computershare Trust Company, N.A., the depositary for the tender offer, approximately 8,678,691 common shares, or approximately 41.41% of the fund's common shares outstanding, were tendered. The fund has accepted 8,678,691 shares (subject to adjustment for fractional shares) for cash payment at a price equal to $11.95 per share. This purchase price is 99% of the fund's NAV per share of $12.07 as of the close of regular trading on the NYSE on December 14, 2022, the pricing date stated in the offer to purchase. Following the purchase of the tendered shares, the fund will have approximately 12,278,003 common shares outstanding. In order to manage its leverage level, the fund is accordingly reducing its outstanding Muni-MultiMode Preferred Shares by redeeming 360 preferred shares at the $100,000 liquidation preference per share, plus an additional amount representing the final accumulated dividend amounts owed to be paid to preferred shareholders. The redemption was set to occur on December 20, 2022. Following the redemption, the fund will have 990 preferred shares outstanding.

Delaware Enhanced Global Dividend and Income Fund (**DEX**) announced that the previously announced potential self-tender offer for up to 30% of its shares will proceed. The fund's board has authorized an issuer tender offer to purchase for cash up to 30% (or 3,186,291) of its issued and outstanding common shares, without par value. The tender offer will commence on Thursday, January 12, 2023, and will expire, unless extended, at 5:00 pm ET, on Friday, February 10, 2023, and purchases will be made at a price per share equal to 98% of the fund's NAV per share as of the close of trading on the first business day after the expiration of the tender offer. If more shares are tendered than the amount the board has authorized to purchase, the fund will purchase a number of shares equal to the tender offer amount on a pro-rated basis.

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Mergers, Liquidations, and Reorganizations

Delaware Investments National Municipal Income Fund (**VFL**) announced that its board of trustees approved a new investment management agreement with abrdn Inc. and the nomination of four new trustees who are currently trustees of existing abrdn funds. The fund's investment objective and principal investment policies will not change as a result of the proposed change in investment manager to abrdn Inc. It is currently expected that the abrdn fund adoption will be completed in the second quarter of 2023 subject to (i) fund shareholder approval of the new investment management agreement with abrdn Inc., (ii) fund shareholder election of four trustees for the fund, constituting a new fund board of trustees, each to take office only if the investment management agreement proposal is approved by fund shareholders and upon the resignation of the current trustees of the fund, and (iii) the satisfaction of customary closing conditions. Delaware Management Company, a series of Macquarie Investment Management Business Trust, is currently the investment manager of the fund.

Macquarie Global Infrastructure Total Return Fund Inc. (**MGU**) announced that the anticipated closing date of the reorganization of the fund into **abrdn Global Infrastructure Income Fund** (**ASGI**) will be completed by the open of business on the NYSE on Monday, March 13, 2023, subject to the satisfaction of customary closing conditions. To facilitate the reorganization, all shares of the fund will cease trading on the NYSE as of market close on Friday, March 10, 2023. The reorganization, if completed, would occur based on the relative NAV of the common shares of the fund.

The board of directors/trustees of **Delaware Investments Dividend and Income Fund** (**DDF**), **Delaware Enhanced Global Dividend and Income Fund** (**DEX**), and **Delaware Ivy High Income Opportunities Fund** (**IVH**) announced that the anticipated closing date of the reorganization of DDF and DEX into **abrdn Global Dynamic Dividend Fund** (**AGD**) and the reorganization of IVH into **abrdn Income Credit Strategies Fund** (**ACP**) will each be completed by the open of business on the NYSE on Monday, March 13, 2023, subject to the satisfaction of customary closing conditions. To facilitate the reorganizations, all shares of DDF, DEX, and IVH will cease trading on the NYSE as of market close on Friday, March 10, 2023. The reorganizations, if completed, would each occur based on the relative NAV of the common shares of DDF, DEX, and IVH.

Western Asset Middle Market Income Fund Inc. (**XWMFX**) announced that the fund terminated as scheduled on December 14, 2022. The proportionate interests of stockholders in the assets of the fund were determined as of that date. The fund's liquidating distribution of $551.9832 per share was anticipated to be paid on or about December 21, 2022. The initial offering price of the fund was $1,000 per share and prior to the liquidating distributions, the fund paid $519.01 per share in distributions over its life.

First Trust/abrdn Emerging Opportunity Fund (**FEO**) completed its termination and liquidation following the close of business on December 7, 2022. The termination and liquidation were performed consistent with the fund's plan of liquidation and termination announced on September 20, 2022. Accordingly, on December 7, 2022, the fund returned to holders of its common shares of beneficial interest as a liquidating distribution in cash the fund's NAV per common share of $9.635572. As previously announced, the fund had designated the close of business on December 5, 2022, as the record date for determining the shareholders entitled to receive such liquidating distribution.

Nuveen Emerging Markets Debt 2022 Target Term Fund (**JEMD**) completed its termination and liquidation following the close of business on December 1, 2022. The termination and liquidation were performed in accordance with the fund's investment objectives and organizational documents, consistent with the fund's previously announced liquidation plans. Nuveen Emerging Markets Debt 2022 Target Term Fund launched on September 26, 2017, as a short duration strategy that invested primarily in high yield emerging market debt securities, with two investment objectives, to provide high current income and to return the original NAV of $9.85 per common share upon termination on or about December 1, 2022.

As anticipated, due to market conditions, JEMD did not return the original NAV at its termination. The investment objective relating to original NAV was not a guarantee and was dependent on a number of factors including the extent of market recovery and the cumulative level of income retained in relation to cumulative portfolio gains net of losses. The fund is returning to shareholders an extended NAV of $6.6472 per common share as its liquidating distribution. Over its five-year term, the fund paid 60 regular distributions totaling $2.1115 per share, which equates to an average distribution rate of 4.14% on NAV and 4.07% on market price. The annualized total return on NAV for shareholders who invested at the initial public offering was negative 2.63% and the total return on market price was negative 2.81%.

Other

The **abrdn Australia Equity Fund, Inc.** (**IAF**) announced an update regarding abrdn Australia Limited, which serves in a subadvisory capacity to the fund's investment manager, abrdn Asia Limited. abrdn PLC intends to enter a strategic partnership with Australian asset manager SG Hiscock (SGH), subject to ongoing due diligence. In connection therewith, it is anticipated that the fund's investment advisor, abrdn Australia Limited, will resign on a future date to be set in 2023. abrdn Asia Limited will continue to serve as the fund's investment manager, taking on full portfolio management responsibilities for the fund. abrdn expects to finalize the transition during the first half 2023.

For immediate assistance, feel free to contact Lipper Client Services toll-free at 877.955.4773 or via email at LipperUSClientServices@refinitiv.com. For more information about Lipper, please visit our website at refinitiv.com/en or lipperalphainsight.com

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