

Cross-Sectional Alpha Dispersion and Performance Evaluation Online Appendix

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1 Alternative Regression Specifications

Table IA.1: **Flow-Performance Sensitivity: No Fund Fixed Effects.**

Regression results on flow-performance sensitivity when we exclude fund fixed effects. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion (*Disp*), standard error for alpha ($Std(\alpha)$), expense ratio (*ExpRatio*), turnover ratio (*Turnover*), log TNA (*LogTNA*), log fund age (*LogAge*), return volatility (*VOL*), and average flow of the investment objective class (*StyleFlow*). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class (*StyleFlow*), which is constructed contemporaneously with the fund flow. For all regression models, we only include month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	Market-adjusted		CAPM-adjusted		3-factor		4-factor	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	2.39*** (114.36)	2.74*** (127.46)	3.06*** (113.83)	3.17*** (116.22)	4.58*** (97.13)	4.93*** (103.19)	4.58*** (86.60)	5.07*** (94.13)
Disp \times α	-2.23*** (-23.98)	-2.90*** (-31.12)	-4.88*** (-30.27)	-5.18*** (-32.84)	-15.55*** (-31.84)	-17.56*** (-36.28)	-9.52*** (-14.24)	-14.58*** (-21.91)
$Std(\alpha)$ \times α	-4.35*** (-27.34)	-5.09*** (-32.16)	-7.63*** (-22.20)	-8.36*** (-24.91)	-22.51*** (-32.67)	-25.91*** (-37.19)	-30.08*** (-39.30)	-31.99*** (-41.27)
<i>ExpRatio</i>		-13.72*** (-77.65)		-13.41*** (-74.65)		-13.64*** (-73.74)		-13.56*** (-73.24)
<i>Turnover</i>		0.03*** (23.75)		0.02*** (17.94)		0.03*** (20.83)		0.03*** (24.37)
<i>LogTNA</i>		-0.05*** (-70.05)		-0.04*** (-61.55)		-0.04*** (-55.35)		-0.04*** (-55.47)
<i>LogAge</i>		-0.18*** (-155.55)		-0.20*** (-136.43)		-0.19*** (-116.16)		-0.19*** (-115.73)
<i>VOL</i>		-0.05*** (-4.51)		-0.01 (-0.61)		-0.09*** (-8.71)		-0.02** (-2.14)
<i>StyleFlow</i>		0.03*** (44.12)		0.02*** (32.66)		0.02*** (28.06)		0.02*** (28.41)
Fund FEs	NO	NO	NO	NO	NO	NO	NO	NO
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,204,781	1,075,589	1,145,719	1,040,253	1,035,758	952,165	1,035,758	952,165
R^2 (%)	2.5	8.7	3.1	9.7	3.4	9.2	3.5	9.3

Table IA.2: Flow-Performance Sensitivity under Monthly Aggregated Annual Fund Flow: Market and CAPM Adjusted Alpha

Regression results on flow-performance sensitivity using monthly aggregated annual fund flows under market adjusted and CAPM adjusted alpha. The dependent variable is the annual percentage fund flow, defined as the sum of the dollar flows from month $t + 1$ to month $t + 12$ divided by the fund's TNA at the end of month t . Explanatory variables include the percentile ranking of alpha ($rank(\alpha)$), estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	Market-adjusted Alpha			CAPM adjusted Alpha				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	1.32*** (18.29)	1.78*** (19.97)	2.11*** (20.45)	2.02*** (21.44)	1.65*** (22.32)	2.11*** (18.63)	2.45*** (17.99)	2.21*** (18.60)
$Disp \times \alpha$		-2.54*** (-7.00)	-1.49*** (-4.02)	-1.98*** (-5.77)		-3.31*** (-4.52)	-2.03*** (-2.72)	-1.99*** (-3.17)
$Std(\alpha) \times \alpha$			-4.06*** (-5.62)	-2.90*** (-4.85)			-7.56*** (-4.92)	-5.91*** (-4.38)
$ExpRatio$				-12.90*** (-4.58)				-13.84*** (-4.92)
$Turnover$				0.02* (1.96)				0.01* (1.75)
$LogTNA$				-0.26*** (-33.76)				-0.26*** (-32.71)
$LogAge$				-0.28*** (-24.20)				-0.31*** (-24.63)
VOL				0.29** (2.29)				-0.28** (-2.36)
$StyleFlow$				0.01*** (3.47)				0.01*** (3.28)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,171,718	1,171,718	1,171,715	1,052,359	1,115,859	1,115,859	1,115,859	1,017,970
Adjusted R^2 (%)	22.3	22.4	22.5	31.0	21.9	21.9	22.0	31.8

Table IA.3: Flow-Performance Sensitivity under Monthly Aggregated Annual Fund Flow: Three-factor and Four-factor Adjusted Alpha

Regression results on flow-performance sensitivity using monthly aggregated annual fund flows under Fama-French three-factor model and Fama-French-Carhart four-factor model adjusted alpha. The dependent variable is the annual percentage fund flow, defined as the sum of the dollar flows from month $t + 1$ to month $t + 12$ divided by the fund's TNA at the end of month t . Explanatory variables include the percentile ranking of alpha ($rank(\alpha)$), estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	Fama-French 3-factor Adjusted Alpha			Fama-French-Carhart 4-factor Adjusted Alpha				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	2.11*** (26.45)	3.02*** (18.82)	3.64*** (19.36)	3.25*** (19.60)	2.30*** (27.91)	2.98*** (15.91)	3.58*** (17.41)	3.65*** (19.08)
$Disp \times \alpha$		-11.55*** (-6.34)	-8.69*** (-4.23)	-6.64*** (-3.94)		-9.33*** (-3.87)	-7.44*** (-2.94)	-10.25*** (-4.14)
$Std(\alpha) \times \alpha$			-20.23*** (-7.18)	-17.58*** (-6.75)			-26.27*** (-8.76)	-20.18*** (-7.35)
$ExpRatio$				-12.05*** (-4.19)				-11.84*** (-4.12)
$Turnover$				0.02*** (2.76)				0.02*** (2.77)
$LogTNA$				-0.24*** (-30.32)				-0.24*** (-29.95)
$LogAge$				-0.35*** (-22.12)				-0.35*** (-22.06)
VOL				-0.50*** (-4.22)				-0.19 (-1.63)
$StyleFlow$				0.01** (2.29)				0.01*** (2.80)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,008,996	1,008,996	1,008,996	931,400	1,008,996	1,008,996	1,008,996	931,400
Adjusted R^2 (%)	21.9	22.0	22.1	31.3	22.0	22.0	22.2	31.2

Table IA.4: Flow-Performance Sensitivity under Monthly Fund Flow: Market and CAPM Adjusted Alpha

Regression results on flow-performance sensitivity using monthly fund flows under market adjusted and CAPM adjusted alpha. The dependent variable is the monthly percentage fund flow in month $t + 1$. Explanatory variables include the percentile ranking of alpha ($rank(\alpha)$), estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	Market-adjusted Alpha				CAPM adjusted Alpha			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	0.11*** (20.83)	0.15*** (21.94)	0.18*** (25.52)	0.18*** (26.20)	0.14*** (28.50)	0.17*** (16.71)	0.20*** (22.72)	2.21*** (18.60)
$Disp \times \alpha$		-0.23*** (-5.72)	-0.15*** (-3.17)	-0.15*** (-3.31)		-0.18** (-2.15)	-0.09* (-1.66)	-0.06* (-1.78)
$Std(\alpha) \times \alpha$			-0.32*** (-8.24)	-0.32*** (-8.36)			-0.78*** (-9.57)	-0.76*** (-9.31)
$ExpRatio$				-0.04 (-0.31)				-0.05 (-0.40)
$Turnover$				0.00 (0.10)				0.00 (0.20)
$LogTNA$				-0.00*** (-13.54)				-0.00*** (-14.01)
$LogAge$				-0.03*** (-44.27)				-0.03*** (-40.21)
VOL				0.02** (2.49)				-0.03*** (-4.09)
$StyleFlow$				0.01** (2.42)				0.00** (2.14)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,324,037	1,324,037	1,324,034	1,180,071	1,266,129	1,266,129	1,266,129	1,144,784
Adjusted R^2 (%)	12.9	13.0	13.1	15.2	13.5	13.5	13.6	16.4

Table IA.5: Flow-Performance Sensitivity under Monthly Fund Flow: Three-factor and Four-factor Adjusted Alpha

Regression results on flow-performance sensitivity using monthly fund flows under Fama-French three-factor model and Fama-French-Carhart four-factor model adjusted alpha. The dependent variable is the monthly percentage fund flow in month $t + 1$. Explanatory variables include the percentile ranking of alpha ($rank(\alpha)$), estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	Fama-French 3-factor Adjusted Alpha			Fama-French-Carhart 4-factor Adjusted Alpha				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	0.17*** (32.17)	0.22*** (18.98)	0.27*** (21.81)	0.26*** (20.23)	0.18*** (33.87)	0.26*** (20.64)	0.29*** (22.39)	0.30*** (22.56)
$Disp \times \alpha$		-0.67*** (-4.34)	-0.42*** (-2.90)	-0.37*** (-2.67)		-1.09*** (-6.08)	-0.62*** (-3.58)	-0.85*** (-4.78)
$Std(\alpha) \times \alpha$			-1.57*** (-8.95)	-1.54*** (-9.01)			-1.67*** (-9.62)	-1.56*** (-9.27)
$ExpRatio$				0.04 (0.31)				0.05 (0.45)
$Turnover$				0.00*** (2.66)				0.00*** 2.63
$LogTNA$				-0.00*** (-12.17)				-0.00*** (-11.57)
$LogAge$				-0.03*** (-34.19)				-0.03*** (-33.97)
VOL				-0.05*** (-6.64)				-0.02*** (-3.02)
$StyleFlow$				0.00*** (2.60)				0.00*** (2.75)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,152,353	1,152,353	1,152,353	1,053,343	1,152,353	1,152,353	1,152,353	1,053,343
Adjusted R^2 (%)	13.2	13.2	13.3	15.9	13.2	13.2	13.3	15.8

2 Sub-sample Analysis

Table IB.1: Flow-Performance Sensitivity: Alpha = Fund Return – Market Return, 1980-1999.

Regression results on flow-performance sensitivity when alpha is estimated as the mean difference between fund return and market return. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. The sample period is from January 1980 to December 1999. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 1999.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	1.78*** (14.10)	2.17*** (6.90)	2.91*** (7.56)	1.37*** (3.66)	3.04*** (7.80)	1.55*** (4.18)	2.76*** (6.03)	1.65*** (3.38)
$Disp \times \alpha$		-2.74 (-1.38)	-3.11 (-1.60)	4.40** (2.12)	-3.24* (-1.72)	4.19** (2.11)	-3.18 (-1.60)	4.54** (2.11)
$Std(\alpha) \times \alpha$			-5.31*** (-3.65)	1.02 (0.66)	-5.37*** (-3.68)	0.97 (0.62)	-5.28*** (-3.59)	0.94 (0.59)
$State \times \alpha$					-0.05 (-0.59)	-0.07 (-0.73)		
$PolicyUncer \times \alpha$							0.12 (0.51)	-0.22 (-0.82)
$ExpRatio$				-25.12*** (-3.77)		-25.15*** (-3.78)		-25.12*** (-3.77)
$Turnover$				0.02 (0.64)		0.02 (0.64)		0.02 (0.65)
$LogTNA$				-0.67*** (-16.77)		-0.67*** (-16.78)		-0.67*** (-16.78)
$LogAge$				-0.03 (-0.49)		-0.03 (-0.49)		-0.03 (-0.51)
VOL				0.12 (0.31)		0.13 (0.30)		0.11 (0.27)
$StyleFlow$				0.00** (2.31)		0.00** (2.32)		0.00** (2.30)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	180,999	180,999	180,997	156,690	180,998	156,690	180,997	156,690
Adjusted R^2 (%)	38.5	38.5	38.6	48.7	38.6	48.7	38.6	48.7

Table IB.2: Flow-Performance Sensitivity: Alpha = Fund Return – Market Return, 2000-2016.

Regression results on flow-performance sensitivity when alpha is estimated as the mean difference between fund return and market return. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. The sample period is from January 2000 to December 2016. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 2000 to December 2016.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	0.99*** (16.34)	1.49*** (17.99)	1.87*** (19.19)	1.78*** (19.37)	1.69*** (14.28)	1.59*** (14.60)	1.83*** (11.72)	1.88*** (12.34)
$Disp \times \alpha$		-2.71*** (-7.50)	-1.42*** (-4.15)	-2.46*** (-6.72)	-1.20*** (-3.16)	-2.23*** (-5.65)	-1.53*** (-4.38)	-2.45*** (-6.68)
$Std(\alpha) \times \alpha$			-4.90*** (-8.42)	-3.28*** (-7.00)	-4.88*** (-8.32)	-3.25*** (-6.81)	-4.79*** (-8.21)	-3.20*** (-6.79)
$State \times \alpha$					0.09** (2.23)	0.09** (2.29)		
$PolicyUncer \times \alpha$							0.03 (0.54)	-0.08 (-1.12)
$ExpRatio$				-5.63* (-1.80)		-5.62* (-1.79)		-6.82** (-2.11)
$Turnover$				0.01 (1.25)		0.01 (1.23)		0.01 (1.07)
$LogTNA$				-0.25*** (-29.80)		-0.25*** (-29.81)		-0.26*** (-27.60)
$LogAge$				-0.25*** (-18.82)		-0.25*** (-18.82)		-0.25*** (-17.19)
VOL				0.05 (0.44)		0.02 (0.23)		0.06 (0.64)
$StyleFlow$				0.02*** (3.84)		0.02*** (3.78)		0.02*** (3.72)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,023,729	1,023,729	1,020,585	915,782	1,020,585	915,782	920,987	833,638
Adjusted R^2 (%)	23.0	23.1	23.3	31.6	23.3	31.6	24.7	32.8

Table IB.3: Flow-Performance Sensitivity: CAPM Adjusted Alpha, 1980-1999.

Regression results on flow-performance sensitivity when alpha is estimated based on the CAPM. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. The sample period is from January 1980 to December 1999. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 1999.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	1.76*** (14.05)	2.09*** (6.77)	3.08*** (8.07)	1.85*** (4.88)	3.31*** (8.79)	2.07*** (5.37)	2.67*** (6.20)	1.75*** (3.87)
Disp \times α		-2.40 (-1.12)	-3.24 (-1.51)	3.76* (1.72)	-3.46* (-1.65)	3.51 (1.64)	-3.43 (-1.59)	3.70 (1.67)
$Std(\alpha)$ \times α			-11.83*** (-4.87)	-4.34* (-1.80)	-11.93*** (-4.91)	-4.42* (-1.83)	-11.73*** (-4.81)	-4.31* (-1.78)
$State$ \times α					-0.10 (-1.07)	-0.09 (-1.01)		
$PolicyUncer$ \times α							0.33 (1.57)	0.08 (0.33)
$ExpRatio$				-21.98*** (-3.30)		-22.02*** (-3.31)		-21.99*** (-3.30)
$Turnover$				0.01 (0.42)		0.01 (0.42)		0.01 (0.42)
$LogTNA$				-0.58*** (-15.34)		-0.58*** (-15.35)		-0.58*** (-15.33)
$LogAge$				-0.06 (-0.80)		-0.05 (-0.78)		-0.06 (-0.81)
VOL				-0.14 (-0.36)		-0.13 (-0.33)		-0.14 (-0.36)
$StyleFlow$				0.00** (2.06)		0.00** (2.09)		0.00** (2.06)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	157,853	157,853	157,853	139,879	157,853	139,879	157,853	139,879
Adjusted R^2 (%)	40.0	40.0	40.1	49.5	40.1	49.5	40.1	49.5

Table IB.4: Flow-Performance Sensitivity: CAPM Adjusted Alpha, 2000-2016.

Regression results on flow-performance sensitivity when alpha is estimated based on the CAPM. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. The sample period is from January 2000 to December 2016. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 2000 to December 2016.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	1.42*** (19.70)	2.01*** (17.88)	2.39*** (17.85)	2.19*** (16.52)	2.74*** (17.89)	2.23*** (14.64)	2.07*** (8.65)	2.16*** (8.90)
$Disp \times \alpha$		-4.39*** (-6.04)	-2.49*** (-3.89)	-3.34*** (-3.54)	-2.87*** (-4.23)	-3.39*** (-3.52)	-2.40*** (-3.56)	-3.38*** (-3.48)
$Std(\alpha) \times \alpha$			-9.69*** (-6.64)	-7.12*** (-5.16)	-10.10*** (-7.06)	-7.18*** (-5.28)	-9.56*** (-6.62)	-6.86*** (-5.03)
$State \times \alpha$					-0.17*** (-3.38)	-0.02 (-0.46)		
$PolicyUncer \times \alpha$							0.20* (1.99)	0.00 (0.01)
$ExpRatio$				-9.69*** (-3.08)		-9.71*** (-3.08)		-11.32*** (-3.50)
$Turnover$				0.01 (0.87)		0.01 (0.88)		0.01 (0.70)
$LogTNA$				-0.26*** (-30.55)		-0.26*** (-30.47)		-0.27*** (-28.54)
$LogAge$				-0.30*** (-20.54)		-0.30*** (-20.47)		-0.30*** (-19.37)
VOL				-0.42*** (-3.74)		-0.42*** (-3.72)		-0.40*** (-3.58)
$StyleFlow$				0.01** (2.68)		0.01*** (2.70)		0.01*** (2.80)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	984,814	984,814	984,814	897,392	984,814	897,392	887,979	817,561
Adjusted R^2 (%)	22.7	22.8	22.9	33.0	22.9	32.9	24.6	34.5

Table IB.5: Flow-Performance Sensitivity: Fama-French Three-factor Adjusted Alpha, 1980-1999.

Regression results on flow-performance sensitivity when alpha is estimated with the Fama-French three-factor model. The dependent variable is the annual percentage fund flow between month $t+1$ and $t+12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. The sample period is from January 1980 to December 1999. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 1999.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	1.70*** (10.64)	2.80*** (4.45)	4.29*** (6.54)	3.63*** (5.41)	5.07*** (7.25)	4.21*** (5.77)	4.27*** (6.31)	4.11*** (5.52)
$Disp \times \alpha$		-12.84* (-1.78)	-14.21* (-1.99)	-8.21 (-1.08)	-15.94** (-2.12)	-9.34 (-1.20)	-14.36* (-1.88)	-4.91 (-0.61)
$Std(\alpha) \times \alpha$			-25.19*** (-8.91)	-20.44*** (-7.30)	-25.36*** (-9.01)	-20.50*** (-7.33)	-25.20*** (-8.91)	-20.40*** (-7.29)
$State \times \alpha$					-0.30*** (-2.66)	-0.23** (-2.03)		
$PolicyUncer \times \alpha$							0.02 (0.07)	-0.59 (-1.40)
$ExpRatio$				-12.00* (-1.82)		-12.13* (-1.84)		-12.06* (-1.83)
$Turnover$				0.01 (0.41)		0.01 (0.40)		0.01 (0.41)
$LogTNA$				-0.48*** (-13.64)		-0.48*** (-13.61)		-0.48*** (-13.65)
$LogAge$				-0.20** (-2.22)		-0.20** (-2.19)		-0.20** (-2.21)
VOL				-0.60* (-1.83)		-0.56* (-1.71)		-0.62* (-1.89)
$StyleFlow$				0.00 (0.61)		0.00** (0.68)		0.00** (0.62)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	132,402	132,402	132,402	117,789	132,402	117,789	132,402	117,789
Adjusted R^2 (%)	35.6	35.6	35.9	45.2	35.9	45.2	35.9	45.2

Table IB.6: Flow-Performance Sensitivity: Fama-French Three-factor Adjusted Alpha, 2000-2016.

Regression results on flow-performance sensitivity when alpha is estimated with the Fama-French three-factor model. The dependent variable is the annual percentage fund flow between month $t+1$ and $t+12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. The sample period is from January 2000 to December 2016. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 2000 to December 2016.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	1.99*** (23.80)	3.06*** (19.28)	3.65*** (19.92)	3.32*** (17.25)	3.84*** (16.96)	3.25*** (14.48)	3.76*** (13.52)	3.27*** (11.08)
$Disp \times \alpha$		-14.30*** (-8.03)	-11.32*** (-6.33)	-10.33*** (-4.72)	-11.89*** (-6.34)	-10.09*** (-4.63)	-12.06*** (-6.61)	-10.18*** (-4.55)
$Std(\alpha) \times \alpha$			-20.59*** (-6.57)	-17.26*** (-5.90)	-20.61*** (-6.53)	-17.25*** (-5.92)	-19.37*** (-6.05)	-16.05*** (-5.39)
$State \times \alpha$					-0.09 (-1.57)	0.04 (0.68)		
$PolicyUncer \times \alpha$							-0.07 (-0.67)	-0.02 (-0.16)
$ExpRatio$				-9.84*** (-3.07)		-9.83*** (-3.07)		-11.04*** (-3.33)
$Turnover$				0.02** (2.20)		0.02** (2.19)		0.02** (2.03)
$LogTNA$				-0.25*** (-29.01)		-0.25*** (-29.01)		-0.26*** (-27.21)
$LogAge$				-0.33*** (-19.07)		-0.33*** (-19.06)		-0.33*** (-18.10)
VOL				-0.54*** (-4.78)		-0.54*** (-4.79)		-0.50*** (-4.38)
$StyleFlow$				0.01** (2.54)		0.01** (2.54)		0.01** (2.53)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	900,819	900,819	900,819	831,901	900,819	831,901	808,879	756,362
Adjusted R^2 (%)	22.8	22.9	22.9	32.6	22.9	32.6	24.6	34.1

Table IB.7: Flow-Performance Sensitivity: Fama-French-Carhart Four-factor Adjusted Alpha, 1980-1999.

Regression results on flow-performance sensitivity when alpha is estimated with the Fama-French-Carhart four-factor model. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. The sample period is from January 1980 to December 1999. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. **, *, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 1999.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	1.74*** (10.20)	3.37*** (4.62)	4.84*** (6.40)	5.67*** (7.68)	5.65*** (7.46)	6.33*** (7.90)	4.72*** (6.00)	5.96*** (7.03)
$Disp \times \alpha$		-19.78** (-2.37)	-19.10** (-2.32)	-32.12*** (-4.06)	-21.34** (-2.58)	-33.41*** (-4.17)	-20.42** (-2.41)	-30.35*** (-3.71)
$Std(\alpha) \times \alpha$			-26.52*** (-9.53)	-21.96*** (-7.94)	-26.36*** (-9.52)	-21.79*** (-7.93)	-26.56*** (-9.55)	-21.92*** (-7.91)
$State \times \alpha$					-0.30** (-2.59)	-0.26** (-2.31)		
$PolicyUncer \times \alpha$							0.18 (0.53)	-0.33 (-0.76)
$ExpRatio$				-11.68* (-1.77)		-12.13* (-1.84)		-11.50* (-1.75)
$Turnover$				0.01 (0.50)		0.01 (0.40)		0.01 (0.53)
$LogTNA$				-0.48*** (-13.60)		-0.48*** (-13.61)		-0.48*** (-13.62)
$LogAge$				-0.20** (-2.19)		-0.20** (-2.19)		-0.21** (-2.22)
VOL				-0.43 (-1.28)		-0.56* (-1.71)		-0.49 (-1.45)
$StyleFlow$				0.00 (0.78)		0.00** (0.68)		0.00** (0.69)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	132,402	132,402	132,402	117,789	132,402	117,789	132,402	117,789
Adjusted R^2 (%)	35.6	35.7	36.0	45.2	36.0	45.3	36.0	45.2

Table IB.8: Flow-Performance Sensitivity: Fama-French-Carhart Four-factor Adjusted Alpha, 2000-2016.

Regression results on flow-performance sensitivity when alpha is estimated with the Fama-French-Carhart four-factor model. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. The sample period is from January 2000 to December 2016. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. **, *, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 2000 to December 2016.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	2.19*** (25.16)	3.13*** (15.88)	3.68*** (17.61)	3.88*** (18.06)	4.00*** (15.52)	3.95*** (15.57)	3.92*** (13.56)	3.82*** (13.72)
$Disp \times \alpha$		-13.70*** (-5.25)	-7.02*** (-2.63)	-18.16*** (-5.97)	-8.17*** (-2.95)	-18.44*** (-5.91)	-7.96*** (-2.91)	-18.94*** (-5.93)
$Std(\alpha) \times \alpha$			-26.20*** (-7.45)	-17.68*** (-5.51)	-26.16*** (-7.41)	-17.67*** (-5.50)	-24.91*** (-6.91)	-16.40*** (-5.01)
$State \times \alpha$					-0.14** (-2.39)	-0.03 (-0.63)		
$PolicyUncer \times \alpha$							-0.15 (-1.30)	0.03 (0.23)
$ExpRatio$				-9.24*** (-2.90)		-9.24*** (-2.90)		-10.41*** (-3.15)
$Turnover$				0.02** (2.07)		0.02** (2.08)		0.02* (1.89)
$LogTNA$				-0.25*** (-28.62)		-0.25*** (-28.60)		-0.26*** (-26.88)
$LogAge$				-0.33*** (-19.01)		-0.33*** (-18.99)		-0.33*** (-18.06)
VOL				-0.25** (-2.24)		-0.25** (-2.21)		-0.20* (-1.75)
$StyleFlow$				0.01*** (3.14)		0.01*** (3.14)		0.01*** (3.15)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	900,819	900,819	900,819	831,901	900,819	831,901	808,879	756,362
Adjusted R^2 (%)	22.8	22.9	23.0	32.6	23.0	32.6	24.6	34.0

Table IB.9: Flow-Performance Sensitivity: Excluding 1998 – 2002.

Regression results on flow-performance sensitivity when excluding the sample between January 1998 and December 2002. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. For all regression models, we include fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested.

	Market-adjusted			CAPM-adjusted			3-factor			4-factor		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
α	2.71*** (13.08)	3.06*** (14.05)	2.86*** (11.21)	3.28*** (12.13)	4.04*** (13.84)	4.59*** (16.34)	3.66*** (12.30)	4.36*** (15.04)				
Disp \times α	-7.84*** (-3.69)	-14.07*** (-6.02)	-8.21*** (-2.76)	-16.34*** (-5.14)	-16.32*** (-3.87)	-29.91*** (-7.48)	-7.67* (-1.79)	-24.85*** (-5.55)				
$Std(\alpha)$ \times α	-5.69*** (-7.27)	-4.50*** (-6.09)	-6.70*** (-2.60)	-5.15** (-2.27)	-19.09*** (-4.98)	-16.22*** (-4.82)	-25.29*** (-6.02)	-18.79*** (-4.93)				
$ExpRatio$		-12.96*** (-4.16)		-13.90*** (-4.46)		-11.86*** (-3.72)		-11.46*** (-3.60)				
$Turnover$		0.01 (0.93)		0.01 (0.75)		0.02* (1.75)		0.01 (1.58)				
$LogTNA$		-0.28*** (-30.13)		-0.28*** (-29.12)		-0.27*** (-27.14)		-0.27*** (-26.89)				
$LogAge$		-0.29*** (-20.17)		-0.30*** (-19.02)		-0.32*** (-17.24)		-0.32*** (-17.28)				
VOL		-0.15 (-1.00)		-0.69*** (-4.34)		-0.70*** (-4.74)		-0.34** (-2.33)				
$StyleFlow$		0.01*** (2.68)		0.01*** (2.79)		0.00** (1.96)		0.01** (2.36)				
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Observations	1,009,808	886,092	966,643	865,027	883,187	802,629	883,187	802,629	883,187	802,629	802,629	
R^2 (%)	23.2	32.0	22.4	32.1	22.5	31.5	22.5	31.5	22.5	31.5	31.5	

3 Flow-Performance Sensitivity under Convexity

3.1 Piecewise Linear

Table IC.1: Flow-Performance Sensitivity under Convexity: Market and CAPM Adjusted Alpha

Regression results on flow-performance sensitivity under convexity for market adjusted and CAPM adjusted alpha. The dependent variable is the annual percentage fund flow between month $t+1$ and $t+12$. Explanatory variables include estimated fund alpha (α), $\alpha^+ = \max\{\alpha, 0\}$, $\alpha^- = \min\{\alpha, 0\}$, cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	Market-adjusted Alpha				CAPM adjusted Alpha			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α^+	1.44*** (11.32)	2.30*** (12.02)	2.82*** (14.00)	2.55*** (14.06)	1.93*** (13.36)	3.32*** (14.45)	3.78*** (15.42)	3.16*** (14.69)
α^-	1.23*** (15.03)	1.52*** (14.23)	1.96*** (17.76)	1.91*** (17.37)	1.38*** (17.25)	1.23*** (9.07)	1.59*** (10.51)	1.64*** (10.50)
$Disp \times \alpha^+$		-4.32*** (-4.54)	-2.94*** (-3.80)	-3.60*** (-5.43)		-9.32*** (-6.52)	-7.77*** (-5.75)	-6.27*** (-5.62)
$Disp \times \alpha^-$		-1.95*** (-2.93)	-0.80 (-1.16)	-1.08 (-1.41)		-1.05 (-0.90)	-2.15* (-1.90)	0.78 (0.63)
$Std(\alpha) \times \alpha$			-5.28*** (-8.68)	-3.77*** (-7.33)			-8.78*** (-5.57)	-6.63*** (-4.67)
$ExpRatio$				-14.42*** (-5.22)				-15.70*** (-5.67)
$Turnover$				0.02* (1.93)				0.01 1.55
$LogTNA$				-0.27*** (-34.16)				-0.27*** (-33.02)
$LogAge$				-0.29*** (-23.60)				-0.32*** (-23.82)
VOL				0.24* (1.83)				-0.37*** (-2.92)
$StyleFlow$				0.01*** (3.69)				0.01*** (3.70)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,204,770	1,204,770	1,204,767	1,075,586	1,145,655	1,145,655	1,145,655	1,040,191
Adjusted R^2 (%)	21.1	21.2	21.3	30.0	20.6	20.8	20.8	30.7

Table IC.2: Flow-Performance Sensitivity under Convexity: Three-factor and Four-factor Adjusted Alpha

Regression results on flow-performance sensitivity under convexity for Fama-French three-factor model and Fama-French-Carhart four-factor model adjusted alpha. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), $\alpha^+ = \max\{\alpha, 0\}$, $\alpha^- = \min\{\alpha, 0\}$, cross-sectional return dispersion (*Disp*), standard error for alpha (*Std*(α)), expense ratio (*ExpRatio*), turnover ratio (*Turnover*), log TNA (*LogTNA*), log fund age (*LogAge*), return volatility (*VOL*), and average flow of the investment objective class (*StyleFlow*). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class (*StyleFlow*), which is constructed contemporaneously with the fund flow. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	Fama-French 3-factor Adjusted Alpha			Fama-French-Carhart 4-factor Adjusted Alpha				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α^+	2.84*** (16.39)	5.23*** (15.75)	6.06*** (16.39)	4.94*** (14.60)	3.45*** (19.93)	5.19*** (12.88)	6.11*** (14.11)	5.54*** (14.27)
α^-	1.56*** (20.13)	2.08*** (10.22)	2.63*** (12.36)	2.91*** (12.85)	1.50*** (18.44)	2.50*** (10.72)	2.88*** (12.08)	3.42*** (14.55)
Disp \times α^+		-27.05*** (-9.09)	-25.42*** (-8.39)	-15.05*** (-5.33)		-21.51*** (-5.02)	-17.94*** (-4.02)	-19.06*** (-4.71)
Disp \times α^-		-8.28*** (-3.11)	-3.37 (-1.24)	-10.73*** (-3.50)		-15.29*** (-4.72)	-4.58 (-1.36)	-18.32*** (-5.56)
<i>Std</i> (α) \times α			-22.15*** (-7.40)	-18.88*** (-6.93)			-27.63*** (-8.73)	-20.80*** (-7.22)
<i>ExpRatio</i>				-14.28*** (-5.05)				-14.15*** (-5.02)
<i>Turnover</i>				0.02** (2.25)				0.02** 2.07
<i>LogTNA</i>				-0.26*** (-30.77)				-0.25*** (-30.43)
<i>LogAge</i>				-0.36*** (-21.79)				-0.36*** (-21.76)
<i>VOL</i>				-0.62*** (-5.28)				-0.32*** (-2.76)
<i>StyleFlow</i>				0.01*** (2.78)				0.01*** (3.14)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,035,675	1,035,675	1,035,675	952,089	1,035,675	1,035,675	1,035,675	952,089
Adjusted R^2 (%)	20.7	20.8	20.9	30.2	20.8	20.9	21.0	30.2

3.2 Modeling Convexity with A Quadratic Function

3.2.1 Reconciling with Kim (2017)

Table IC.3: Quadratic Flow-Performance Sensitivity: Reconciling with Kim (2017)

Regression results on flow-performance sensitivity when alpha is estimated as the mean difference between fund return and market return. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Cross-sectional return dispersion ($Disp$) is defined as either the interquartile range (as in our main analysis) or the standard deviation (as in Kim, 2017) of the cross-section of alphas. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. For all regression models, we only include month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	Disp = Interquartile Range			Disp = Standard Deviation (Kim, 2017)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
α	2.45*** (19.25)	2.29*** (19.94)	2.15*** (20.66)	2.15*** (20.59)	2.48*** (19.47)	2.35*** (19.81)	2.06*** (19.85)	2.23*** (20.45)
α^2	3.03*** (5.88)	1.76*** (3.53)	1.21*** (2.73)	1.21*** (2.68)	2.23*** (3.80)	2.06*** (3.72)	0.69 (1.35)	1.34*** (2.71)
Disp \times α	-2.47*** (-5.25)	-1.98*** (-4.79)	-3.05*** (-7.93)	-2.46*** (-6.32)	-4.05*** (-6.34)	-3.02*** (-5.08)	-3.03*** (-4.86)	-3.69*** (-6.24)
Disp \times α^2	-3.09* (-1.66)	-4.79** (-2.18)	-0.80 (-0.50)	-4.16** (-2.08)	1.34 (0.45)	-7.81** (-2.51)	2.03 (0.79)	-6.07** (-2.16)
$Std(\alpha) \times \alpha$	-4.55*** (-6.00)	-4.52*** (-6.09)	-2.68*** (-4.57)	-3.15*** (-5.17)	-4.35*** (-4.46)	-4.35*** (-5.81)	-2.95*** (-4.36)	-2.99*** (-4.82)
$ExpRatio$			-10.14*** (-3.66)	-14.36*** (-5.20)			-10.09*** (-3.65)	-14.39*** (-5.21)
$Turnover$			0.01* (1.76)	0.02* (1.89)			0.02* (1.85)	0.02* (1.90)
$LogTNA$			-0.26*** (-34.22)	-0.27*** (-34.13)			-0.26*** (-34.01)	-0.27*** (-33.13)
$LogAge$			-0.25*** (-28.59)	-0.29*** (-23.59)			-0.25*** (-28.81)	-0.29*** (-23.61)
VOL			-0.46*** (-6.73)	0.20 (1.45)			-0.46*** (-6.74)	0.23* (1.65)
$StyleFlow$			0.01*** (3.81)	0.01*** (3.69)			0.01*** (3.61)	0.01*** (3.69)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	NO	YES	NO	YES	NO	YES	NO	YES
Observations	1,204,767	1,204,767	1,075,586	1,075,586	1,204,767	1,204,767	1,075,586	1,075,586
Adjusted R^2 (%)	16.9	21.3	29.1	30.0	16.9	21.3	29.0	30.0

3.2.2 Quadratic Flow-Performance Sensitivity

Table IC.4: Quadratic Flow-Performance Sensitivity: Alternative Benchmark Models

Regression results on flow-performance sensitivity when alpha is estimated as the CAPM-adjusted, 3-factor adjusted, or 4-factor adjusted alpha. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	CAPM-adjusted				3-factor		4-factor	
	(1)	(2)	(3)	(4)	(5)	(6)		
α	2.62*** (18.23)	2.36*** (17.59)	4.19*** (20.49)	3.83*** (20.12)	4.34*** (18.34)	4.35*** (20.54)		
α^2	4.75*** (6.71)	3.19*** (4.90)	10.62*** (8.07)	6.53*** (5.26)	11.82*** (7.36)	7.86*** (5.33)		
$Disp \times \alpha$	-2.54*** (-3.52)	-2.60*** (-3.63)	-13.65*** (-7.31)	-12.64*** (-6.77)	-10.79*** (-4.00)	-18.36*** (-7.51)		
$Disp \times \alpha^2$	-20.79*** (-4.72)	-13.72*** (-3.33)	-71.25*** (-5.63)	-20.90* (-1.64)	-64.86*** (-3.71)	-20.70 (-1.25)		
$Std(\alpha) \times \alpha$	-8.70*** (-5.55)	-6.64*** (-4.69)	-20.31*** (-6.82)	-17.38*** (-6.46)	-24.73*** (-7.76)	-18.26*** (-6.30)		
$ExpRatio$		-15.70*** (-5.66)		-14.17*** (-5.01)		-14.03*** (-4.98)		
$Turnover$		0.01 (1.55)		0.02** (2.27)		0.02** (2.04)		
$LogTNA$		-0.27***		-0.26***		-0.25***		
$LogAge$		(-33.03)		(-30.77)		(-30.43)		
VOL		-0.32*** (-23.81)		-0.35*** (-21.76)		-0.35*** (-21.73)		
$StyleFlow$		-0.38*** (-2.95)		-0.65* (-2.95)		-0.35*** (-2.95)		
		0.01*** (3.70)		0.01*** (2.80)		0.01*** (3.13)		
Fund FEs	YES	YES	YES	YES	YES	YES		
Time FEs	YES	YES	YES	YES	YES	YES		
Observations	1,145,655	1,040,191	1,035,675	952,089	1,035,675	952,089		
Adjusted R^2 (%)	20.8	30.7	20.9	30.2	21.0	30.2		

4 Flow-Performance Sensitivity Controlling for Percentile Rankings

Table ID.1: Flow-Performance Sensitivity Controlling for Percentile Rankings: Market and CAPM Adjusted Alpha

Regression results on flow-performance sensitivity controlling for percentile rankings under market adjusted and CAPM adjusted alpha. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include the percentile ranking of alpha ($rank(\alpha)$), estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, * and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	Market-adjusted Alpha			CAPM adjusted Alpha				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$rank(\alpha)$	0.22*** (7.97)	0.16*** (5.20)	0.06* (1.75)	0.10*** (2.81)	0.17*** (5.64)	0.10*** (3.04)	-0.02 (-0.68)	0.05 (1.53)
α	0.72*** (5.75)	1.17*** (6.42)	2.01*** (8.73)	1.71*** (7.63)	1.10*** (7.43)	1.71*** (7.27)	2.86*** (10.28)	2.15*** (8.58)
Disp \times α		-1.53*** (-3.21)	-1.29*** (-2.64)	-1.60*** (-3.66)		-2.71*** (-2.79)	-2.14** (-2.33)	-1.65** (-2.12)
$Std(\alpha)$ \times α			-4.59*** (-6.64)	-2.93*** (-4.97)			-11.77*** (-8.46)	-7.59*** (-6.04)
$ExpRatio$				-14.32*** (-5.17)				-15.57*** (-5.61)
$Turnover$				0.02** (2.02)				0.01* (1.75)
$LogTNA$				-0.27*** (-34.23)				-0.27*** (-33.09)
$LogAge$				-0.29*** (-23.51)				-0.32*** (-23.68)
VOL				0.28** (2.13)				-0.28** (-2.31)
$StyleFlow$				0.01*** (3.64)				0.01*** (3.70)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,204,770	1,204,770	1,204,767	1,075,586	1,145,655	1,145,655	1,145,655	1,040,191
Adjusted R^2 (%)	21.2	21.2	21.3	30.0	20.7	20.7	20.8	30.7

Table ID.2: Flow-Performance Sensitivity Controlling for Percentile Rankings: Three-factor and Four-factor Adjusted Alpha

Regression results on flow-performance sensitivity controlling for percentile rankings under Fama-French three-factor model and Fama-French-Carhart four-factor model adjusted alpha. The dependent variable is the annual percentage fund flow between month $t+1$ and $t+12$. Explanatory variables include the percentile ranking of alpha ($rank(\alpha)$), estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). Market state (Franzoni and Schmalz, 2017) and policy uncertainty (Starks and Sun, 2016) are defined in Section 3.1. All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	Fama-French 3-factor Adjusted Alpha			Fama-French-Carhart 4-factor Adjusted Alpha				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$rank(\alpha)$	0.20*** (7.94)	0.14*** (5.02)	0.03 (1.05)	0.05* (1.69)	0.18*** (6.94)	0.15*** (5.09)	0.01 (0.22)	0.01 (0.22)
α	1.21*** (7.42)	2.23*** (7.59)	3.63*** (10.51)	3.11*** (9.98)	1.47*** (8.60)	2.03*** (6.11)	3.79*** (10.13)	3.87*** (11.13)
Disp \times α		-9.36*** (-4.16)	-10.37*** (-4.57)	-7.86*** (-4.07)	-5.67** (-2.00)	-5.67** (-2.00)	-5.47** (-2.03)	-13.36*** (-4.81)
$Std(\alpha) \times \alpha$			-19.75*** (-6.27)	-16.41*** (-5.56)			-26.29*** (-7.91)	-20.13*** (-6.58)
$ExpRatio$				-13.83*** (-4.87)				-13.58*** (-4.79)
$Turnover$				0.02*** (2.76)				0.02*** (2.76)
$LogTNA$				-0.26*** (-30.79)				-0.26*** (-30.41)
$LogAge$				-0.36*** (-21.66)				-0.35*** (-21.64)
VOL				-0.52*** (-4.41)				-0.23* (-1.93)
$StyleFlow$				0.01*** (2.79)				0.01*** (3.26)
Fund FEs	YES	YES	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,035,675	1,035,675	1,035,675	952,089	1,035,675	1,035,675	1,035,675	952,089
Adjusted R^2 (%)	20.7	20.7	20.8	30.1	20.8	20.8	20.8	30.0

5 Controlling for Market Conditions

Table IE.1: Flow-Performance Sensitivity with Time-Varying Market Conditions: Alpha = Fund Return – Market Return.

Regression results on flow-performance sensitivity when alpha is estimated as the mean difference between fund return and market return. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. Market conditions are defined as: mnt (average market excess return from month $t - 11$ to month t), $mntvol$ (standard deviation of market excess returns from month $t - 11$ to month t), and $mntabs$ (the absolute value of the average market excess return from month $t - 11$ to month t). For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	(1)	(2)	(3)	(4)	(5)	(6)
α	2.20*** (18.71)	1.97*** (19.12)	1.99*** (10.55)	2.07*** (10.87)	2.41*** (19.41)	2.31*** (18.55)
$Disp \times \alpha$	-1.69*** (-3.46)	-1.64*** (-3.92)	-2.19*** (-4.88)	-2.50*** (-6.21)	-1.61*** (-3.62)	-2.18*** (-5.69)
$Std(\alpha) \times \alpha$	-4.31*** (-5.74)	-2.98*** (-4.84)	-4.55*** (-6.31)	-3.10*** (-5.28)	-4.46*** (-5.91)	-3.16*** (-5.04)
$Mkt \times \alpha$	0.24 (0.81)	1.12*** (3.89)				
$Mktvol \times \alpha$			1.95* (1.67)	0.43 (0.34)		
$Mktabs \times \alpha$					-1.14** (-2.33)	-1.14** (-2.48)
$ExpRatio$		-14.06*** (-5.09)		-14.29*** (-5.17)		-14.28*** (-5.16)
$Turnover$		0.02* (1.84)		0.02* (1.95)		0.02* (1.92)
$LogTNA$		-0.27*** (-34.23)		-0.27*** (-34.13)		-0.27*** (-34.15)
$LogAge$		-0.29*** (-23.50)		-0.29*** (-23.54)		-0.29*** (-23.58)
VOL		0.09 (0.67)		0.24* (1.76)		0.19 (1.43)
$StyleFlow$		0.01*** (3.72)		0.01*** (3.70)		0.01*** (3.67)
Fund FEs	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES
Observations	1,204,767	1,075,586	1,204,767	1,075,586	1,204,767	1,075,586
Adjusted R^2 (%)	21.3	30.0	21.3	30.0	21.3	30.0

Table IE.2: Flow-Performance Sensitivity with Time-Varying Market Conditions: CAPM Adjusted Alpha.

Regression results on flow-performance sensitivity when alpha is estimated as the mean difference between fund return and market return. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion ($Disp$), standard error for alpha ($Std(\alpha)$), expense ratio ($ExpRatio$), turnover ratio ($Turnover$), log TNA ($LogTNA$), log fund age ($LogAge$), return volatility (VOL), and average flow of the investment objective class ($StyleFlow$). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class ($StyleFlow$), which is constructed contemporaneously with the fund flow. Market conditions are defined as: mkt (average market excess return from month $t - 11$ to month t), $mkivol$ (standard deviation of market excess returns from month $t - 11$ to month t), and $mktabs$ (the absolute value of the average market excess return from month $t - 11$ to month t). For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	(1)	(2)	(3)	(4)	(5)	(6)
α	2.52*** (16.60)	2.17*** (17.29)	2.29*** (10.86)	2.29*** (11.05)	2.47*** (14.62)	2.36*** (14.56)
$Disp \times \alpha$	-2.68*** (-3.16)	-2.39*** (-3.67)	-3.30*** (-4.14)	-2.86*** (-4.18)	-2.80*** (-3.56)	-2.79*** (-4.27)
$Std(\alpha) \times \alpha$	-7.57*** (-4.67)	-5.19*** (-3.63)	-8.22*** (-5.39)	-6.06*** (-4.50)	-7.88*** (-5.09)	-5.97*** (-4.35)
$Mkt \times \alpha$	0.44 (1.43)	1.53*** (5.28)				
$Mkivol \times \alpha$			2.36** (2.01)	0.33 (0.78)		
$Mktabs \times \alpha$					0.62 (1.16)	-0.18 (-0.33)
$ExpRatio$		-15.13*** (-5.47)		-15.58*** (-5.62)		-15.56*** (-5.61)
$Turnover$		0.01 (1.58)		0.01* (1.68)		0.01* (1.67)
$LogTNA$		-0.28*** (-33.14)		-0.27*** (-32.98)		-0.27*** (-33.02)
$LogAge$		-0.32*** (-23.67)		-0.32*** (-23.81)		-0.32*** (-23.79)
VOL		-0.40*** (-3.38)		-0.33*** (-2.65)		-0.33*** (-2.75)
$StyleFlow$		0.01*** (3.77)		0.01*** (3.68)		0.01*** (3.69)
Fund FEs	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES
Observations	1,145,655	1,040,191	1,145,655	1,040,191	1,145,655	1,040,191
Adjusted R^2 (%)	20.7	30.7	20.8	30.6	20.7	30.6

Table IE.3: Flow-Performance Sensitivity with Time-Varying Market Conditions: Fama-French Three-factor Adjusted Alpha.

Regression results on flow-performance sensitivity when alpha is estimated as the mean difference between fund return and market return. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion (*Disp*), standard error for alpha (*Std*(α)), expense ratio (*ExpRatio*), turnover ratio (*Turnover*), log TNA (*LogTNA*), log fund age (*LogAge*), return volatility (*VOL*), and average flow of the investment objective class (*StyleFlow*). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class (*StyleFlow*), which is constructed contemporaneously with the fund flow. Market conditions are defined as: *mt* (average market excess return from month $t - 11$ to month t), *mtvol* (standard deviation of market excess returns from month $t - 11$ to month t), and *mtabs* (the absolute value of the average market excess return from month $t - 11$ to month t). For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	(1)	(2)	(3)	(4)	(5)	(6)
α	3.81*** (18.88)	3.35*** (18.84)	3.82*** (15.68)	3.52*** (15.69)	3.81*** (17.13)	3.49*** (16.99)
Disp \times α	-10.72*** (-5.15)	-8.10*** (-4.72)	-11.75*** (-5.68)	-8.93*** (-4.83)	-11.15*** (-5.55)	-9.15*** (-5.20)
<i>Std</i> (α) \times α	-20.86*** (-7.22)	-18.02*** (-6.71)	-20.96*** (-7.26)	-18.29*** (-6.83)	-21.08*** (-7.32)	-18.27*** (-6.81)
<i>Mkt</i> \times α	0.68** (2.06)	1.22*** (4.06)				
<i>Mktvol</i> \times α			0.71 (0.53)	-0.30 (-0.23)		
<i>Mktabs</i> \times α					0.44 (0.82)	-0.02 (-0.03)
<i>ExpRatio</i>		-13.75*** (-4.85)		-13.84*** (-4.88)		-13.85*** (-4.88)
<i>Turnover</i>		0.02*** (2.66)		0.02*** (2.75)		0.02*** (2.76)
<i>LogTNA</i>		-0.26*** (-30.81)		-0.26*** (-30.74)		-0.26*** (-30.75)
<i>LogAge</i>		-0.36*** (-21.68)		-0.36*** (-21.71)		-0.36*** (-21.72)
<i>VOL</i>		-0.54*** (-4.64)		-0.54*** (-4.39)		-0.52*** (-4.38)
<i>StyleFlow</i>		0.01*** (2.83)		0.01*** (2.81)		0.01*** (2.78)
Fund FEs	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES
Observations	1,035,675	952,089	1,035,674	952,089	1,035,675	952,089
Adjusted R^2 (%)	20.8	30.1	20.8	30.1	20.8	30.1

Table IE.4: Flow-Performance Sensitivity with Time-Varying Market Conditions: Fama-French-Carhart Four-factor Adjusted Alpha.

Regression results on flow-performance sensitivity when alpha is estimated as the mean difference between fund return and market return. The dependent variable is the annual percentage fund flow between month $t + 1$ and $t + 12$. Explanatory variables include estimated fund alpha (α), cross-sectional return dispersion (*Disp*), standard error for alpha (*Std*(α)), expense ratio (*ExpRatio*), turnover ratio (*Turnover*), log TNA (*LogTNA*), log fund age (*LogAge*), return volatility (*VOL*), and average flow of the investment objective class (*StyleFlow*). All explanatory variables at time t are based on data before (including) month t , except for the average flow of the investment objective class (*StyleFlow*), which is constructed contemporaneously with the fund flow. Market conditions are defined as: *mt* (average market excess return from month $t - 11$ to month t), *mtvol* (standard deviation of market excess returns from month $t - 11$ to month t), and *mtabs* (the absolute value of the average market excess return from month $t - 11$ to month t). For all regression models, we include both fund and month fixed effects. Standard errors are clustered by fund and month. We present the t -statistics in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, assuming a single hypothesis is tested. The sample period is January 1980 to December 2016.

	(1)	(2)	(3)	(4)	(5)	(6)
α	3.71*** (16.15)	3.72*** (17.52)	3.69*** (14.24)	3.77*** (15.63)	3.79*** (15.81)	3.89*** (17.38)
Disp \times α	-4.26* (-1.73)	-11.20*** (-4.38)	-7.23*** (-2.58)	-15.06*** (-5.43)	-5.74** (-2.19)	-13.59*** (-5.34)
<i>Std</i> (α) \times α	-26.71*** (-8.69)	-20.58*** (-7.23)	-26.46*** (-8.65)	-20.28*** (-7.17)	-26.62*** (-8.70)	-20.42*** (-7.22)
<i>Mkt</i> \times α	0.71** (1.97)	1.07*** (3.26)				
<i>Mktvol</i> \times α			1.75 (1.21)	1.67 (1.20)		
<i>Mktabs</i> \times α					0.35 (0.60)	0.19 (0.34)
<i>ExpRatio</i>		-13.50*** (-4.77)		-13.60*** (-4.80)		-13.58*** (-4.79)
<i>Turnover</i>		0.02*** (2.65)		0.02*** (2.77)		0.02*** (2.76)
<i>LogTNA</i>		-0.26*** (-30.42)		-0.26*** (-30.38)		-0.26*** (-30.40)
<i>LogAge</i>		-0.35*** (-21.64)		-0.35*** (-21.66)		-0.35*** (-21.67)
<i>VOL</i>		-0.25** (-2.12)		-0.22* (-1.83)		-0.22* (-1.92)
<i>StyleFlow</i>		0.01*** (3.30)		0.01*** (3.23)		0.01*** (3.27)
Fund FEs	YES	YES	YES	YES	YES	YES
Time FEs	YES	YES	YES	YES	YES	YES
Observations	1,035,675	952,089	1,035,674	952,089	1,035,675	952,089
Adjusted R^2 (%)	20.8	30.1	20.8	30.1	20.8	30.0