Internet Appendix for "The Secondary Market for Hedge Funds and the Closed Hedge Fund Premium"*

This internet appendix provides supplemental analyses to the main tables in "The Secondary Market for Hedge Funds and the Closed Hedge Fund Premium"

The first section describes the process followed to match Hedgebay data to the consolidated data from the TASS, HFR, MSCI and CISDM databases. Prior to Table IA.VII, I describe the robustness checks conducted in that table, and prior to Table IA.VIII, I describe some of the variables in that table. The tables and figures are as follows:

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Matching Hedgebay Data to the Consolidated Hedge Fund Database

The final combined database used in the paper comprises 9,305 funds-of-funds and hedge funds for which comprehensive information on returns and administrative characteristics such as subscription and redemption restrictions and fees are available. The hedge fund and fund-of-funds data span four different sources: TASS, HFR, MSCI, and CISDM (all December 2008 versions). There are 20,823 live and dead funds across all four databases, for which both administrative information (including fund characteristics) and returns information are available. Since an individual fund can appear multiple times from different vendors, there is duplication in the data; administrative data on the funds are used to remove duplicates. The criteria used for elimination are:

1. Key name: Database sources occasionally name the same fund differently. A "key name" is created for each unique fund using a name-matching algorithm that eliminates differences on account of hyphenation, misspellings, and punctuation.

2. Currency: Funds with the same key names occasionally offer shares to investors in multiple currencies. These differences are preserved, as occasionally, on Hedgebay, only one share class in a particular currency is traded.

3. Strategy: There are 78 different strategies listed in the consolidated administrative information file from the four different database sources. Using the classification system employed in Naik, Ramadorai, and Stromqvist (2007), these 78 strategies are condensed into nine broad categories. The classification mapping is presented in Internet Appendix Table IA.I, Panel B below.

4. Management Company: The names of management companies are standardized in the same way as the creation of key names (1. above).

5. History: If there are two or more funds that are completely identical in terms of key name, currency, strategy, and management company, the fund for which the longest period of return information is available in the database is selected.

These criteria reduce the number of funds-of-funds and hedge funds to 16,659. Next, funds with identical key names, currencies, and beginning dates are compared based on their reported minimum investment, redemption notice periods and lock-up periods. If all of the three administrative fields are the same for such funds, they are assumed to be duplicates. This procedure eliminates 1,732 names, leaving 14,927 unique funds. Finally, the funds are required to have information available for every one of the fields employed in the selection analysis in Table VI. This eliminates 5,630 funds with missing data, leaving 9,297 funds in the universe. The 225 funds traded on Hedgebay over the sample period are compared to these 9,297 funds. Using key names and management company names, in consultation with Hedgebay in case of slight differences in names, 118 of these funds are matched to the consolidated database. For the remaining 225-118=107 funds, the consolidated database occasionally has (incomplete) administrative information, but never has return information over the periods when the funds are traded on Hedgebay. For eight of these remaining funds, return data (net of all fees and costs) and a complete set of administrative information are obtained from Hedgebay. A cross-check is then conducted to make sure that the two sets of administrative information (from the consolidated database (incomplete) and directly sourced) are congruent with each other. The information, where it exists in both sets of data, is virtually identical. This results in an expansion of the universe of funds to 9,305=9,297+8, and yields the final sample employed in the paper, namely, 118+8=126 funds for which there is return information available for 12 months prior to their transactions on Hedgebay, and 72 funds for which there is return information available for 24 months prior to and following the transaction on Hedgebay (employed in Table VIII). The sources of these funds and the percentages that are alive and defunct (either liquidated or closed to new investments) are in Internet Appendix Table IA.I, Panel A below. The main reason for the inability to match a higher fraction of funds is that many of the funds traded on Hedgebay either do not report to database vendors at all, or stop reporting prior to their transactions on the secondary market. The main reasons that funds stop reporting to databases are because they close to new investments, or are near liquidation; these are also reasons why they are traded on the secondary market.

Table IA.I

Panel A shows the number of funds from each of the five sources (HFR, TASS, CISDM, MSCI, and Hedgebay), and the number of these funds that are alive and defunct (either liquidated or closed) in the consolidated universe of hedge fund data. Panel B shows the fund strategies provided by HFR, TASS, CISDM, and MSCI data vendors in the first column, and the nine strategies to which these are mapped in the second column.

Panel A: Data Sources

Source Dataset	Num(Funds)	Alive	Defunct	% Defunct
TASS	3489	1823	1666	47.75
HFR	3770	2288	1482	39.31
MSCI	1823	1113	710	38.95
CISDM	215	196	19	8.837
Proprietary/Hedgebay	8	0	8	100
Total	9305	5420	3885	41.75

Panel B: Vendor-provided Strategies and Mapped Strategies

Strategy in Consolidated Database	Mapped Strategy
Arbitrage	Relative Value
Capital Structure Arbitrage	Relative Value
Convertible Arbitrage	Fixed Income
CPO-Multi Strategy	Other
CTA – Commodities	Other
CTA-Systematic/Trend-Following	Other
Dedicated Short Bias	Directional Traders
Directional Traders	Directional Traders
Discretionary Trading	Other
Distressed Securities	Multi-Process
Emerging	Emerging
Emerging Markets	Emerging
Emerging Markets: Asia	Emerging
Emerging Markets: E. Europe/CIS	Emerging
Emerging Markets: Global	Emerging
Emerging Markets: Latin America	Emerging
Equity Hedge	Security Selection
Equity Long Only	Directional Traders
Equity Long/Short	Security Selection
Equity Market Neutral	Security Selection
Equity Non-Hedge	Directional Traders
Event Driven	Multi-Process
Event Driven Multi Strategy	Multi-Process
Event-Driven	Multi-Process
Fixed Income	Fixed Income
Fixed Income – MBS	Fixed Income
Fixed Income Arbitrage	Fixed Income
Fixed Income: Arbitrage	Fixed Income
Fixed Income: Convertible Bonds	Fixed Income
Fixed Income: Diversified	Fixed Income
Fixed Income: High Yield	Fixed Income
Fixed Income: Mortgage-Backed	Fixed Income
FOF-Conservative	Funds of Funds
FOF-Invest Funds in Parent Company	Funds of Funds
FOF-Market Neutral	Funds of Funds
FOF-Multi Strategy	Funds of Funds
FOF-Opportunistic	Funds of Funds
FOF-Single Strategy	Funds of Funds

Panel B (Continued)

Strategy in Consolidated Database	Mapped Strategy
Foreign Exchange	Global Macro
Fund of Funds	Funds of Funds
Global Macro	Global Macro
HFRI	Other
Index	Other
Long Bias	Directional Traders
Long/Short Equity Hedge	Security Selection
Long-Short Credit	Fixed Income
Macro	Global Macro
Managed Futures	Other
Market Timing	Directional Traders
Merger Arbitrage	Relative Value
Multi Strategy	Multi-Process
Multi-Process	Multi-Process
Multi-Strategy	Multi-Process
No Bias	Relative Value
Option Arbitrage	Relative Value
Other Relative Value	Relative Value
Private Placements	Multi-Process
Regulation D	Relative Value
Relative Value	Relative Value
Relative Value Arbitrage	Relative Value
Relative Value Multi Strategy	Multi-Process
Sector	Directional Traders
Sector: Energy	Directional Traders
Sector: Financial	Directional Traders
Sector: Health Care/Biotechnology	Directional Traders
Sector: Miscellaneous	Directional Traders
Sector: Real Estate	Directional Traders
Sector: Technology	Directional Traders
Security Selection	Security Selection
Short Bias	Directional Traders
Short Selling	Directional Traders
Statistical Arbitrage	Relative Value
Strategy	Other
Systematic Trading	Directional Traders
Tactical Allocation	Directional Traders
UNKNOWN STRATEGY	Other
Variable Bias	Directional Traders
(blank)	Other

Table IA.II
Sample Fund Characteristics

Panel A of this table shows the percentiles of the attributes of the 126 funds in the matched sample, and Panel B the number of the 126 funds in each strategy group.

Panel A: Characteristics of Funds in Sample

	Mgmt. Fee	Incent. Fee	Withdrawal Restrictions	Minimum Investment	Subscription Restrictions	HWM/Hurdle Rate Dummy
10th Percentile	1.000	20.000	1.833	100,000.000	0.000	
50th Percentile	1.500	20.000	4.000	1,000,000.000	1.000	
90th Percentile	2.000	25.000	26.500	5,000,000.000	1.500	
Mean	1.569	20.159	9.634	1,742,261.905	1.029	0.746

Panel B: Strategies of Funds in Sample

Strategies	Number of Funds
Security Selection	46
Global Macro	14
Relative Value	2
Directional Traders	7
Funds of Funds	4
Multi-Process	27
Emerging Markets	9
Fixed Income	13
Other	4
Total	126

Table IA.III
The Time Series Behavior of the Equal-weighted Hedge Fund Premium

Table IA.III relates the time-series of equal-weighted *TOTPREM*, called *EWTOTPREM*, to a number of covariates: the value-weighted closed-end mutual fund premium across all U.S. general equity closed-end mutual funds found in the CRSP database; the level of the University of Michigan's consumer sentiment index; Baker and Wurgler's (2007) sentiment index (orthogonalized to a set of macroeconomic variables); the VIX index of the CBOE; Pastor and Stambaugh's (2003) level of equity market illiquidity; Sadka's (2010) measure of hedge fund liquidity, constructed as the difference between the returns of high and low liquidity beta funds; the one-month U.S. Treasury bill rate; and the total return on the S&P 500 index. The first row of statistics shows the correlations between *EWTOTPREM* and the levels of each of these variables. The second block of statistics shows the persistence of *EWTOTPREM* over the sample period as measured by the first-order autocorrelation coefficient; the persistence of the covariate; and the *t*-statistic from an Augmented Dickey-Fuller test of the residual from the regression (the 5% critical value for rejecting the null hypothesis of a unit root is -2.915). The third block of statistics shows correlations between the first difference of *EWTOTPREM* and the first differences of each of these variables (except for the S&P 500 total return, which is not differenced in this regression). The final block of statistics shows the correlation between *EWTOTPREM* and the covariate after persistent variables (with autocorrelation greater than 50%) are detrended (using only past data) using a Hodrick-Prescott filter and the monthly smoothing parameter of 14,400. The final row shows the number of observations in each case (this differs across covariates because of data availability). The longest sample period (in levels) extends from August 1998 to August 2008. Newey-West (1987) autocorrelation and heteroskedasticity-robust standard errors are reported below coefficient estimates in *italics*, and coefficients significant at the 5% (10%) level are denoted by ** (*).

	Correlations with EWTOTPREM (t)							
	Closed-End MF Premium (t)	Michigan Cons. Sent. (t)	Baker-Wurgler Sentiment (t)	VIX (t)	Pastor-Stambaugh Liquidity (t)	Sadka HF Liquidity (t)	One-Month Riskfree Rate (t)	S&P 500 Total Ret (t)
Correlation in Levels	0.455**	0.231	-0.145	0.128	0.047	0.042	-0.481**	0.002
	0.129	*0.183*	*0.115*	*0.141*	*0.112*	*0.114*	*0.118*	*0.079*
Persistence of EWTOTPREM	0.746	0.746	0.767	0.746	0.746	0.746	0.746	0.746
Persistence of Covariate	0.900	0.948	0.951	0.827	-0.074	0.099	0.963	0.015
ADF *t*-statistic of Error	-7.699	-7.289	-6.989	-7.152	-6.987	-7.047	-8.376	-7.016
Correlation in Differences	0.219**	0.038	0.171	-0.008	0.111	0.016	0.021	
	0.107	*0.092*	*0.106*	*0.079*	*0.092*	*0.090*	*0.078*	
Detrended Correlation	0.208**	-0.041*	-0.078	0.128**	0.074	-0.085	-0.194	
	0.051	*0.021*	*0.190*	*0.027*	*1.711*	*5.693*	*1.076*	
N(Observations)	121	121	113	121	121	121	121	121

Table IA.IV
Correlation Matrix of Aggregate Variables

This table computes the correlations between the aggregate variables in Table III in the paper: *VWTOTPREM*, and its equal-weighted equivalent, *EWTOTPREM*; *CEFPREM*, the value-weighted closed-end mutual fund premium across all U.S. closed-end mutual funds found in the CRSP database; *MICH*, the level of the University of Michigan's consumer sentiment index; *SENT*, Baker and Wurgler's (2007) sentiment index (orthogonalized to a set of macroeconomic variables); *VIX*; *PSLIQ*, Pastor and Stambaugh's (2003) level of equity market illiquidity obtained from WRDS; *SADKA_HFLIQ*, Sadka's (2010) measure of hedge fund liquidity, constructed as the difference between the returns of high and low liquidity beta funds; *RF1M*, the one-month U.S. Treasury bill rate, from Kenneth French's website; and *SP500RET*, the total return on the S&P 500 index. Each bivariate correlation is computed over the contiguous sample period for which data on the two variables are available.

	VWTOTPREM(t)	EWTOTPREM(t)	CEFPREM(t)	MICH(t)	SENT(t)	VIX(t)	PSLIQ(t)	SADKA_HFLIQ(t)	RF1M(t)	SP500 RET(t)
VWTOTPREM(t)	1.000	0.892	0.388	0.241	-0.148	0.117	0.032	0.073	-0.433	-0.014
EWTOTPREM(t)	0.892	1.000	0.455	0.231	-0.145	0.128	0.047	0.042	-0.481	0.002
CEFPREM(t)	0.388	0.455	1.000	-0.278	-0.027	-0.153	0.129	-0.065	-0.432	-0.089
MICH(t)	0.241	0.231	-0.278	1.000	0.301	0.078	0.100	0.203	0.412	0.052
SENT(t)	-0.148	-0.145	-0.027	0.301	1.000	0.308	-0.069	-0.059	0.551	-0.242
VIX(t)	0.117	0.128	-0.153	0.078	0.308	1.000	-0.319	-0.068	0.041	-0.318
PSLIQ(t)	0.032	0.047	0.129	0.100	-0.069	-0.319	1.000	0.135	0.022	0.192
SADKA_HFLIQ(t)	0.073	0.042	-0.065	0.203	-0.059	-0.068	0.135	1.000	0.059	0.212
RF1M(t)	-0.433	-0.481	-0.432	0.412	0.551	0.041	0.022	0.059	1.000	0.002
SP500 RET(t)	-0.014	0.002	-0.089	0.052	-0.242	-0.318	0.192	0.212	0.002	1.000

Table IA.V
Explaining the Hedge Fund Premium, No Selection Bias Correction

This table conditions the time-series cross-sectional observations of *PREM* and *TOTPREM* on theoretically motivated regressors. The first column of the table shows the associated theory (Ability, Incentives, Fees, Fund Illiquidity, Asset Illiquidity, and Sentiment); the second column the sign predicted by the theory for the coefficient in each case; the third column names the variable; the fourth and fifth columns show the estimated coefficient and standard error when *PREM* is the LHS variable; and the sixth and seventh columns the coefficients and standard errors when *TOTPREM* is the LHS variable. In all cases, the coefficients are estimated using pooled OLS with strategy fixed effects and the standard errors (in parentheses) are estimated using a cross-correlation and autocorrelation consistent bootstrap estimator. Coefficients significant at the 5% (10%) level are denoted by ** (*). Each regression is estimated on 522 transactions from a total of 126 funds. Panel A shows the estimated coefficients, and Panel B the estimated strategy fixed effects.

Panel A: Coefficients

Theory	Predicted Sign	Coefficient	*PREM*		*TOTPREM*	
Ability	+	Market Model t-Alpha (-12)	0.408**	(0.073)	0.448**	(0.080)
	-	(Market Model t-Alpha (-12))^2	-0.009	(0.010)	-0.010	(0.011)
	-	Fund Age Rank	-0.013*	(0.007)	-0.015*	(0.008)
	-	Size (*AUM*) Rank	-0.029*	(0.015)	-0.030*	(0.016)
Incentives	+	Manager's Option Delta	0.217	(0.292)	0.258	(0.298)
	+	Manager's Investment	0.684	(0.419)	0.846*	(0.436)
	-	(Manager's Investment)^2	-0.213	(0.221)	-0.257	(0.234)
	+	High Water Mark/Hurdle Rate Dummy	0.548	(0.404)	0.446	(0.434)
Fees	-	Management Fee	-0.762**	(0.236)	-0.797**	(0.251)
Fund Illiquidity	-	Minimum Investment Rank	-0.019**	(0.009)	-0.020**	(0.010)
	-	Subscription Restrictions	-0.451**	(0.213)	-0.489**	(0.233)
	-	Withdrawal Restrictions	-0.018	(0.013)	-0.021	(0.014)
	-	lagged Average Commission	0.123	(0.677)	0.338	(0.706)
Asset Illiquidity	+	First-Order Autocorrelation	0.001	(0.005)	0.000	(0.005)
	+	Sadka Hedge Fund Liquidity	-4.272	(4.719)	-4.615	(5.132)
	+	Lock Dummy*Offshore Dummy	1.233*	(0.683)	1.425**	(0.696)
	-	One-Month US T-Bill Rate	-5.591**	(1.083)	-6.180**	(1.145)
Sentiment	+	Michigan Consumer Sentiment	0.001	(0.014)	0.007	(0.015)
		Adjusted R^2	0.358		0.362	

Panel B: Fixed Effects

Specification	Security Selection	Global Macro	Relative Value	Directional Traders	Funds of Funds	Multi-Process	Emerging Markets	Fixed Income	Other
PREM	5.665**	8.173**	5.841**	6.655**	6.725**	4.980**	4.260	4.088**	7.483**
	(1.680)	(1.921)	(1.983)	(1.869)	(1.970)	(1.795)	(3.036)	(1.868)	(2.116)
TOTPREM	5.853**	8.353**	5.781**	6.954**	7.104**	4.896**	4.322	3.795**	7.596**
	(1.816)	(2.066)	(2.148)	(2.031)	(2.229)	(1.921)	(3.198)	(1.967)	(2.257)

Table IA.VI
Explaining the Hedge Fund Premium – Regression with Alpha

This table conditions the time-series cross-sectional observations of *PREM* and *TOTPREM* on theoretically motivated regressors. The first column of the table shows the associated theory (Ability, Incentives, Fees, Fund Illiquidity, Asset Illiquidity, and Sentiment); the second column the sign predicted by the theory for the coefficient in each case; the third column names the variable; the fourth and fifth columns show the estimated coefficient and standard error when *PREM* is the LHS variable; and the sixth and seventh columns the coefficients and standard errors when *TOTPREM* is the LHS variable. In all cases, the coefficients are estimated using pooled OLS with strategy fixed effects and the standard errors (in parentheses) are estimated using a cross-correlation and autocorrelation consistent bootstrap estimator. Coefficients significant at the 5% (10%) level are denoted by ** (*). Each regression is estimated on 522 transactions from a total of 126 funds. Panel A shows the estimated coefficients, and Panel B the estimated strategy fixed effects.

Panel A: Coefficients

Theory	Predicted Sign	Coefficient	PREM		TOTPREM	
Ability	+	Market Model Alpha (-12)	0.543**	(0.258)	0.603**	(0.274)
	-	(Market Model Alpha (-12))^2	-0.061	(0.085)	-0.084	(0.093)
	-	Fund Age Rank	-0.013*	(0.008)	-0.015*	(0.009)
	-	Size (AUM) Rank	-0.033**	(0.016)	-0.037**	(0.017)
Incentives	+	Manager's Option Delta	0.188	(0.350)	0.202	(0.380)
	+	Manager's Investment	0.608	(0.436)	0.750*	(0.450)
	-	(Manager's Investment)^2	-0.232	(0.223)	-0.278	(0.240)
	+	High Water Mark/Hurdle Rate Dummy	0.526	(0.440)	0.392	(0.472)
Fees	-	Management Fee	-0.687**	(0.280)	-0.748**	(0.287)
Fund Illiquidity	-	Minimum Investment Rank	-0.017*	(0.009)	-0.016*	(0.010)
	-	Subscription Restrictions	-0.358*	(0.201)	-0.345	(0.235)
	-	Withdrawal Restrictions	-0.027*	(0.015)	-0.033**	(0.016)
	-	lagged Average Commission	-0.184	(0.722)	-0.021	(0.781)
Asset Illiquidity	+	First-Order Autocorrelation	0.002	(0.005)	0.001	(0.005)
	-	Sadka Hedge Fund Liquidity	-7.518	(5.399)	-7.957	(5.897)
	+	Lock Dummy*Offshore Dummy	1.494*	(0.775)	1.674**	(0.818)
	-	One-Month US T-Bill Rate	-6.058**	(1.143)	-6.626**	(1.199)
Sentiment	+	Michigan Consumer Sentiment	0.011	(0.015)	0.017	(0.017)
Selection Bias	+	Inverse Mills Ratio	-0.461	(0.549)	-0.676	(0.603)
		Adjusted R^2	0.328		0.331	

Panel B: Fixed Effects

Specification	Security Selection	Global Macro	Relative Value	Directional Traders	Funds of Funds	Multi-Process	Emerging Markets	Fixed Income	Other
PREM	6.663*	9.091**	6.799*	7.792**	8.372**	6.350*	5.486	5.499	8.805**
	(3.415)	(3.590)	(3.972)	(3.819)	(3.741)	(3.692)	(4.952)	(3.768)	(4.105)
TOTPREM	7.700**	10.110**	7.685*	9.078**	9.781**	7.221*	6.508	6.136	9.941**
	(3.619)	(3.802)	(4.268)	(4.029)	(3.935)	(3.926)	(5.235)	(4.084)	(4.356)

Robustness to Incubation Bias and the Fung-Hsieh Factor Model

I conduct a few additional checks to verify the robustness of the results. First, I eliminate the first twelve months of returns for each fund to control for the possibility of backfill bias (see Fung and Hsieh (2009) for a good summary of the literature on biases in hedge fund data). Second, I re-compute the performance measures (the *t*-statistic of alpha and its square) using the Fung and Hsieh (2004) factor model over the 24 months prior to each transaction. These seven factors have been shown to have considerable explanatory power for fund-of-fund and hedge fund returns.[1] Third, I recompute the Getmansky, Lo, and Makarov (2004) measure of return smoothness using 24 lagged months of returns for each fund-month and include it in the specification in place of the first autocorrelation of returns. When estimating, *k*, the number of lags in the moving average model, is set to three (the results do not differ when *k* is set to two), and I winsorize the measure, setting values estimated to be greater than one to one and those less than zero to zero, as it is difficult to interpret the values as percentages of smoothing otherwise.[2]

Table IA.VII shows the results of these changes to the specification in Table VII in the paper. There is a reduction in sample size from 522 to 436 observations in the regression on account of the more stringent requirements. The majority of the results discovered in Table VII continue to be strongly statistically significant. This table helps to assuage concerns that the results discovered in Table VII in the paper are an artifact of backfill bias and/or the use of the market model to estimate alpha.

[1] The set of factors comprises the excess return on the S&P 500 index; a small minus big factor constructed as the difference between the Wilshire small and large capitalization stock indices; the excess returns on portfolios of lookback straddle options on currencies, commodities, and bonds, which are constructed to replicate the maximum possible return to trend-following strategies on their respective underlying assets; the yield spread of the U.S. 10-year Treasury bond over the three-month T-bill, adjusted for the duration of the 10-year bond; and the change in the credit spread of Moody's Baa bond over the 10-year Treasury bond, also appropriately adjusted for duration.

[2] This is similar to the approach of Aragon (2005). Winsorizing the measure at the 5th and 95th percentile points of the pooled distribution yields virtually identical results.

Table IA.VII
Robustness to Incubation Bias, and the Fung-Hsieh Seven-factor Model

This table makes three changes to the specification estimated in Table VII. First, the first 12 months of each fund's returns is deleted to correct for the possible impact of selection bias. Second, the Fung and Hsieh (2004) factor model is employed (for only those fund-months with at least 24 lagged observations of returns) to compute the *t*-statistic of alpha performance measure. Third, the GLM measure is employed in place of the first autocorrelation of returns. All coefficients are estimated using pooled OLS with strategy fixed effects and the standard errors (in parentheses) are estimated using a cross-correlation and autocorrelation consistent bootstrap estimator. Coefficients significant at the 5% (10%) level are denoted by ** (*). Each of the regressions is estimated on 436 transactions from a total of 100 funds. Panel A shows the coefficients of the variables, and Panel B the estimated strategy fixed-effects.

Panel A: Coefficients

Theory	Predicted Sign	Coefficient	PREM		TOTPREM	
Ability	+	Fung-Hsieh Model *t*-Alpha (-24)	0.272**	(0.106)	0.300**	(0.109)
	-	(Fung-Hsieh Model *t*-Alpha (-24))^2	-0.003	(0.007)	-0.003	(0.007)
	-	Fund Age Rank	-0.002	(0.011)	-0.003	(0.013)
	-	Size (AUM) Rank	-0.004	(0.021)	-0.006	(0.021)
Incentives	+	Manager's Option Delta	0.684	(0.489)	0.734	(0.505)
	+	Manager's Investment	0.947**	(0.463)	1.113**	(0.471)
	-	(Manager's Investment)^2	-0.200	(0.239)	-0.246	(0.253)
	+	High Water Mark/Hurdle Rate Dummy	1.036*	(0.562)	0.963	(0.590)
Fees	-	Management Fee	-0.614*	(0.341)	-0.670*	(0.345)
Fund Illiquidity	-	Minimum Investment Rank	-0.025**	(0.013)	-0.026*	(0.013)
	-	Subscription Restrictions	-0.025**	(0.010)	-0.026**	(0.012)
	-	Withdrawal Restrictions	-0.014	(0.015)	-0.017	(0.016)
	-	lagged Average Commission	0.115	(0.765)	0.289	(0.787)
Asset Illiquidity	+	Getmansky-Lo-Makarov Illiquidity Measure (-24)	0.544	(0.814)	0.637	(0.816)
	-	Sadka Hedge Fund Liquidity	-3.831	(5.188)	-4.388	(5.233)
	+	Lock Dummy*Offshore Dummy	1.985**	(0.960)	2.129**	(0.982)
	-	One-Month US T-bill Rate	-5.790**	(1.354)	-6.302**	(1.422)
Sentiment	+	Michigan Consumer Sentiment	0.007	(0.016)	0.015	(0.017)
Selection Bias	+	Inverse Mills Ratio	0.871	(0.851)	0.777	(0.896)
		Adjusted R^2	0.317		0.324	

Panel B: Fixed Effects

Specification	Security Selection	Global Macro	Relative Value	Directional Traders	Funds of Funds	Multi-Process	Emerging Markets	Fixed Income	Other
PREM	-1.496	0.591	-1.446	-1.078	0.032	-2.193	-3.857	-3.274	-0.741
	(5.233)	(5.391)	(5.464)	(5.854)	(5.414)	(5.711)	(6.976)	(5.749)	(6.521)
TOTPREM	-1.396	0.554	-1.540	-0.797	0.471	-2.332	-3.880	-3.645	-0.678
	(5.379)	(5.555)	(5.703)	(6.035)	(5.490)	(5.921)	(7.198)	(5.961)	(6.750)

Negative News

A news search is conducted on Factiva and Google for each fund-month with large negative discounts (those less than -10%). The search is intended to capture news that could have affected trading in the fund, and is motivated by conversations with practitioners on Hedgebay about the likely determinants of such discounts, and the "normal range" of discounts and premiums in their experience.

There are several news items uncovered by this search, including the imposition of gates (indefinite suspensions of withdrawals from funds, such as in the case of Absolute Capital); the announcement of a fund's collapse on account of the failure of large trades (such as Amaranth); or reports of a fund's exposure to counterparty bankruptcies (such as Refco in 2005). The nature of these incidents exacerbates the non-response bias referred to earlier (i.e., funds stop reporting to databases pre-empting negative public announcements) and consequently, in the full sample of transactions, the search uncovered only two public news announcements in the same month for funds that I am able to match in the consolidated database.

I include the negative news dummy under the category of fund share illiquidity because the two incidents captured by the variable significantly impeded the ability of investors in the funds to liquidate their investments in the short run. The first news item reported on a fund's outside sources of capital being significantly curtailed on account of regulators' prohibitions on credit unions investing in funds that specialized in subprime assets. This made it very unlikely that the fund would permit redemptions as it had long-term investments coupled with lack of access to short-term funding. The second news story pertained to a fund's assets being frozen on account of them being held with Refco's prime brokerage group, in the month that Refco was indicted for fraud. Consequently, this raised concerns about investors' ability to withdraw money from the fund.

A dummy variable is created that takes the value of one if the above news about the fund is in the same month as the occurrence of the transaction on Hedgebay. The inclusion of the dummy variable increases the adjusted R^2 to around 75%, and by soaking up the large negative returns associated with such announcements, causes the statistical significance of many of the other results of the paper to improve dramatically. The point estimate of the coefficient on the negative news dummy is also large, negative, and estimated to be statistically significant. However, this particular result should be interpreted with caution as a consequence of the tiny sample size of news announcements.

Table IA.VIII
Explaining the Hedge Fund Premium – Regression with Negative News Dummy

This table modifies the specification in Table VII by including a dummy for fund-months with a contemporaneous negative news story. In all cases, the coefficients are estimated using pooled OLS with strategy fixed effects and the standard errors (in parentheses) are estimated using a cross-correlation and autocorrelation consistent bootstrap estimator. Coefficients significant at the 5% (10%) level are denoted by ** (*). Each regression is estimated on 522 transactions from a total of 126 funds. Panel A shows the estimated coefficients, and Panel B the estimated strategy fixed-effects.

Panel A: Coefficients

Theory	Predicted Sign	Coefficient	PREM		TOTPREM	
Ability	+	Market Model *t*-Alpha (-12)	0.334**	(0.056)	0.372**	(0.064)
	-	(Market Model *t*-Alpha (-12))^2	-0.007	(0.014)	-0.008	(0.017)
	-	Fund Age Rank	-0.016**	(0.005)	-0.018**	(0.006)
	-	Size (AUM) Rank	-0.038**	(0.008)	-0.042**	(0.008)
Incentives	+	Manager's Option Delta	-0.227	(0.204)	-0.227	(0.220)
	+	Manager's Investment	0.496**	(0.197)	0.628**	(0.223)
	-	(Manager's Investment)^2	-0.263**	(0.122)	-0.304**	(0.139)
	+	High Water Mark/Hurdle Rate Dummy	0.424**	(0.214)	0.301	(0.235)
Fees	-	Management Fee	-1.070**	(0.187)	-1.140**	(0.205)
Fund Illiquidity	-	Minimum Investment Rank	-0.009**	(0.004)	-0.009**	(0.004)
	-	Subscription Restrictions	-0.480**	(0.192)	-0.485**	(0.216)
	-	Withdrawal Restrictions	-0.026**	(0.011)	-0.031**	(0.012)
	-	lagged Average Commission	-0.008	(0.474)	0.203	(0.520)
	-	Negative News Dummy	-32.903**	(10.873)	-34.054**	(11.688)
Asset Illiquidity	+	First-Order Autocorrelation	0.002	(0.003)	0.000	(0.003)
	-	Sadka Hedge Fund Liquidity	-0.232	(3.475)	-0.387	(4.214)
	+	Lock Dummy*Offshore Dummy	0.237	(0.419)	0.362	(0.454)
	-	One-Month Riskfree Rate	-4.390**	(0.746)	-4.898**	(0.789)
Sentiment	+	Michigan Consumer Sentiment	0.005	(0.013)	0.012	(0.015)
Selection Bias	+	Inverse Mills Ratio	-0.967**	(0.339)	-1.192**	(0.400)
		Adjusted R^2	0.765		0.741	

Panel B: Fixed Effects

Specification	Security Selection	Global Macro	Relative Value	Directional Traders	Funds of Funds	Multi-Process	Emerging Markets	Fixed Income	Other
PREM	9.595**	12.167**	10.222**	11.313**	11.041**	9.334**	10.360**	9.328**	12.430**
	(2.037)	(2.231)	(2.297)	(2.229)	(2.181)	(2.305)	(2.329)	(2.292)	(2.526)
TOTPREM	10.658**	13.193**	11.152**	12.642**	12.439**	10.198**	11.452**	10.007**	13.586**
	(2.318)	(2.528)	(2.643)	(2.510)	(2.547)	(2.598)	(2.649)	(2.631)	(2.879)

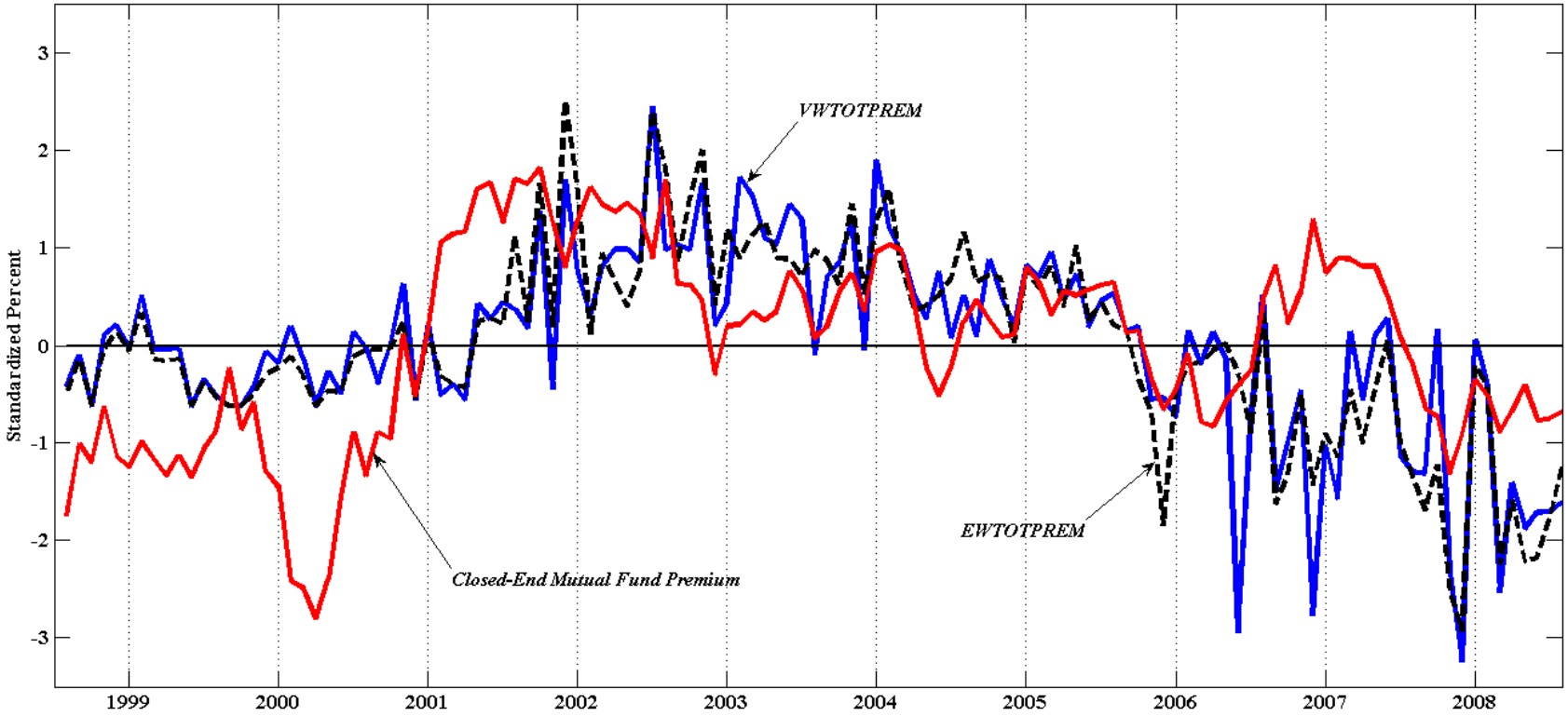

Figure IA.1 The equal-weighted and value-weighted closed hedge fund premiums.

This figure plots the value-weighted premium across all U.S. closed-end mutual funds in CRSP each month, *EWTOTPREM*, the equal-weighted closed hedge fund premium, and *VWTOTPREM*, the value-weighted (by end-of-prior month AUM) closed hedge fund premium. For ease of plotting, the data are standardized for all series by subtracting the in-sample mean and dividing by the in-sample standard deviation.

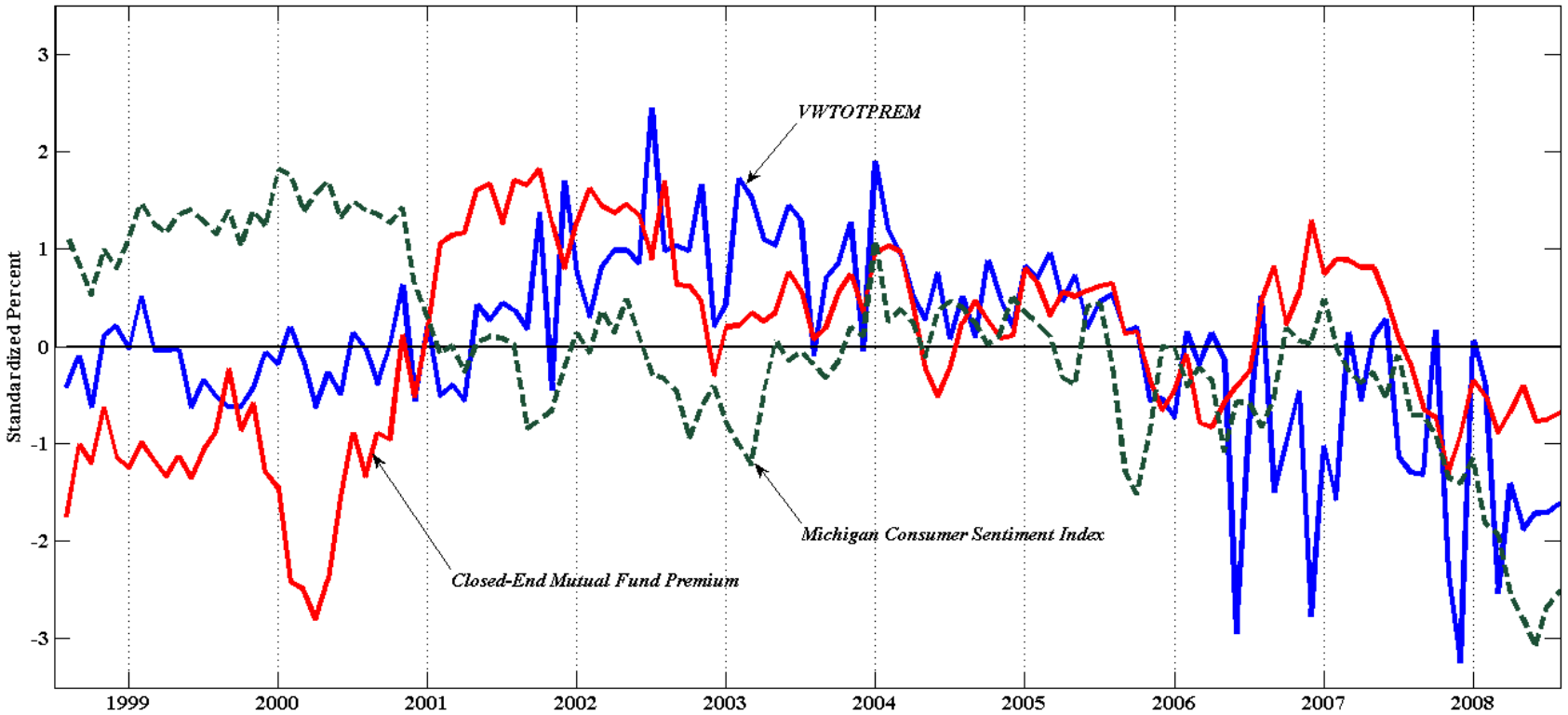

Figure IA.2. The closed hedge fund premium, closed-end fund premium and sentiment

This figure plots the value-weighted premium across all U.S. closed-end mutual funds in CRSP each month, *VWTOTPREM*, and the University of Michigan's consumer sentiment index. For ease of plotting, the data are standardized for all series by subtracting the in-sample mean and dividing by the in-sample standard deviation.

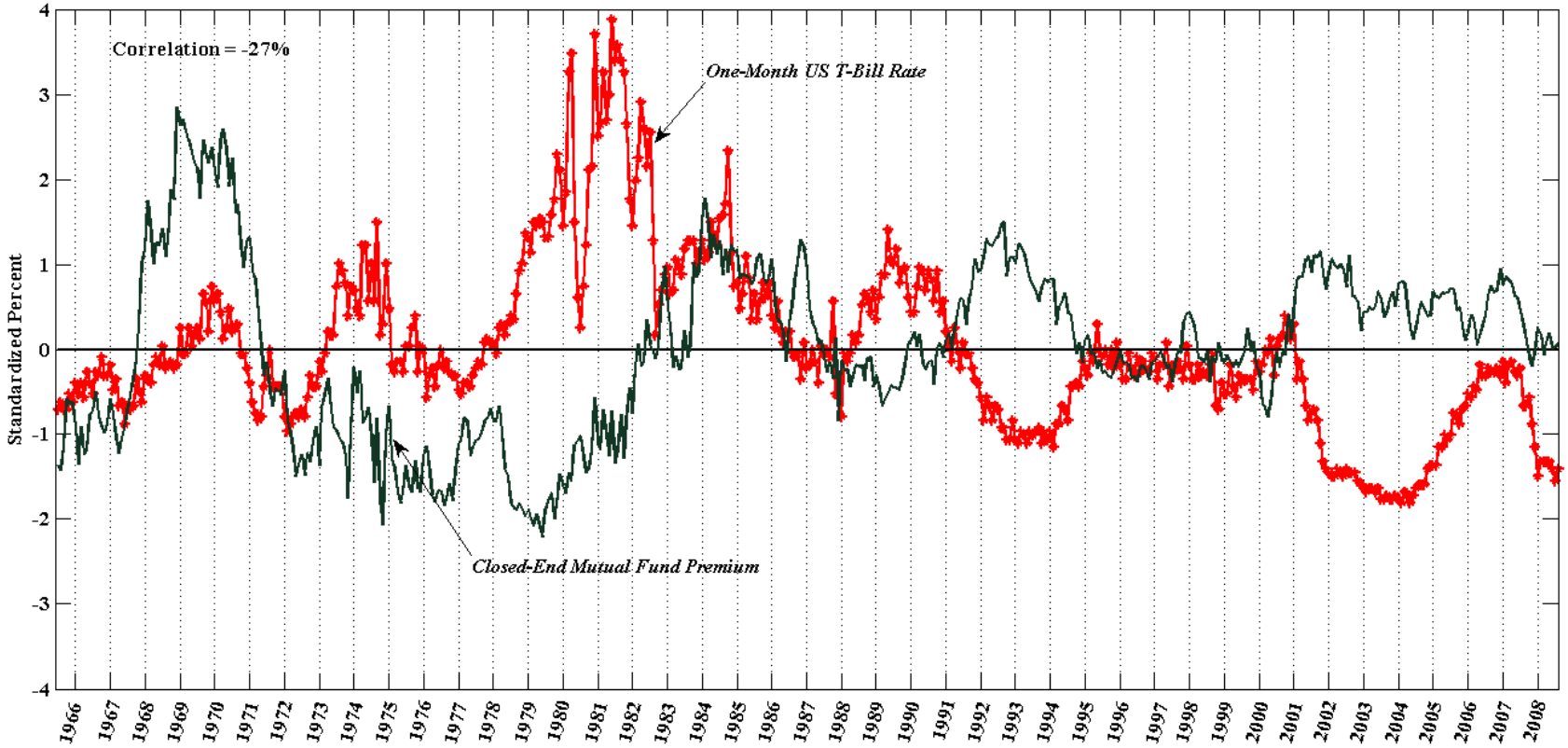

Figure IA.3. The closed-end fund premium and the risk-free rate, 1965-2008.

This figure plots the log value-weighted premium across all U.S. closed-end mutual funds obtained from Jeff Wurgler's website and the one-month U.S. Treasury bill rate. For ease of plotting, the data are standardized for both series by subtracting the in-sample mean and dividing by the in-sample standard deviation. The correlation between the two series is -27% over the period between 1965:07 and 2008:08.

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