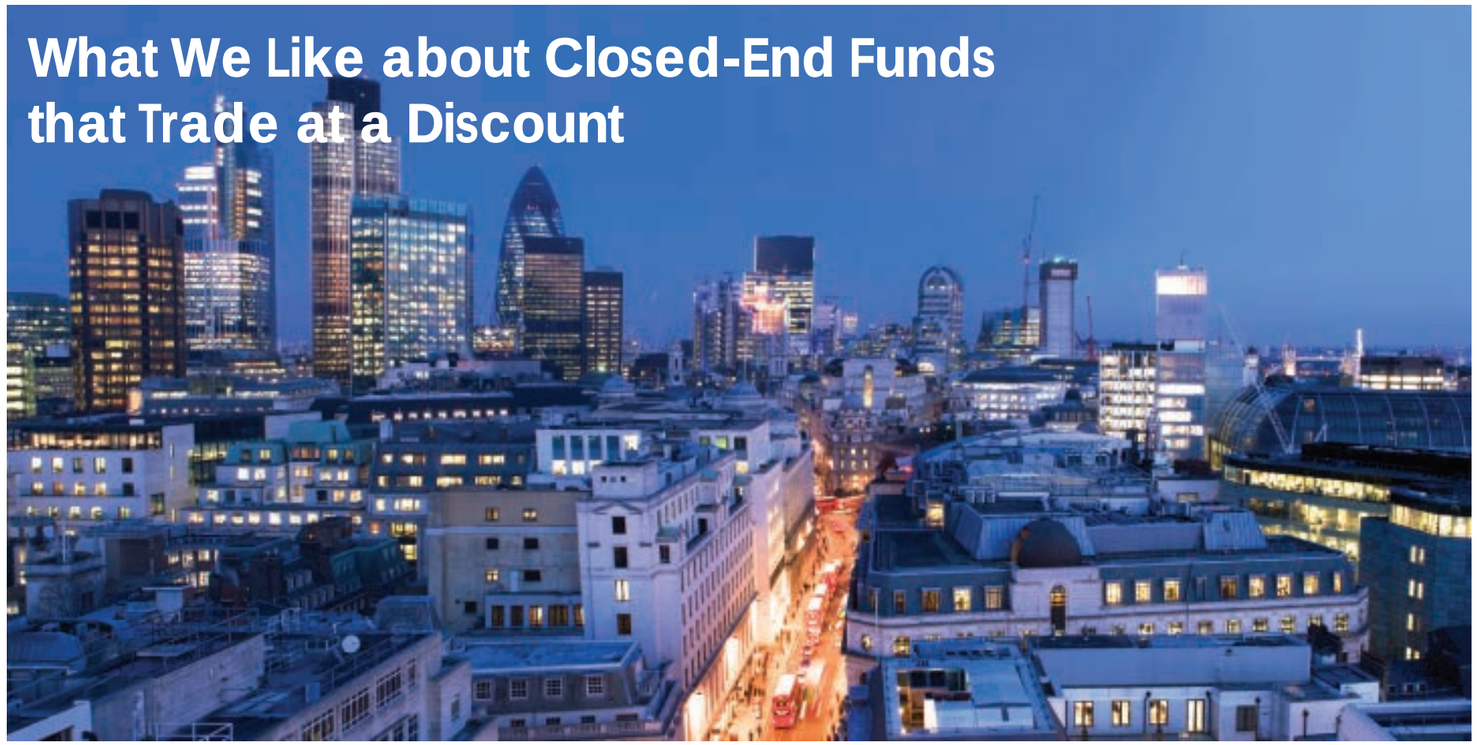
What We Like about Closed-End Funds that Trade at a Discount



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Closed end fund (CEF) shares usually trade at a discount and less frequently for a premium to their NAVs (net asset values, the total value of all the fund's assets divided by its outstanding shares). While much has been written on why they typically trade for a discount, no consensus explanation has yet emerged.

Literature Review

Many researchers have attempted to explain the so called closed end puzzle - why closed end fund shares typically sell at below their net asset value (NAV). Dimson and Minio-Paluello (2002) explored whether the fund's discount results from overestimated or biased NAVs. Malkiel (1977) and other researchers have noted that the dead weight loss of management fees and expenses could account for the discount. Similarly, agency costs could help explain the discount in cases where management charges unjustifiably high fees. Tax timing represents another possibility (Seyhun and Skinner (1994)). Also explored is the relationship between managerial stock ownership and the fund's discount or premium – the greater the stock ownership, the greater is the likely discount (Barone-Adesi and Kim (1999), Barclay (1993), Dimson and Minio-Paluello (2002), Richard and Wiggins (2000) and Malkiel (1995)). The impact of the listing exchange has even been considered. Funds traded on the New York Stock Exchange tend to show a higher persistence of strong NAV and market price performance (Bers and Madura (2000)). Additionally, researchers have found that closed-end fund premiums (discounts) forecast higher (lower) future NAVs ((Chay and Trzcinka (1999) and Thompson (1978))).

Many researchers contend that investor sentiment is a major cause of CEF discounts. Researchers also consider how domestic versus international investor sentiment may impact fund premium/discounts. Some studies find that the existence of "noise" traders helps explain why many CEFs trade at a discount (Chen, Kan and Miller (1993), De Long and Shleifer (1992), Lee, Shlerfer and Thaler (1991), Simpson and Ramchander (2002), Gemmill and Thomas (2000), Garay (2000) and Richard and Wiggins (2000)).

Some scholars have explored the mean-reversion of the discount by utilizing co-integration procedures, that examine bond and equity CEFs which "exhibit stationary time-series properties". They find statistically significant error correction terms that quantify the speed of mean reversion. The results from this observation show that mean reversion is caused by changes in both the market price and NAV (Arora, Ju and Ou-Yang (2002), Gasbarro, Johnson and Zumwalt (2003), and Gasbarro and Zumwalt (2003)). Other studies explore efforts to exploit risk arbitrage as contributing to fund mispricing or the elimination thereof (Pontiff (1996) and Gemmill and Thomas (2000)).

Still other researchers have analyzed the relationship between CEF pricing, and liquidity and liquidity risk. Two main hypothesizes have

been tested: 1. that CEF discounts are related to liquidity differences between the CEF and its underlying portfolio, and 2. That CEF discounts are related to differences in liquidity risk between CEFs and their portfolios (Cherkes, Sagi and Stanton (2005) and Manzler (2005)). Another focus of research is how investors' abilities to access and process relevant information about funds differ. Thus a fund's discount/premium may depend significantly on the quality of private information (Grullon and Wang (2001)).

Several studies using weekly data found that funds with large discounts tend to generate abnormal returns going forward (Thompson (1978), Richards, Fraser and Groth (1980) and Anderson (1986)). A more recent study using daily data, found funds whose discounts had widened substantially would have been profitable to buy (Hughen, Mathew and Ragan (2005)). Several of these studies took account of transactions costs ((Cakici, Tessitore, and Usmen (2000)). One study looked at how those mutual funds which use stale prices to compute their NAVs have created potentially profitable trading opportunities (Boudoukh, Richardson, Subrahmanyam and Whitelaw (2002)).

Who Cares Why CEF Trade at a Discount?

For our purposes, it does not really matter why closed end funds tend to trade at a discount. The material fact is that they do and those that do create opportunities for the nimble investor. Buying a portfolio at a discount from its market value sounds like an attractive proposition. And yet such situations do have a downside. The fact that closed end funds generally trade at a discount means not only that they will be bought at a discount but also that they will likely later be sold at a discount. So the discount is not a free lunch. Still in a variety of situations, buying at a discount from the NAV can be attractive. Let's consider the possibilities.

Large Discounts Tend to Narrow

As mentioned above, prior research has found that funds sporting a large discount from their NAV tend to see their discounts narrow. Thus one approach to investing in closed end funds would be to seek out otherwise attractive funds that sell at a large discount. If and when the discount narrows or even better turns to a premium, the fund may a candidate for a sale. The investor can then move on to another well run fund with a large discount

Closed End Funds Sometimes Convert to Open End

Closed end funds are potential targets for certain large investors who may buy a sufficient stake to influence the fund's management. A typical objective is to cause the fund to convert to open end status. If successful, such a conversion will have the effect of eliminating the discount as the mutual fund will make a market in the shares at their NAV level. In other situations, the large investor may simply liquidate the fund's portfolio and pay out the proceeds to the fund holders.

Closed End Funds Sometimes Make Large Distributions

Like mutual funds, closed end funds are required to annually distribute the majority of their realized short and long term capital gains in the form of dividends. In particularly successful years, these dividends can amount to a substantial percentage of the fund's value. These distributions are in par dollars even though the fund typically trades at a discount. As a result the fund owner may receive a significant distribution and still own the fund shares with a discount that has not changed much from its pre-distribution level.

Closed End Funds Sometimes Self-Tender for their Shares

Rather than convert to an open end status, closed end funds may seek to narrow their discount by offering to buy in a pre-specified fraction of the outstanding shares. Generally the tender is at a price close to the fund's NAV. For example a fund trading at a 10% discount might self-tender for 10% of the outstanding shares at 98% of the NAV. This offer provides an attractive opportunity for the fund holder. Note that since by no means will all fund holders tender, the actual percentage of tendered stock accepted is almost certain to be above the offer amount. That is, if only half of those holding shares tender, a 10% tender will result in an acceptance rate of 20%. That means that the investor has sold one fifth of his or her shares at 98% of the NAV when the market is only 90% of the NAV. One option is simply to tender and thereby exit a part of the position at a better price than was here to fore available. An investor who wants to maintain his or her position, can simply go back into the market and buy back the shares at the market price which will generally still be trading at a significant discount. Some funds even have a policy of self-tendering on a regular basis. Accordingly, the nimble investor can repeat the process each time the fund announces a tender.

The above described strategy of tendering and then restoring one's position in the immediate after market will generally work as desired. That is, the investor will generally be able to tender at a higher price and replace the sold shares at a lower price. On occasion, however, the stock will move up before the investor is able to restore their position. This complication arises because the investor must commit to the tender before they have complete information. For example, the tender offer may provide that the last day to tender is on day X and the purchase price is to be determined by the NAV on day X + 5 followed by an actual purchase on day X + 10. The investor won't know until day X + 5 how many of his or her shares are to be purchased and at what price and won't have the funds available for the repurchase until day X + 10. Over that time period the stock may have moved up such that even though the stock still trades at a discount, the new price is above the level at which it was tendered. While there is a risk of an adverse movement in the stock price, the opposite price move is about equally likely. That is, the stock could move down before the repurchase can occur, further improving the return to the investor.

Conclusion

While closed end funds are not an investment panacea, they do sometimes offer attractive opportunities to the nimble investor. One should begin by identifying funds that are attractive on their own fundamental terms. For example, an investor who seeks exposure to emerging markets could search among the emerging market closed end funds for well managed funds having relatively low expense ratios, low management fees and superior track records. From this set of funds the investor can select one or more which are trading at a substantial discount. Over time the discount may narrow, the fund may self-tender, the fund may make some large distributions and it may even convert to open end status. By no means will every fund do one or more of these things. But a diversified portfolio of such funds is very likely to have at least some funds that do some of these things which add to their returns.

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Research Review

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Further Readings on Closed End Funds

"Dividend distributions and closed-end fund discounts."
Theodore E. Daya, George Z. Lib, and Yexiao Xu
Journal of Financial Economics
100(3). pp. 579–593. June 2011.

Abstract

Empirical support for the hypothesis that closed-end fund discounts are related to overhanging tax liabilities has been mixed. We introduce a new approach to testing this hypothesis by examining changes in discount levels following distributions of dividends and capital gains. Since distributions reduce future shareholder tax liabilities, the tax liability hypothesis implies that closed-end fund discounts should decline following distributions. Focusing on changes in discounts isolates this tax effect by eliminating the impact of other fund-specific factors on discount levels. Our results support the tax liability hypothesis, showing that short-run fluctuations in discounts are directly affected by taxable distributions.
(http://papers.ssrn.com/sol3/papers.cfm?abstract_id=970385)

"Performance persistence of closed-end funds."
Elyas Elyasiani and Jingyi Jia
Review of Quantitative Finance and Accounting
37(3). pp. 381-408. 2011.

Abstract

Studies of performance persistence of closed-end funds (CEFs) use two measures of persistence; autocorrelation and rank correlation of performance. The autocorrelation measure offers limited information because it cannot separate persistence relative to the market and to the industry. The rank correlation measure is generally applied to two periods, disregarding multi-period persistence. We investigate performance persistence of CEFs in terms of both market price return and net asset value return using contingency tables and multiple regression models. Jensen's alpha and the Sharpe ratio are used as measures of risk-adjusted performance. We test three hypotheses: (i) CEFs performing better than the industry median will do so persistently, (ii) CEFs outperform the market persistently; and (iii) performance persistence can be partly explained by dividend yield. The findings are fivefold. First, the number of persistent years varies with the models used to calculate risk-adjusted performance. Second, with 4-index unconditional beta fixed variance model, CEFs persistently beat their industry for six out of 10 years in terms of both market price return and net asset value return. Third, with a 4-index unconditional beta fixed variance model, we find performance persistence relative to market for 6 and 7 years, out of the 10 years considered, in terms of market price return and net asset value return, respectively. Fourth, the disaggregate sample tests show that performance of municipal bond funds is more persistent than equity funds and taxable bond funds. Fifth, dividend patterns can partially explain persistence with liquidity as control.
(http://papers.ssrn.com/sol3/papers.cfm?abstract_id=237793)

"Activist arbitrage: A study of open-ending attempts of closed-end funds."
Michael Bradley , Alon Brav , Itay Goldstein , Wei Jiang
Journal of Financial Economics
95(2010). pp. 1–19. 2010.

Abstract

This paper documents frequent attempts by activist arbitrageurs to open-end discounted closed-end funds, particularly after the 1992 proxy reform which reduced the costs of communication among shareholders. Open-ending attempts have a substantial effect on discounts, reducing them, on average, to half of their original level. The size of the discount is a major determinant of whether a fund gets attacked. Other important factors include the costs of communication among shareholders and the governance structure of the targeted fund. Our study contributes to the understanding of the actions undertaken by arbitrageurs in financial markets beyond just pure trading.
(http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1947048)

"Around-the-Clock Performance of Closed-End Funds."
Ben Branch, Aixin Ma, and Jill Sawyer
Financial Management
pp. 1177 – 1196. Autumn 2010.

Abstract

Herein, we find that the market price of closed-end fund shares tends to increase (decrease) in anticipation of a rise (fall) in the net asset value (NAV). Similarly, an increase (decrease) in the reported NAV tends to be followed by a rise (fall) in the price of the fund's shares. Interestingly, we also find a powerful negative autocorrelation between closed-end fund shares' overnight and intraday returns in both univariate and multivariate tests for both the overall sample and a number of subsamples. We believe that this tendency results from the strategies that many specialists employ when they open their assigned shares.
(http://onlinelibrary.wiley.com/doi/10.1111/j.1755-053X.2010.01108.x/abstract)

"Closed-End Private Equity Funds: A Detailed Overview of Fund Business Terms, Part I."
Seth Chertok, Addison D. Braendel
The Journal of Private Equity
13(2). pp. 33-54. Spring 2010.

Abstract

With the interests of both investors and sponsors in mind, this article discusses business terms that are the subject of frequent negotiation between investors and closed-end private equity funds, with a bias toward closed-end private equity real estate funds. Where applicable, the authors note the background legal and regulatory requirements surrounding these negotiations as well as their broader views on the market. The article also explores fund economics and capital mechanics, including capital calls, fees, and expenses; various concerns faced by specific investors (such as ERISA and tax exempt investors); and confidentiality issues.
(http://www.iijournals.com/doi/abs/10.3905/JPE.2010.13.2.033)

"Investment barriers and premiums on closed-end country funds."

Jang-Chul Kim, Kyojik "Roy" Song

International Review of Economics and Finance

19. pp. 615–626. 2010.

Abstract

We investigate the cross-sectional relation between investment barriers and premiums on closed-end country funds (CECFs) traded in U.S. markets over the period from 1995 to 2004. We find that funds investing in markets with higher indirect investment barriers as measured by market turnover and country risk have higher premiums. We also document that the relation between the country risk and CECF premium is much stronger after the stock market liberalization. Since investors prefer to invest in emerging markets with high indirect barriers through country funds, they increase the premiums of the funds targeting those countries. In addition, we find that direct investment barriers as measured by the investable weight factor do not explain the large variation in the CECF premiums.

http://www.sciencedirect.com/science/article/pii/S1059056010000080

"The dual characteristics of closed-end country funds: the role of risk."

Chung-Hua Shen, Shyh-Wei Chen and Chien-Fu Chen

Applied Economics

42(8), pp. 1003-1013. 2010.

Abstract

This article explores which of two hypotheses, market segmentation or investor sentiment, determines the behaviour of Closed-End Country Funds (CECFs) with the inclusion of risk factors. The risk factors are proxied volatility, as estimated with a Bivariate Markov-switching Autoregressive Conditional Heteroskedasticity (BSWARCH) model, which simultaneously includes foreign and US markets. Our findings are as follows. On average, a positive response is larger than a negative response in terms of absolute value. And, the market segmentation hypothesis with risk factors gains support in Mexico, where CECF returns are related to a market with low volatility but not to one with high volatility. Third, the investor sentiment hypothesis, which argues that CECF returns are not responsive to foreign markets, is weakly supported in Brazil, the Philippines, Indonesia and, to a lesser degree, in Germany.

http://ntur.lib.ntu.edu.tw/retrieve/169186/06.pdf

"The Structure of Closed-End Fund Discounts."

Bruce D. Niendorf and Kristine L. Beck

The Journal of Investing

16(3). pp. 89-95. Fall 2007.

Abstract

Closed-end funds represent an ideal vehicle for studying the possibility of mispricing in financial markets. Despite substantial previous research, much remains to be learned about why closed-end funds consistently sell at values other than their net asset value. This study investigates nine potential explanations of the discounts on closed-end equity funds. These explanations include dividend yield, discount volatility, tax-trading opportunities, unrealized capital appreciation, managerial performance, managerial expense ratios, portfolio turnover, volume, and block ownership. Test results show significant support for the theory that the size of the discount may be due to investors seeking compensation for dividend related tax costs. There is also strong support for a positive relationship between the size of the discount and the risk associated with the discount variance. The third significant result concerns the ability of block-holders to either participate in improper trading of fund shares or to protect small investors from improper fund trading.

http://www.iijournals.com/doi/abs/10.3905/joi.2007.694769

"The Impact of Rights Offerings on the Shares of Closed-End Country Funds: Theory and Evidence."

Joel S. Sternberg and H. Doug Witte

The Journal of Alternative Investments

9(4). pp. 57-65. Spring 2007.

Abstract

Closed-end funds have presented somewhat of an enigma to the finance profession. These funds, which generally can only be purchased or sold in the open market, tend to trade at discounts to the net asset value of their holdings. In recent years several closed-end hedge funds have come into existence as well. This article examines the impact of rights offerings on the shares of closed-end country funds. Closed-end funds frequently announce rights offering that enable their shareholders to buy new shares at a discount. Utilizing a quasi-arbitrage framework, the article theorizes how the rights offering should affect the shares, focusing most specifically on the announcement day and ex-date event windows. The theoretical model presented is then tested against the empirical data. It is found that the rights offerings have a substantial negative impact on the shares of closed-end country funds, but that behavior during the event windows is contrary to the predictions of the theoretical model.

http://www.iijournals.com/doi/abs/10.3905/jai.2007.682736

"Close-End Funds, Exchange-Traded Funds, and Hedge Funds – Origins, Functions, and Literature."

Seth C. Anderson, Jeffery A. Born and Oliver Schnusenberg

ISBN 978-1-4419-0167-5

Springer New York. 2009.

Excerpt

"Investment companies provide investment management and bookkeeping services to investors who do not have the time or expertise to manage their own portfolios. In the United States, these companies have proliferated and evolved over the last century; today there are thousands of investment companies with varying characteristics. They are structured as either open-end funds (mutual funds), closed-end funds (CEFs), or investment trusts (UITs).

In the following chapter, we present an overview of the basic characteristics of mutual funds, CEFs, and UITs, as well as exchange traded funds (ETFs) and hedge funds. Chapter 3 presents a short history of the evolution of investment companies in the United States as well as an overview of more recent developments pertinent to CEFs, ETFs, and hedge funds, which are the foci of this volume.

Chapter 4 addresses CEFs, which originated in Europe more than a century ago. These funds differ from ordinary mutual funds in that they do not continuously issue or redeem ownership shares. Initially, there is a public offering of shares, after which the shares trade in the secondary public market.

Chapter 5 involves ETFs, which are investment companies that are typically registered under the investment company act of 1940 as either open-end funds or UITs. The shares of ETFs trade in the secondary public market.

Chapter 6 addresses hedge funds, which are private limited partnerships that accept investors' money and invest in a pool of securities. Hedge funds are essentially unregulated, and their shares do not trade in the secondary markets."