Closed-end Fund IPOs: Sold, Not Bought

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Internet Appendix

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Internet Appendix

A1: Closed-end Fund IPOs Sample Construction

In the SDC IPO dataset, we select new closed-end fund (CEF) issuance with an IPO flag and SIC code equal to 6726 during 1986-2013, and listed on the three major exchanges: American Exchange, NYSE, and Nasdaq. These screening criteria result in 1,189 observations. Observations with SIC unequal to 6726 are deleted, unless the variable "CEF/Trust Flag" equals "yes" and the SIC is 6726 in CRSP. We also delete duplicate observations with the same name but one with a missing CUSIP. For the other observations with missing CUSIPs, we searched for their CUSIPs and PERMNO by looking up their names or tickers in CRSP. Two observations with missing CUSIPs cannot be located: Thailand Fund and Levy Acquisition Corp and are hence deleted. 1,051 observations are left with ticker, CUSIP and PERMNO information. SDC uses historical CUSIP so it is matched to NCUSIP in CRSP and Compustat. NCUSIP is not available in the stock header dataset in CRSP, where only the latest CUSIP is kept. A special category of companies is the special purpose acquisition companies (SPACs). During 2005-2007, many SPACs went public with SIC code 6726 in the SDC database. However, they are not legitimate CEFs and are deleted. Several securities are not covered in *Barron's* magazine throughout their life time, and are not included in the final sample. 911 CEF IPOs from 1986-2013 were retrieved from the SDC IPO dataset.

We also search in CRSP to collect additional CEF IPOs. The second digit of the CRSP share code variable equals 4 or 5 for a CEF. In CRSP, SIC codes change over time, and hence only selecting SIC code equal to 6726 will miss some CEFs' earlier monthly records. SIC code 6726 is also assigned to business development companies (BDCs), usually with the word "capital" in their names. These companies are excluded from the sample because they operate in a different way from CEFs. After selecting all companies with a second digit of the share code being 4 or 5, we manually check if a given security is indeed a CEF. Three CEFs from Bull and Bear family were excluded because their prospectuses suggest that they were initially open-end mutual funds and later converted to CEFs. We find 82 additional CEFs in CRSP that are not recorded in the SDC IPO dataset. In total, we collect 993 CEF IPOs from 1986-2013.

A2: Closed-end Fund Variables

The Net Asset Value (NAV) and price of CEFs are gathered from Morningstar DirectOne and Bloomberg terminals. For existing CEFs, Bloomberg uses tickers as their identifiers. For CEFs that were liquidated, acquired, or delisted, Bloomberg assigns a new identifier different from their original tickers. Morningstar DirectOne uses SecID as the CEF identifier. There are two issues with the two data sources. First, price and NAV could have been adjusted due to shares split or shares dividend. We manually check the time series of price and NAV data to ensure comparability over time. Second, there is back filling bias and missing data. For example, a CEF went public in 1992 but the time series of price and NAV in Bloomberg or Morningstar only start in 1994. Back filling data is apparent when the price or NAV data remain the same for a longer than normal period, like 12 months. When there is missing or stale data, we hand collected NAV and price data from weekly *Barron's* print issue at the time.

Institutional ownership is gathered from Thomson Reuters on WRDS, under "tools"— "stock ownership summary". There are some data entry errors regarding shares outstanding at quarter end, especially for CEF IPOs in 2005. The list of PERMNOs includes 90607, 90610, 90615, 90646, 90648, 90649, 90652, 90675, 90683, 90688, 90753, 90761, 83996, 89634, and 79447. After correcting data errors, two CEFs still have institutional ownership exceeding 100%: Morgan Stanley Emerging Markets Debt Fund (PERMNO=79447) in March 1995 (IO=1.0146, event month=20) and Morgan Stanley Russia & New Europe Fund (PERMNO=83996) in March 2000 (IO=5.7130, event month=42). The two outliers are not winsorized and they don't affect the average institutional ownership significantly given the number of quarterly or semi-annual observations is over 40,000. If there is total institutional ownership (in shares) but no quarter-end shares outstanding in the Thomson Reuters dataset, we collect the latter from CRSP monthly stock dataset.

A3: Detailed Discussion of Calendar-time Analysis

[Insert Table A1 Here]

Column 1 and 3 in Table A1 are comparable to the raw excess returns reported in CSS Table 10 (2009). The main differences between our results and CSS Table 10 are in foreign equity CEFs (value-weighted) and "other" CEFs. We collected 99 foreign equity CEF IPOs during 1986-2004, and 142 months can form both seasoned and unseasoned fund

portfolios. By contrast, CSS collected 76 foreign equity CEF IPOs but have 160 months of observations. When at least two CEFs are in the seasoned and the unseasoned portfolios (Column 1 and 3 in Panel B), the seasoned foreign equity CEFs significantly outperform the unseasoned ones, doubling the magnitude reported in Panel A.[1]

CSS (2009) emphasize the "unlevered" return differences to support their proposition that CEF IPOs earn comparable returns relative to the seasoned ones.[2] However, even their "unlevered" empirical evidence contradicts their prediction in Section 3.4 because the unseasoned municipal and taxable fixed income CEFs reliably underperform the seasoned funds. The rationale for unlevering is also not clear. First, no evidence suggests seasoned and unseasoned funds having systematically different preferences towards leverage. Second, the sample periods used to calculate the raw and the unlevered return difference are quite different. The unlevered returns use data from 1993-2004, instead of from 1986-2004, due to data limitation (see footnote 2 for discussion on leverage calculation). The truncated sample period reduces the number of observations and neglects the different nature of issuance activity between 1993-2004 and 1986-1992.

Specifically, 62 foreign equity CEFs went public during 1986-1992 but new issuance stopped afterwards. From November 1995 to May 1998, 27 out of 31 months have only one fund in the unseasoned foreign equity fund portfolio whereas over 73 funds are in the seasoned fund portfolio: only one foreign equity CEF went public in 1995 and 1996, respectively, both investing in the Russian stock market, which experienced a remarkable increase from late 1995 to early 1998. The 31 months from November 1995 to May 1998 count for 41% (31/76) of the number of observations in the sample period of 1993-2004. No foreign equity CEF and only a few domestic equity CEFs went public in 1998-2003 until issuance in both categories resumed in 2004.

To control for the impact of different sample periods, we use the subperiod of 1993-2004 to calculate the raw return differences, tabulated in Column 2 and 4 in Table A1. Even without unlevering the raw returns, unseasoned foreign equity CEF portfolio has an

[1] As for other CEFs, the difference in the calendar time results could be due to different classifications of fund type. The number of months used to calculate excess returns in taxable fixed income funds in CSS is about 25 more than we report in Columns 1 and 3 in Panel A and the number of months in other CEFs is 25 less.

[2] Fund Leverage ratio $=\frac{\text{Total Assets-NAV}}{\text{Total Assets}}=1-\frac{\text{NAV}}{\text{Total Assets}}$. CEFs with leverage have net assets and total assets. Net assets are used to calculate the NAV. The difference between net assets and total assets is financed by either preferred stock or borrowing. According to CSS Appendix A.1 and A.3, CSS collect the quarterly total assets data from funds' balance sheets using CapitalIQ, which only became available in 1993. If quarterly leverage is missing, they assign a fund the average leverage of its fund category. The quarterly leverage is then interpolated to create a monthly time series.

insignificant outperformance on average. Since equity CEFs do not use leverage as commonly as do bond CEFs (Elton et al. (2013)), this finding suggests that the insignificant outperformance in CSS (2009) is likely due to different sample period instead of unlevering returns. When at least two CEFs are in the seasoned and the unseasoned portfolios, seasoned funds outperform unseasoned funds during 1993-2004, except for the value-weighted foreign equity and "other" CEFs. Seasoned domestic equity CEFs on average outperform the unseasoned funds by about 2% per month, which is economically significant.

A4: Closed-end Fund IPO Transaction on the 1st Trading Day post-IPO

[Insert Figure A1 Here]

Figure A1 decomposes the 571 price-supported CEF IPOs by the fraction of trades executed at the offer price and by the general stock market movement (CRSP value-weighted index) on the first trading day. More than 96% of CEF IPOs from 1993-2012 experienced price support, so the plot using all CEF IPOs looks very similar. When the stock market falls, CEF IPOs on average are more likely to receive intensive price support: 61% of CEF IPOs have at least 90% of the trades executed at the offer price. When the market goes up, 57% of CEF IPOs receive such intensive price support.

A5: Description and Analysis of Discount Brokerage Data

The discount brokerage data kindly shared by Professor Odean contain household demographic information, month-end positions in securities, trading records, and account characteristics from 1991-1996. Out of 78,000 households, about 11%, or 8,386 households, had investments in CEFs at some point. In total, 10,823 accounts had at least one month-end position in one or more CEFs, which is about 7% of the total accounts.

Of these 8,386 households with investments in CEFs, 24% are classified as affluent, i.e. with more than $100,000 in equity at any time (not inflation adjusted), and 21% are active trader households, i.e. conducting more than 48 trades in any year. Both percentages are higher than the average of the 78,000 households. This is partly because clients with a higher balance in equity usually have more securities in their portfolio and hence are more likely to invest in at least one CEF. CEF investors are significantly older too: the average age is 54, 4 years older than the average age of all investors at this discount brokerage. Again, this difference is at least partly due to older investors having more financial assets, and people with more financial assets are more likely to hold at least one CEF. Of the 10,823 accounts investing in CEFs, 19% are cash accounts and 44% are margin accounts.

The rest are set up as IRA contributory and IRA rollover accounts, both of which are tax deferred. A household can have two accounts, one taxable and one tax deferred.

Figure A2 plots the market capitalization of all CEFs that went public during 1986-2013, and the aggregate month-end dollar value of CEFs held by individual investors at this large discount brokerage from January 1991 to November 1996. As of January 1991, retail investors at this brokerage held less than $60 million CEFs, which steadily increased and peaked at the end of 1993 to over $120 million. Meanwhile, the total market value of post-1985 CEFs was over $200 billion. In November 1996, investors at this discount brokerage held 0.04% ($75 million /$184 billion) of post-1985 CEFs, and 0.08% of all common stocks.[3] The fact that discount brokerage clients owned a lower fraction of CEFs suggests that retail investors of full-service brokerage are more likely to own CEFs.

[Insert Figure A2 Here]

By the end of 1996, 512 of the 993 CEF IPOs in our sample had gone public. Investors at this discount brokerage traded 431 of them at least once: more buy trades than sell trades in each fund category. Municipal bond CEFs experience the highest buy-sell imbalance (65% to 35%). Over half of the 47,977 CEF transactions traded foreign equity CEFs: 15,081 buy trades and 10,786 sell trades. The next most popular is taxable fixed income CEFs, with 7,856 buy trades and 5,375 sell trades. The preference to foreign equity and taxable fixed income CEFs is also reflected in monthly aggregate investment and the number of households that invested in them. Further investigation reveals that foreign equity CEFs were sought after to gain access to emerging markets.[4] Municipal bond CEFs are the least popular: even more households invested in "other" CEFs. There was a steady decline in the number of households that held domestic equity CEFs.

Like institutions, discount brokerage clients are net buyers of seasoned funds. Regression analysis is used to quantify how much the investors at this discount brokerage preferred seasoned CEFs. The dependent variable is the aggregate investment in each fund (in $1,000) at each month-end. The independent variables include a dummy variable that equals 1 if a CEF is seasoned in month *t-1*, lagged performance in month *t-3* to *t-1*, lagged

[3] Per Barber and Odean (2000), investors at this discount brokerage held $6.83 billion common stocks in 1996. The total market value of all publicly listed companies in the United States was $8,484 billion (World Bank http://data.worldbank.org/indicator/CM.MKT.LCAP.CD?order=wbapi_data_value_1996+wbapi_data_value&sort=desc&page=3), indicating that 0.08% (6.83/8,484) was held at this discount brokerage.

[4] Investment in foreign equity CEFs focusing on Germany mostly happened immediately after the fall of the Berlin Wall. We believe the reunion of East and West Germany created the investment opportunity. Hence the emerging market flavor even though West Germany was a developed region.

market capitalization in $1,000, lagged premium/discount, and fund type and year fixed effects. The results are robust to using fund fixed effects. Namely,

$$\begin{aligned}\text{Month-end Position}_{i,t} &= \alpha_i + \beta 1 \times \text{Dummy if seasoned}_{i,t-1} + \beta 2 \times \text{Ret}_{i,t-1} + \beta 3 \times \text{Ret}_{i,t-2} \\ &+ \beta 4 \times \text{Ret}_{i,t-3} + \beta 5 \times \text{Market Cap}_{i,t-1} + \beta 6 \times \text{Premium}_{i,t-1} \\ &+ \text{Fund Type FE} + \text{Year FE} + (\text{Fund FE}_i) + \text{Error}_{i,t}\end{aligned} \quad (4)$$

[Insert Table A5 Here]

Column 1 of Table A5 reports the regression results using fund type and year fixed effects and column 2 with fund fixed effects. The coefficient of the dummy variable suggests that investors' aggregate monthly holdings in seasoned fund is $165,570 higher than unseasoned funds. When using fund fixed effect, the coefficient of the dummy variable is also statistically and economically significant. It suggests that the month-end holding in the same fund increases by $54,570 on average after the fund becomes seasoned. Fund size and lagged premium/discount are also statistically significant. Taken together, neither institutions nor discount brokerage clients actively invest in new funds but instead they prefer seasoned funds. This implies that full-service brokerage are most likely to promote CEF IPOs to their retail clients, consistent with the indirect evidence provided in HLS (1996) that small investors are buying recent CEF IPOs in the aftermarket.

Figure A1 Frequency of Trading at the Offer Price on the First Trading Day after Closed-end Fund IPOs, 1993-2012

Figure A1 illustrates the percentage of all first-day trades executed at the offer price for 571 closed-end fund IPOs from 1993-2012 with at least one trade executed at the offer price. The 571 CEF IPOs account for 96% of all CEF IPOs with available first trading day data in TAQ (Trade and Quote) and are separated into two groups based on whether the CRSP value-weighted index is up or down on the first trading day post-IPO. Each bar represents the fraction of CEF IPOs with a certain percentage of trades executed at the offer price. For example, conditional on a positive or negative index return on the first day of trading, 57% and 61% of CEF IPOs, respectively, have at least 90% of first-day trades executed at the offer price.

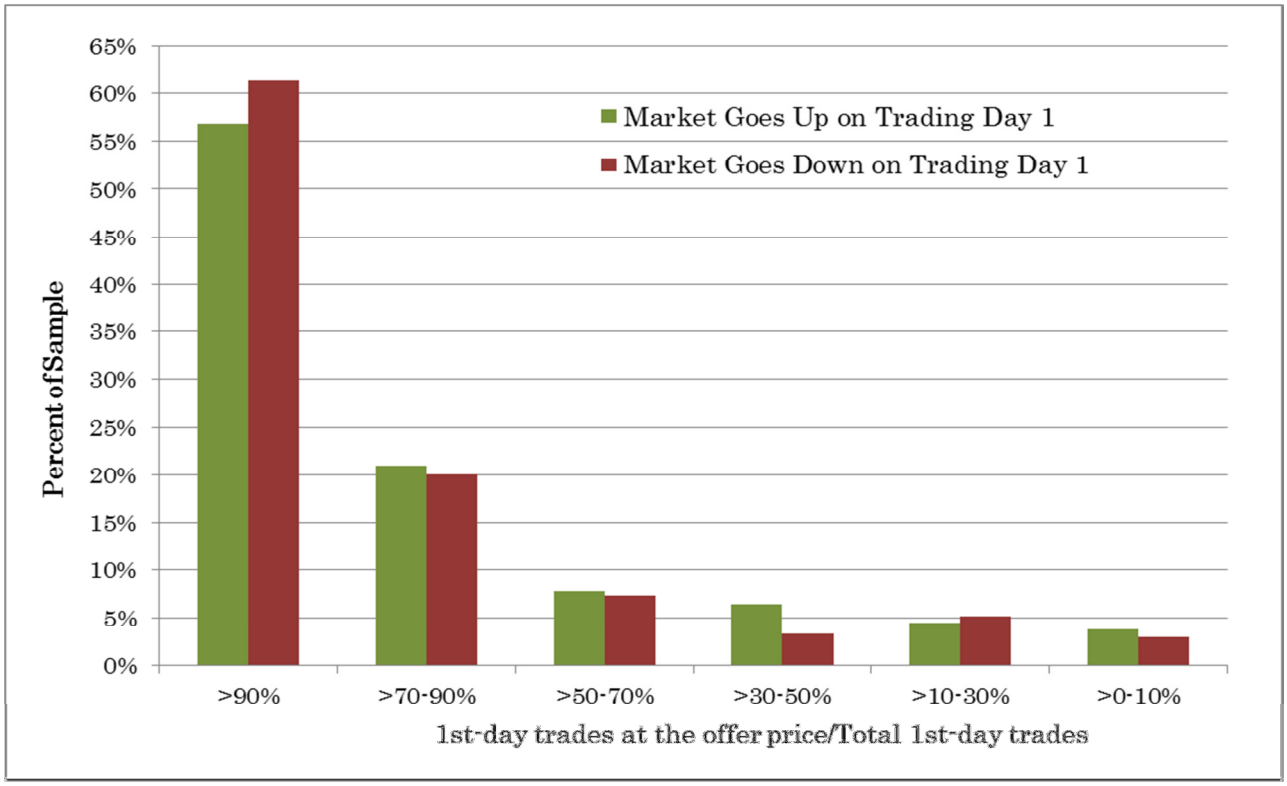

Figure A2 Month-end Market Capitalization of Closed-end Funds

The left figure in Figure A2 shows the aggregate month-end dollar value of closed-end funds held by investors at the discount brokerage firm from January 1991 to November 1996. The right figure shows the aggregate month-end market capitalization of all closed-end funds that went public during 1986-2013. Both series are in millions of 2014 dollars.

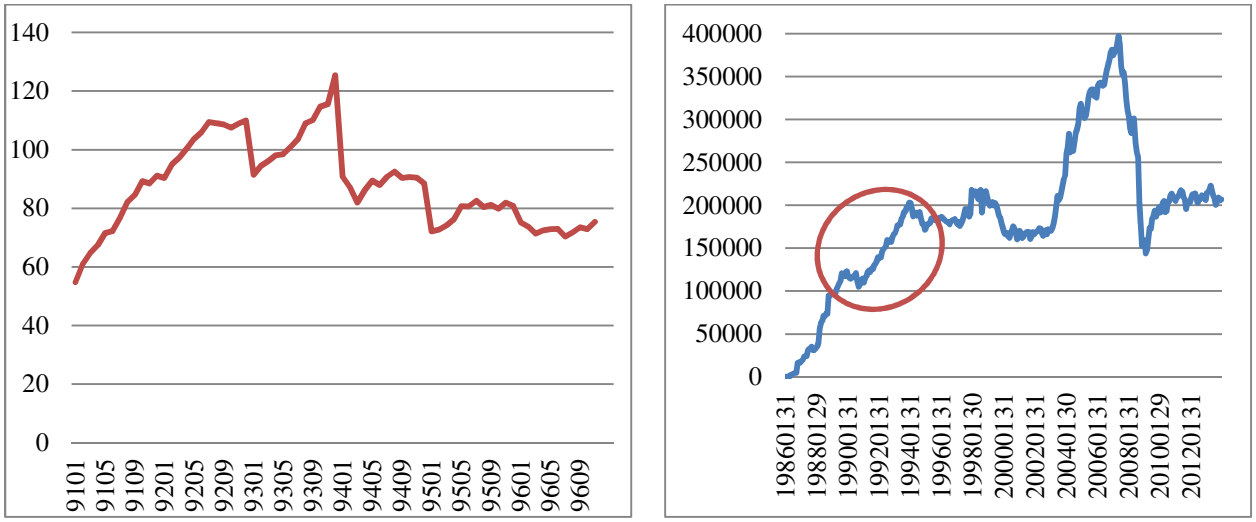

Table A1 CEF IPOs Performance, Calendar-Time Results, Ending in 2004

Table A1 reports the average difference in the monthly return of seasoned closed-end fund portfolios relative to unseasoned CEF portfolios, as defined in CSS (2009) Table 10. Columns 1 and 2 weight each fund return by fund size and Columns 3 and 4 weight each fund return equally. Panel A requires at least one CEF in the monthly seasoned portfolio and one CEF in the unseasoned portfolio. Panel B requires at least two CEFs in each portfolio. Number of months counts the months for which both an unseasoned and a seasoned portfolio can be formed. This table offers comparison to CSS (2009) Table 10. Columns 1 and 3 use data from 1986-2004, a total of 228 months, the same sample period as used in Columns 1 and 3 in CSS Table 10 to calculate the raw monthly excess returns. Columns 2 and 4 use data from 1993-2004, a total of 144 months, presumably the same sample period as used in Columns 2 and 4 in CSS Table 10 to calculate the unlevered monthly excess returns.

Panel A: At least 1 CEF in seasoned and unseasoned portfolio

		Value-Weighted		Equal-Weighted	
Sector		1986-2004	1993-2004	1986-2004	1993-2004
Muni	Monthly Return Difference	0.50%	0.54%	0.53%	0.56%
	Standard Error	(0.09%)	(0.11%)	(0.10%)	(0.11%)
	Number of Months	181	121	181	121
Taxable FI	Monthly Return Difference	0.48%	0.34%	0.68%	0.56%
	Standard Error	(0.19%)	(0.21%)	(0.16%)	(0.21%)
	Number of Months	175	107	175	107
Domestic Equity	Monthly Return Difference	1.03%	1.32%	1.55%	1.91%
	Standard Error	(0.51%)	(0.70%)	(0.49%)	(0.68%)
	Number of Months	139	76	139	76
Foreign Equity	Monthly Return Difference	0.78%	-0.40%	0.51%	-0.77%
	Standard Error	(0.52%)	(0.71%)	(0.49%)	(0.70%)
	Number of Months	142	72	142	72
Others	Monthly Return Difference	0.34%	0.20%	0.70%	0.53%
	Standard Error	(0.32%)	(0.42%)	(0.23%)	(0.24%)
	Number of Months	172	107	172	107

Panel B: At least 2 CEFs in seasoned and unseasoned portfolio

		Value-Weighted		Equal-Weighted	
Sector		1986-2004	1993-2004	1986-2004	1993-2004
Muni	Monthly Return Difference	0.52%	0.53%	0.52%	0.55%
	Standard Error	(0.09%)	(0.11%)	(0.09%)	(0.11%)
	Number of Months	168	112	168	112
Taxable FI	Monthly Return Difference	0.58%	0.37%	0.80%	0.64%
	Standard Error	(0.19%)	(0.21%)	(0.15%)	(0.19%)
	Number of Months	152	87	152	87
Domestic Equity	Monthly Return Difference	1.10%	1.69%	1.71%	2.37%
	Standard Error	(0.56%)	(0.59%)	(0.51%)	(0.63%)
	Number of Months	70	41	70	41
Foreign Equity	Monthly Return Difference	1.27%	0.90%	1.14%	1.27%
	Standard Error	(0.51%)	(0.60%)	(0.44%)	(0.56%)
	Number of Months	108	44	108	44
Others	Monthly Return Difference	0.44%	0.34%	0.75%	0.56%
	Standard Error	(0.31%)	(0.33%)	(0.26%)	(0.21%)
	Number of Months	125	76	125	76

Table A2 Premium/Discount of CEF IPOs and Premium-Matched Seasoned Funds

Table A2 reports the average of the first available month-end premium of closed-end fund IPOs and the average premium of seasoned funds at the time of matching. A CEF IPO is included in the sample if its first available month-end premium is within the second month-end after the IPO. Matching seasoned funds are of the same category of CEF IPOs and are closest in month-end premium. However, due to data limitation, only funds that went public after 1986 (inclusive) are used as matching seasoned funds. 37 CEFs went public between 1925 and 1985 and are included in fund category and size matching, but not in this table. Domestic Equity includes general equity and specialized equity CEFs. Foreign equity refers to CEFs that invest in other countries outside the United States. Taxable Fixed Income (FI) CEFs include funds that invest in high yield bond, investment grade bond, mortgage bond, loan participation, and other domestic taxable bond as well as funds that seek worldwide income. Municipal Bond (Muni) CEFs invest in bonds issued by municipalities. Others include CEFs that invest in MLPs, preferreds, and convertibles. Only foreign equity CEF IPOs ever traded at a premium greater than 20%. Hence, for foreign equity CEF IPOs, this table reports both with and without restriction on IPO premium. The number of observations reported in this Table sometimes is different from those in Table 6 and A3 because one CEF IPO can be matched to multiple seasoned funds during the matching period if the first matched seasoned fund is delisted/acquired/liquidated before the matching period ends.

Sector	N Obs.	Average Premium	Mean	Std. Dev.	Min	Max
Domestic Equity	59	CEF IPO	4.25%	7.12%	-22.81%	18.48%
		Seasoned Funds	3.47%	6.33%	-19.82%	20.44%
Foreign Equity	138 (IPO premium <20%)	CEF IPO	3.52%	7.36%	-34.12%	18.87%
		Seasoned Funds	2.93%	7.68%	-26.89%	21.11%
	151 (No restriction on IPO premium)	CEF IPO	7.69%	17.62%	-34.12%	98.32%
		Seasoned Funds	3.77%	9.19%	-26.89%	38.18%
Muni Bond	410	CEF IPO	4.87%	3.17%	-7.53%	12.78%
		Seasoned Funds	4.84%	3.07%	-6.63%	12.80%
Fixed Income	293	CEF IPO	5.15%	3.66%	-10.23%	13.64%
		Seasoned Funds	4.80%	4.02%	-10.42%	11.80%
Others	207	CEF IPO	4.81%	2.65%	-13.56%	11.81%
		Seasoned Funds	4.17%	3.21%	-14.29%	12.43%

Table A3 CEF IPOs Premium-matched Performance, Subperiod Results

Table A3 reports the subperiod regression results. The dependent variable is the percentage 6-month buy-and-hold returns (BHRs) of closed-end fund IPOs and their premium- and category-matched seasoned CEFs. The independent variable is a dummy variable that equals 1 when the return is of a CEF IPO, 0 otherwise.

$$\text{Ret}_{t,i,j} = \alpha_{t,i} + \beta_{t,i} \times \text{Dummy (= 1 if closed-end fund IPO)} + \text{error}_{t,i,j}$$

$Ret_{t,i,j}$ is the buy-and-hold return (BHR) of a given fund j, either IPO or seasoned, t indicates if the return is for six months, one year, or three years, and i represents the asset class. The intercept indicates the average raw return of seasoned CEFs. The coefficient of the dummy variable represents the average CEF IPO underperformance relative to the premium- and category-matched seasoned funds. A CEF IPO is included in the sample if its first available month-end premium is within the second month-end after the IPO. Matching seasoned funds are of the same category of CEF IPOs and are closest in terms of month-end premium. However, due to data limitation, only funds that went public after 1986 (inclusive) are used as seasoned funds candidate. 37 CEFs went public between 1925 and 1985 and are included in analysis based on fund category and size matching (see Table 4). Panel A reports the underperformance of all CEF IPOs in each subperiod. Panel B reports only bond funds (municipal bond and taxable fixed income) CEF IPO underperformance in each subperiod. Standard errors are two-way clustered by fund category and IPO year. Significance at the 0.01, 0.05, and 0.10 levels is indicated by ***, **, and *, respectively.

	1986 to 2013	1986 to 1992	1993 to 2004	2005 to 2013
Panel A: 6-month BHR Post-IPO Performance of All Closed-end Funds				
Dummy for new Closed-end Fund	-6.53***	-5.73***	-6.37***	-7.99***
Standard Error	[1.25]	[1.39]	[0.98]	[2.34]
Intercept (%)	1.93*	1.64	2.13	1.94
Standard Error	[1.03]	[3.03]	[1.43]	[3.12]
Number of Observations	1,838	570	864	404
Adjusted R-squared	7%	5%	10%	7%
Panel B: 6-month BHR Post-IPO Performance of Closed-end Bond Funds				
Dummy for new Closed-end Fund	-4.93***	-4.44***	-5.13***	-5.58***
Standard Error	[0.54]	[0.28]	[0.90]	[1.26]
Intercept (%)	2.48**	4.44***	1.47	0.93
Standard Error	[1.11]	[0.99]	[1.27]	[1.54]
Number of Observations	1,216	442	624	150
Adjusted R-squared	8%	11%	9%	5%

Table A4 Returns on IPOs during the three years after issuing, for IPOs from 1986-2013

Table A4 reports the buy-and-hold returns (BHRs) in Panel A of closed-end fund IPOs and their size- or premium-matched seasoned funds, and in Panel B of operating company IPOs and their size- or size- and book-to-market-matched seasoned firms, in the first six months after the IPO, the first year after the IPO, and three years after the IPO. Operating company IPOs exclude IPOs with an offer price of less than $5.00, ADRs, REITs, SPACs, closed-end funds, banks and S&Ls, unit offers, small best efforts deals, and oil & gas limited partnerships. IPOs that are not listed on CRSP within six months of the IPO are excluded. All returns are equally weighted average returns for all IPOs that are traded on Nasdaq, the Amex (now NYSE MKT), or the NYSE at the start of a period. The returns are measured from the closing market price on the first day of CRSP-reported trading until the sixth-month, one-year anniversary, or three-year anniversary. If an issuer is delisted early, the return is ended on the delisting date.

For the size-matched returns for operating companies, each IPO is matched with the non-issuing firm having the same or next higher market capitalization (using the closing market price on the first day of trading for the IPO, and the market capitalization at the end of the previous month for the matching firms). For the size & BM-matched returns, each IPO with a book-to-market ratio higher than zero is matched with a nonissuing firm in the same size decile (using NYSE firms only for determining the decile breakpoints) having the closest book-to-market ratio. Each IPO with a zero or smaller book-to-market ratio is matched with a nonissuing firm of a book-to-market ratio of zero or smaller having the closest market capitalization. For the IPOs, book-to-market ratios are calculated using the first recorded post-issue book value and the post-issue market cap calculated using the closing market price on the first CRSP-listed day of trading. For nonissuing firms, the Compustat-listed book value of equity for the most recent fiscal year ending at least four months prior to the IPO date is used, along with the market cap at the close of trading at month-end prior to the month of the IPO with which it is matched.

Nonissuing firms are those that have been listed on the Amex-Nasdaq-NYSE for at least five years, without issuing equity for cash during that time. If a nonissuer subsequently issues equity, it is still used as the matching firm. If a nonissuer gets delisted prior to the delisting (or the fifth anniversary), the second-closest matching firm on the original IPO date is substituted, on a point-forward basis. For firms with multiple classes of stock outstanding, market cap is calculated using the offer price and the total number of shares outstanding across all classes of stock as reported in Compustat. Firms with multiple classes of stock are excluded as potential matching candidates. If book value numbers are missing so that no style-matched firm is available as a benchmark, the value-weighted market return is used for the matching firm return.

Panel A: Returns on CEF IPOs from 1986-2013

	First day	First six months	First Year	3-year BHR
CEF IPOs	0.2%	-4.75%	-3.13%	10.83%
Size-matched		3.77%	7.92%	24.37%
Difference		-8.52%	-11.05%	-13.54%
No of IPOs	985			
CEF IPOs		-4.60%	-3.18%	10.45%
Premium-Matched		1.93%	3.82%	16.77%
Difference		-6.53%	-7.00%	-6.32%
No. of IPOs	919			

Panel B: Returns on operating company IPOs from 1986-2013

	First day	First six months	First Year	3-year BHR
IPO firms	19.7%	6.80%	7.80%	21.73%
Size-matched		5.58%	12.18%	38.01%
Difference		1.22%	-4.38%	-16.28%
No of IPOs	6,708			
IPO firms		6.80%	7.80%	21.73%
Size & BM-Matched		4.67%	10.31%	30.31%
Difference		2.13%	-2.51%	-8.58%
No. of IPOs	6,708			

Table A5 Investment in Old versus New Closed-end Funds, 1991-1996

Table A5 reports the regression results of retail investor's preference of seasoned funds. The dependent variable is the dollar value of the aggregate month-end holdings in closed-end funds held by retail investors at a large discount brokerage from 1991 to 1996. The control variables include a dummy variable that equals 1 if a CEF is seasoned in month *t-1*, lagged returns in month *t-3* to *t-1*, measured in decimal point, lagged market capitalization of a CEF. A CEF's lagged premium/discount in previous month is measured in decimal point, i.e. 0.05 represents a 5% premium and -0.07 represents a 7% discount. All dollar amounts are in the unit of $1,000 and are not inflation adjusted. Specification 1 uses fund type and year fixed effects. Specification 2 uses fund fixed effect. Reported standard errors are two-way clustered by year and fund type. Significance at the 0.01, 0.05, and 0.10 levels is indicated by ***, **, and *, respectively.

$$\text{Month-end Position}_{i,t} = \alpha_i + \beta 1 \times \text{Dummy if seasoned}_{i,t-1} + \beta 2 \times \text{Ret}_{i,t-1} + \beta 3 \times \text{Ret}_{i,t-2} + \beta 4 \times \text{Ret}_{i,t-3} + \beta 5 \times \text{Market Cap}_{i,t-1} + \beta 6 \times \text{Premium}_{i,t-1} + \text{Fund Type FE} + \text{Year FE} + (\text{Fund FE}_i) + \text{Error}_{i,t}$$

Independent Variables	(1)	(2)
Dummy if seasoned$_{t-1}$	165.57***	54.57***
	[22.82]	[8.64]
RET$_{t-1}$	54.10	-31.14
	[40.68]	[36.73]
RET$_{t-2}$	81.93**	21.70
	[36.66]	[40.59]
RET$_{t-3}$	106.43***	53.87**
	[35.87]	[23.13]
Market Capitalization$_{t-1}$	0.16***	0.14**
	[0.02]	[0.05]
Premium (or Discount)$_{t-1}$	213.75***	362.97***
	[57.94]	[72.79]
Constant	153.18***	378.70***
	[27.25]	[63.39]
Fund Type FE	Yes	No
Year FE	Yes	No
Fund FE	No	Yes
Number of Observations	18,206	18,206
Adjusted R-Square	26%	86%