

Supplementary Material to
The Unintended Consequences of the Zero Lower Bound Policy
by Marco Di Maggio and Marcin Kacperczyk

Table A.1: Summary Statistics

The sample is all prime money market funds. The data span the period January 2005-December 2013. The first two columns provide the results for the entire sample over the full period. The subsequent two columns (High Rate) restrict the sample to the period of high interest rates (Fed funds rate greater than 1%). In the next two columns (Low Rate), we restrict the sample to the period of low interest rates (Fed funds rate between 0 and 1%). The following four columns focus on the low-rate regime and summarize the data of funds whose sponsors are affiliated with a financial institution (Affiliated) and for funds whose sponsors are independent asset management companies (Independent).

Variable	Unconditional		High Rate		Low Rate		Low Rate: Affiliated		Low Rate: Independent	
	Mean	St. dev.	Mean	St. dev.	Mean	St. dev.	Mean	St. dev.	Mean	St. dev.
Fed Rate (in %)	1.83	2.02	3.65	1.31	0.06	0.15	0.06	0.15	0.06	0.15
Fund Return (in bps)	231.07	206.28	419.13	114.58	46.95	53.23	46.41	52.78	47.72	53.84
Spread (in bps)	47.24	53.84	53.85	61.78	40.74	43.74	40.14	43.14	41.60	44.56
Holdings Risk (in %)	-8.30	27.98	-5.13	26.19	-11.37	29.29	-14.34	27.32	-7.17	31.38
Maturity (in days)	40.29	13.05	39.55	12.85	41.00	13.21	39.12	12.77	43.66	13.36
Concentration (in %)	27.63	17.52	31.91	18.43	23.50	15.52	23.37	16.36	23.69	14.25
Expenses Charged (in bps)	38.54	25.38	49.69	27.98	27.63	16.37	27.16	16.60	28.29	16.02
Expenses Incurred (in bps)	56.99	32.38	58.36	32.62	55.65	32.10	53.74	28.30	58.34	36.63
Subsidy (in bps)	18.34	27.33	8.50	20.50	27.97	29.65	26.53	25.58	30.01	34.48
Fund Size (in \$Million)	8303	21651	7083	17173	9481	25176	8102	24211	11430	26356
Family Size (in \$Million)	151599	253903	122320	204508	182160	293725	113790	118291	279344	415854
Age (in years)	15.80	7.86	13.40	7.04	18.13	7.91	17.28	7.87	19.33	7.81
Fund Flow (in %)	0.05	4.78	0.26	5.24	-0.16	4.28	-0.19	4.64	-0.12	3.70
Fund Flow Volatility (in %)	3.66	3.86	4.12	4.27	3.21	3.37	3.57	3.52	2.70	3.08
Independent Sponsor (in %)	40.92	49.17	40.37	49.07	41.44	49.26	0	0	100	0
Bank Affiliated Sponsor (in %)	59.08	49.17	59.63	49.07	58.56	49.26	100	0	0	0
U.S. Treasuries & Agency	0.10	0.16	0.07	0.13	0.13	0.18	0.13	0.16	0.15	0.20
Repurchase Agreements	0.13	0.15	0.11	0.15	0.14	0.16	0.16	0.16	0.13	0.15
Bank Deposits	0.02	0.06	0.02	0.06	0.03	0.07	0.03	0.06	0.02	0.07
Bank Obligations	0.15	0.14	0.13	0.13	0.17	0.15	0.14	0.14	0.20	0.15
Floating-Rate Notes	0.18	0.17	0.20	0.17	0.17	0.17	0.17	0.18	0.16	0.15
Commercial Paper	0.30	0.22	0.34	0.24	0.26	0.19	0.26	0.19	0.26	0.19
Asset-Backed Commercial Paper	0.11	0.14	0.13	0.15	0.10	0.12	0.11	0.12	0.08	0.11
Institutional Funds (in %)	45.94	46.76	45.73	46.71	46.14	46.81	47.63	46.81	44.02	46.72
Number of Funds	349		326		274		159		115	

Table A.2: Variation in Reputation within Independent Fund Sponsors

The design follows Table 5. *Business Risk* is the ratio of assets under management held by a fund family in non-money funds and total assets under management. Panel A presents the results for the 3-month announcement horizon and Panel B for the 6-month horizon.

Panel A: 3-Month Horizon						
Variable	Exit	Spread	Holdings Risk	Maturity	Concentration	Subsidy
Event	0.001 (0.002)	25.207** (12.275)	4.368* (2.439)	-0.120 (0.936)	0.018* (0.010)	-0.050*** (0.015)
Event× Business Risk	-0.001 (0.003)	-11.003* (6.241)	-3.661* (2.349)	-1.774* (1.002)	-0.016 (0.012)	0.062*** (0.019)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Sponsor F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7635	7030	7036	7036	7036	7619
Panel B: 6-Month Horizon						
Variable	Exit	Spread	Holdings Risk	Maturity	Concentration	Subsidy
Event	-0.001 (0.004)	22.596** (10.835)	7.848*** (2.016)	2.395** (0.958)	0.036*** (0.008)	-0.052*** (0.011)
Event× Business Risk	-0.001 (0.005)	-11.003** (4.826)	-8.226*** (2.367)	-4.705*** (1.113)	-0.039*** (0.009)	0.079*** (0.015)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Sponsor F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Observations	10,659	9789	9802	9802	9802	10,633

Table A.3: Fund Risk and ZIRP Shocks: Conditioning on Survival

The design follows that in Table 5 (Panel A) and Table 6 (Panel B). We restrict our estimation to the sample of funds that are present in both periods before and after the event.

Panel A: Time-Series Evidence								
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Spread	Holdings Risk	Maturity Risk	Concentration	Spread	Holdings Risk	Maturity Risk	Concentration
	3 Months Ahead				6 Months Ahead			
Event	34.329*** (12.113)	0.954*** (0.323)	-1.216** (0.503)	0.005*** (0.002)	21.341** (10.471)	0.879*** (0.271)	-1.347*** (0.386)	0.005*** (0.001)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Month-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sponsor-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16,830	16,882	16,879	16,882	23,462	23,527	23,524	23,527
Panel B: Cross-Sectional Evidence								
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Spread	Holdings Risk	Maturity Risk	Concentration	Spread	Holdings Risk	Maturity Risk	Concentration
	3 Months Ahead				6 Months Ahead			
Independent Sponsor	-3.748 (2.837)	6.178* (3.305)	4.633*** (1.355)	-0.008 (0.023)	-0.979 (2.893)	5.382 (3.476)	5.016*** (1.469)	-0.016 (0.022)
Independent Sponsor×Event	9.167*** (1.212)	2.507*** (0.801)	-0.823* (0.473)	0.020* (0.011)	4.972*** (1.631)	3.865** (1.556)	-1.776** (0.702)	0.034*** (0.010)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Month-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16,830	16,882	16,879	16,882	23,462	23,527	23,524	23,527

Table A.4: Comparisons across Interest Rate Regimes: Conditioning on Sponsor Type

The design follows that in Table 8. All control variables are defined in Table 5 and Table 6.

Panel A: Fund Exit				
VARIABLES	(1)	(2)		
	Number of Funds	Exit		
Low Rate	-20.098***	-0.009		
	(2.135)	(0.008)		
Independent Sponsor	34.970***	--		
	(3.888)			
Independent Sponsor×Low Rate	8.796***	0.000		
	(1.587)	(0.001)		
Controls	Yes	Yes		
Year-Month-Fixed Effects	No	Yes		
Sponsor-Fixed Effect	No	Yes		
Observations	920	98,795		

Panel B: Fund Risk				
VARIABLES	(1)	(2)	(3)	(4)
	Spread	Holdings Risk	Maturity Risk	Concentration
Independent Sponsor	-0.239	-0.130	-0.904	-0.026
	(0.893)	(2.535)	(1.042)	(0.020)
Independent Sponsor×Low Rate	2.449**	7.328**	4.519***	0.038**
	(1.224)	(2.905)	(1.170)	(0.017)
Controls	Yes	Yes	Yes	Yes
Week-Fixed Effect	Yes	Yes	Yes	Yes
Observations	94,521	95,264	95,253	95,264

Panel C: Fund Expenses			
VARIABLES	(1)	(2)	(3)
	Charged Expenses	Incurred Expenses	Subsidy
Independent Sponsor	0.012	0.062	0.049*
	(0.027)	(0.040)	(0.027)
Independent Sponsor×Low Rate	-0.013	-0.031	-0.018
	(0.024)	(0.022)	(0.030)
Controls	Yes	Yes	Yes
Week-Fixed Effects	Yes	Yes	Yes
Observations	98,795	98,484	98,484

Table A.5: The Effects of Unexpected Monetary Shock

The design follows Table 5. *Monetary Shock* is the first principal component of the unexpected shock to changes in Treasury yields around FOMC announcements. Control variables mimic the corresponding definitions from Tables 5-7. All regressions are at the weekly level. *High Rate* restricts the sample to the period of high interest rates (Fed funds rate greater than 1%). *Low Rate* restricts the sample to the period of low interest rates (Fed funds rate between 0 and 1%). Standard errors are clustered at the week level. ***, **, * represent 1%, 5%, and 10% significance.

Panel A: Fund Exit			
VARIABLES	(1)	(2)	(3)
	Full Sample	Exit High Rate	Low Rate
Monetary Shock	-0.012 (0.018)	0.009 (0.021)	-0.048** (0.022)
Controls	Yes	Yes	Yes
Year/Month-Fixed Effects	Yes	Yes	Yes
Sponsor-Fixed Effects	Yes	Yes	Yes
Observations	98,795	50,337	48,458

Panel B: Fund Risk (Low-Rate Regime)				
VARIABLES	(1)	(2)	(3)	(4)
	Spread	Holdings Risk	Maturity Risk	Concentration
Monetary Shock	-0.919* (0.633)	-0.001** (0.000)	0.031 (0.072)	-0.000 (0.000)
Controls	Yes	Yes	Yes	Yes
Sponsor-Fixed Effects	Yes	Yes	Yes	Yes
Year/Month-Fixed Effects	Yes	Yes	Yes	Yes
Observations	45,322	46,286	46,054	46,065

Panel C: Fund Expenses

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Full Sample	Charged Expenses High Rate Low Rate		Full Sample	Incurred Expenses High Rate Low Rate		Full Sample	Subsidy High Rate Low Rate	
Monetary Shock	0.001 (0.004)	0.000 (0.001)	0.002 (0.006)	-0.000 (0.001)	-0.002 (0.001)	0.000 (0.001)	-0.002 (0.003)	-0.002 (0.002)	-0.002 (0.005)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sponsor-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	98,795	50,337	48,458	98,484	50,186	48,298	98,484	50,186	48,298