Internet Appendix to “Connected Stocks”*

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A. Decomposing Stock Returns

The price of any asset can be written as a sum of its expected future cash flows, discounted to the present using a set of discount rates. Campbell and Shiller (1988a, 1988b) develop a loglinear approximate present-value relation that allows for time-varying discount rates. Campbell (1991) extends the loglinear present-value approach to obtain a decomposition of returns:

$$\begin{aligned} r_{t+1} - \mathrm{E}_t r_{t+1} &= (\mathrm{E}_{t+1} - \mathrm{E}_t)\sum_{j=0}^{\infty} \rho^j \Delta d_{t+1+j} - (\mathrm{E}_{t+1} - \mathrm{E}_t)\sum_{j=0}^{\infty} \rho^j r_{t+1+j} \\ &= N_{CF,t+1} - N_{DR,t+1} \end{aligned} \tag{A.1}$$

where Δd denotes log dividend growth, r denotes log returns, N_{CF} denotes news about future cash flows (future dividends), and N_{DR} denotes news about future discount rates (i.e., expected returns). This equation says that unexpected stock returns must be associated with changes in expectations of future cash flows or discount rates.

B. Measuring the components of returns

An important issue is how to measure the shocks to cash flows and to discount rates. One approach, introduced by Campbell (1991), is to estimate the cash-flow-news and discount-rate-news series using a vector autoregressive (VAR) model. This VAR methodology first estimates the terms $\mathrm{E}_t r_{t+1}$ and $(\mathrm{E}_{t+1} - \mathrm{E}_t)\sum_{j=0}^{\infty} \rho^j r_{t+1+j}$ and then uses realization of r_{t+1} and equation (A.1) to back out cash-flow news. Because of the approximate identity linking returns, dividends, and stock prices, this approach yields results that are almost identical to those that are obtained by forecasting cash flows explicitly using the same information set. Thus the choice of variables to enter the VAR is the important decision to make when implementing this methodology.

When extracting the news terms in our empirical tests, we assume that the data are generated by a first-order VAR model

$$z_{t+1} = a + \Gamma z_t + u_{t+1}, \tag{B.1}$$

where z_{t+1} is a m-by-1 state vector with r_{t+1} as its first element, a and Γ are m-by-1 vector and m-by-m matrix of constant parameters, and u_{t+1} an i.i.d. m-by-1 vector of shocks.

Provided that the process in equation (B.1) generates the data, $t+1$ cash-flow and discount-rate news are linear functions of the $t+1$ shock vector:

$$N_{DR,t+1} = e1'\lambda u_{t+1}, \tag{B.2}$$

$$N_{DR,t+1} = (e1' + e1'\lambda)u_{t+1}.$$

where $e1$ is a vector with first element equal to unity and the remaining elements equal to zeros. The VAR shocks are mapped to news by λ, defined as $\lambda \equiv \rho\Gamma(I-\rho\Gamma)^{-1}$ so that $e1'$ measures the long-run significance of each individual VAR shock to discount-rate expectations.

C. Aggregate VAR Specification

In specifying the monthly aggregate VAR, we follow Campbell and Vuolteenaho (2004), choosing the same four state variables that they study. The first element of our state vector is the excess log return on the market ($r^e_{M,t+1}$), the difference between the annual log return on the CRSP value-weighted stock index (r_M) and the annual log riskfree rate, obtained from Professor Kenneth French's website. The second element of our state vector is the term yield spread (TY), provided by Global Financial Data and computed as the yield difference between ten-year constant-maturity taxable bonds and short-term taxable notes, in percentage points. The third variable is the log smoothed price-earnings ratio (PE), the log of the price of the S&P 500 index divided by a ten-year trailing moving average of aggregate earnings of companies in the index, based on data available from Bob Shiller's website. As in Campbell and Vuolteenaho (2004), we carefully remove the interpolation inherent in Shiller's construction of the variable to ensure the variable does not suffer from look-ahead bias. Our final variable is a version of the value spread introduced by Cohen, Polk, and Vuolteenaho (2003), but for small stocks (VS), which we construct using the data made available by Professor Kenneth French on his website. The portfolios, which are constructed at the end of each June, are the intersections of two portfolios formed on size (market equity, ME) and three portfolios formed on the ratio of book equity to market equity (BE/ME). As in Campbell and Vuolteenaho (2004), we generate intermediate values of VS by accumulating total returns on the portfolios in question.

Table AIX Panel A reports the VAR model parameters, estimated using OLS. Each row of the table corresponds to a different equation of the VAR. The first five columns report coefficients on the five explanatory variables: a constant, and lags of the excess market return, term yield spread, price-earnings ratio, and small-stock value spread. OLS standard errors are reported in parentheses below the coefficients. The first row of Table AIX Panel A shows that all four of our VAR state variables have some ability to predict monthly excess returns on the aggregate stock market. In our sample, monthly market returns display momentum; the coefficient on the lagged excess market return is a statistically significant 0.1118 with a t-statistic of 3.52. The regression coefficient on past values of the term yield spread is positive, consistent with the findings of Keim and Stambaugh (1986), Campbell (1987), and Fama and French (1989), but with a t-statistic of only 1.6. The smoothed price-earnings ratio negatively predicts the return with a t-statistic of 3.42, consistent with the finding that various scaled-price variables forecast aggregate returns (Campbell and Shiller, 1988a, 1988b, 2003; Rozeff 1984; Fama and French 1988, 1989). Finally, the small-stock value spread negatively predicts the return with a t-statistic of 2.16, consistent with Brennan, Wang, and Xia (2001), Eleswarapu and Reinganum (2004), and Campbell and Vuolteenaho (2004). In summary, the estimated coefficients, both in terms of signs and t-statistics, are consistent with previous research.

The remaining rows of Table AIX Panel A summarize the dynamics of the explanatory variables. The term spread can be predicted with its own lagged value and the lagged small-stock value spread. The price-earnings ratio is highly persistent, with past returns adding some forecasting power. Finally, the small-stock value spread is highly persistent and approximately an AR(1) process.

D. Firm-level VAR Specification

We implement the main specification of our monthly firm-level VAR with the following three state variables. First, the log firm-level return (r_i) is the monthly log value-weight return on a firm's common stock equity. Following Vuolteenaho (2002), to avoid possible complications with the use of the log transformation, we unlever the stock by 10 percent; that is, we define the stock return as a portfolio consisting of 90 percent of the firm's common stock and a 10 percent investment in Treasury Bills. Our second state variable is the momentum of the stock (MOM), which we measure following Carhart (1997) as the cumulative return over the months $t-11$ to $t-1$. Our final firm-level state variable is the log book-to-market equity ratio (we denote the transformed quantity by BM in contrast to simple book-to-market that is denoted by

BE/ME) as of the end of each month t. We measure BE for the fiscal year ending in calendar year $t-1$, and ME (market value of equity) at the end of May of year t.[1]

We update BE/ME over the subsequent eleven months by dividing by the cumulative gross return from the end of May to the month in question. We require each firm-year observation to have a valid past BE/ME ratio that must be positive in value. Moreover, in order to eliminate likely data errors, we censor the BE/ME variables of these firms to the range (.01,100) by adjusting the book value. To avoid influential observations created by the log transform, we first shrink the BE/ME towards one by defining $BM \equiv \log[(0.9BE + 0.1ME)/ME]$.

The firm-level VAR generates market-adjusted cash-flow and discount-rate news for each firm each month. We remove month-specific means from the state variables by subtracting $r_{M,t}$ from $r_{i,t}$ and cross-sectional means from $MOM_{i,t}$ and $BM_{i,t}$. As in Campbell, Polk, and Vuolteenaho (2010), instead of subtracting the equal-weight cross-sectional mean from $r_{i,t}$ we subtract the log value-weight CRSP index return instead, because this will allow us to undo the market adjustment simply by adding back the cash-flow and discount-rate news extracted from the aggregate VAR.

After cross-sectionally demeaning the data, we estimate the coefficients of the firm-level VAR using WLS. Specifically, we multiply each observation by the inverse of the number of cross-sectional observation that year, thus weighting each cross-section equally. This ensures that our estimates are not dominated by the large cross sections near the end of the sample

[1] Following Fama and French (1993), we define BE as stockholders' equity, plus balance sheet deferred taxes (COMPUSTAT data item 74) and investment tax credit (data item 208) (if available), plus post-retirement benefit liabilities (data item 330) (if available), minus the book value of preferred stock. Depending on availability, we use redemption (data item 56), liquidation (data item 10), or par value (data item 130) (in that order) for the book value of preferred stock. We calculate stockholders' equity used in the above formula as follows. We prefer the stockholders' equity number reported by Moody's, or COMPUSTAT (data item 216). If neither one is available, we measure stockholders' equity as the book value of common equity (data item 60), plus the book value of preferred stock. (Note that the preferred stock is added at this stage, because it is later subtracted in the book equity formula.) If common equity is not available, we compute stockholders' equity as the book value of assets (data item 6) minus total liabilities (data item 181), all from COMPUSTAT.

period. We impose zero intercepts on all state variables, even though the market-adjusted returns do not necessarily have a zero mean in each sample. Allowing for a free intercept does not alter any of our results in a measurable way.

Parameter estimates, presented in Table AIX Panel B imply that expected returns are high when past one-month return is low and when the book-to-market ratio and momentum are high. Book-to-market is the statistically most significant predictor, while the firm's own stock return is the statistically least significant predictor. Momentum is high when past stock return and past momentum are high and the book-to-market ratio is low. The book-to-market ratio is quite persistent. Controlling for past book-to-market, expected future book-to-market ratio is high when the past monthly return is high and past momentum is low.

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Table AI: Connected Comovement – All Controls

This table reports Fama-MacBeth estimates of monthly cross-sectional regressions forecasting the correlation of daily Fama-French-Carhart residuals in month $t+1$ for the sample of stocks defined in Table I. Panel A reports the estimates of all the coefficients corresponding to Table II, Panel A. Panel B reports the estimates of all the coefficients corresponding to Table II, Panels B and C, but only for the specification (4), where all controls are included. Controls from specifications (1), (2), and (3) from Panels B and C are not shown for brevity, and are available upon request. The independent variables are updated quarterly and include our measure of institutional connectedness, the total ownership by all common funds in dollars of the two stocks scaled by the total market capitalization of the two stocks, $FCAP_{ij,t}$, and a series of controls at time t. We measure the negative of the absolute value of the difference in size, BE/ME and momentum percentile ranking across the two stocks in the pair ($SAMESIZE_{ij,t}$, $SAMEBM_{ij,t}$, and $SAMEMOM_{ij,t}$ respectively). We also measure the number of similar SIC digits beginning with the first digit, $NUMSIC_{ij,t}$, for the two stocks in a pair. Thirty nine other controls, including non-linear controls, are also included, described in the text. All independent variables are then rank transformed and normalized to have unit standard deviation, which we denote with an asterisk superscript. We calculate Newey-West standard errors (four lags) of the Fama-MacBeth estimates that take into account autocorrelation in the cross-sectional slopes. Each Panel is displayed in two different pages, because each full table does not fit in one page. First page shows general controls, and second page shows controls for *SIZE, BM,* and *MOM*, with several non-linear combinations. Coefficients shown in the main body of the paper are highlighted here in shaded area for clarity.

PANEL A: Full Sample (corresponds to Table II, Panel A)

	(1)	(2)	(3)	(4)
Constant	0.00508	0.00512	0.00284	0.00288
	(11.30)	(11.17)	(6.92)	(6.85)
FCAP*	0.00395	0.00256	0.00168	0.00184
	(13.43)	(11.61)	(8.58)	(9.85)
*A**		0.01437	0.01342	0.01334
		(11.92)	(11.83)	(11.77)
*SAMESIZE**		-0.00365	-0.00396	-0.00402
		(-1.43)	(-1.53)	(-1.54)
*SAMEBM**		0.00031	-0.00024	-0.00001
		(2.68)	(-2.80)	(-0.00)
*SAMEMOM**		0.00228	0.00143	-0.00736
		(8.60)	(6.87)	(-2.36)
*NUMSIC**		0.00745	0.00676	0.00671
		(12.39)	(12.22)	(12.03)
*SIZE1**		0.04683	0.04816	0.04855
		(11.90)	(11.84)	(11.66)
*SIZE2**		0.01012	0.01021	0.01033
		(2.78)	(2.79)	(2.83)
SIZE1 x SIZE2**		-0.06530	-0.06750	-0.06692
		(-12.2)	(-11.8)	(-11.8)
*RETCORR**			0.00586	0.00599
			(11.55)	(11.78)
*ROECORR**			0.00078	0.00085
			(7.45)	(8.08)
*VOLCORR**			0.00110	0.00106
			(7.72)	(7.86)
*DIFFGRTH**			-0.00160	-0.00146
			(-7.38)	(-7.26)
*DIFFLEV**			-0.00057	-0.00064
			(-5.67)	(-6.56)
*DIFFPRICE**			-0.00119	-0.00107
			(-11.7)	(-11.5)
DSTATE			0.00488	0.00505
			(8.78)	(9.01)
DINDEX			0.00157	0.00168
			(3.55)	(3.97)
DLISTING			0.00210	0.00197
			(6.23)	(5.73)

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Table AI: Connected Comovement – All Controls (continued)

(PANEL A, continued)

	(1)	(2)	(3)	(4)
SAMESIZE ^ 2*		0.00792	0.00790	0.00773
		(4.57)	(4.46)	(4.44)
SAMESIZE ^ 3*		-0.00315	-0.00322	-0.00312
		(-3.84)	(-3.82)	(-3.75)
SIZE1 ^ 2 x SIZE2* ^ 2*		-0.06760	-0.06728	-0.06682
		(-14.0)	(-13.9)	(-13.6)
SIZE1 ^ 2*		-0.08127	-0.08031	-0.07996
		(-14.7)	(-14.5)	(-14.2)
SIZE2 ^ 2*		-0.00507	-0.00475	-0.00480
		(-2.22)	(-2.07)	(-2.08)
SIZE1 ^ 2 x SIZE2**		0.14156	0.14089	0.13944
		(15.07)	(15.00)	(14.60)
SIZE1 x SIZE2* ^ 2*		0.02687	0.02743	0.02689
		(8.70)	(8.34)	(8.31)
*BM1**				-0.00026
				(-0.09)
*BM2**				0.00088
				(0.76)
BM1 x BM2**				0.00438
				(0.99)
SAMEBM ^ 2*				-0.00613
				(-1.44)
SAMEBM ^ 3*				0.00866
				(0.95)
BM1 ^ 2 x BM2* ^ 2*				0.00763
				(1.43)
BM1 ^ 2*				-0.01096
				(-2.43)
BM2 ^ 2*				0.00958
				(3.41)
BM1 ^ 2 x BM2**				0.00631
				(0.71)
BM1 x BM2* ^ 2*				-0.01865
				(-3.07)
*MOM1**				0.00093
				(0.31)
*MOM2**				0.00066
				(0.46)
MOM1 x MOM2**				0.00529
				(1.05)
SAMEMOM ^ 2*				-0.02107
				(-4.56)
SAMEMOM ^ 3*				0.04842
				(3.41)
MOM1 ^ 2 x MOM2* ^ 2*				0.01092
				(1.14)
MOM1 ^ 2*				-0.01528
				(-2.08)
MOM2 ^ 2*				0.01808
				(5.08)
MOM1 ^ 2 x MOM2**				0.00825
				(0.55)
MOM1 x MOM2* ^ 2*				-0.05430
				(-4.87)
R-Squared	0.00032	0.00880	0.01013	0.01091
	(7.77)	(7.99)	(8.01)	(8.16)
N Observations	286725.2	286725.2	286725.2	286725.2
	(60.89)	(60.89)	(60.89)	(60.89)

Table AI: Connected Comovement – All Controls (continued)

PANEL B: Subsamples, and FM with a Trend (Corresponds to Table II, Panels B and C)

	1980-1990 (4)	1991-2000 (4)	2001-2008 (4)	INTERCEPT (4)	TREND (4)
Constant	0.00161	0.00256	0.00478	0.00288	0.00005
	(5.34)	(2.79)	(10.34)	(7.78)	(5.34)
*FCAP**	0.00087	0.00197	0.00281	0.00184	0.00002
	(8.77)	(11.76)	(5.76)	(11.07)	(3.61)
*A**	0.00375	0.01338	0.02447	0.01334	0.00028
	(15.92)	(11.95)	(30.72)	(31.90)	(21.04)
*SAMESIZE**	-0.00339	0.00006	-0.01019	-0.00402	-0.00005
	(-0.87)	(0.02)	(-1.84)	(-1.55)	(-0.55)
*SAMEBM**	-0.00451	-0.01057	0.01932	-0.00001	0.00031
	(-1.20)	(-1.87)	(3.38)	(-0.00)	(3.25)
*SAMEMOM**	-0.01240	-0.00535	-0.00415	-0.00736	0.00014
	(-3.18)	(-1.14)	(-0.55)	(-2.39)	(1.30)
*NUMSIC**	0.00238	0.00713	0.01121	0.00671	0.00012
	(13.65)	(9.59)	(18.50)	(21.08)	(11.86)
*SIZE1**	0.04463	0.04525	0.05752	0.04855	0.00009
	(8.78)	(7.32)	(5.62)	(11.72)	(0.66)
*SIZE2**	0.00866	0.01049	0.01205	0.01033	0.00003
	(1.95)	(1.58)	(1.57)	(2.84)	(0.25)
SIZE1 x SIZE2**	-0.06018	-0.06834	-0.07288	-0.06692	0.00003
	(-7.84)	(-8.54)	(-5.15)	(-11.8)	(0.18)
*RETCORR**	0.00278	0.00522	0.01076	0.00599	0.00010
	(12.57)	(10.84)	(12.62)	(17.58)	(8.75)
*ROECORR**	0.00027	0.00077	0.00162	0.00085	0.00002
	(2.75)	(5.56)	(9.34)	(10.45)	(5.81)
*VOLCORR**	0.00031	0.00076	0.00236	0.00106	0.00003
	(4.00)	(5.51)	(10.81)	(11.80)	(7.80)
*DIFFGRTH**	-0.00117	-0.00106	-0.00231	-0.00146	-0.00002
	(-9.61)	(-8.74)	(-3.65)	(-7.80)	(-2.44)
*DIFFLEV**	-0.00027	-0.00088	-0.00074	-0.00064	-0.00001
	(-2.65)	(-5.56)	(-3.53)	(-6.72)	(-1.73)
*DIFFPRICE**	-0.00071	-0.00085	-0.00178	-0.00107	-0.00001
	(-7.03)	(-6.90)	(-11.1)	(-13.3)	(-4.98)
DSTATE	0.00158	0.00404	0.01043	0.00505	0.00012
	(5.18)	(7.11)	(12.03)	(14.40)	(8.48)
DINDEX	0.00337	0.00066	0.00107	0.00168	-0.00002
	(6.82)	(1.36)	(1.00)	(4.09)	(-1.34)
DLISTING	-0.00004	0.00268	0.00335	0.00197	0.00004
	(-0.12)	(8.72)	(3.85)	(6.44)	(3.75)

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Table AI: Connected Comovement – All Controls (continued)

(PANEL B, continued)

	1980-1990	1991-2000	2001-2008	INTERCEPT	TREND
SAMESIZE ^ 2*	0.00514	0.00316	0.01685	0.00773	0.00011
	(1.91)	(1.26)	(5.41)	(4.56)	(1.87)
SAMESIZE ^ 3*	-0.00111	-0.00167	-0.00740	-0.00312	-0.00006
	(-0.83)	(-1.41)	(-5.12)	(-3.91)	(-2.30)
SIZE1 ^ 2 x SIZE2* ^ 2*	-0.05960	-0.06458	-0.07505	-0.06591	-0.00002
	(-7.80)	(-9.72)	(-6.72)	(-13.6)	(-0.13)
SIZE1 ^ 2*	-0.07935	-0.06938	-0.09477	-0.07996	-0.00006
	(-10.6)	(-7.61)	(-8.00)	(-14.3)	(-0.31)
SIZE2 ^ 2*	-0.00458	-0.00361	-0.00665	-0.00480	-0.00000
	(-1.80)	(-0.83)	(-1.37)	(-2.09)	(-0.05)
SIZE1 ^ 2 x SIZE2**	0.13338	0.12816	0.16156	0.13944	0.00004
	(9.40)	(9.43)	(7.41)	(14.63)	(0.13)
SIZE1 x SIZE2* ^ 2*	0.02195	0.03054	0.02780	0.02689	-0.00004
	(4.84)	(5.97)	(3.74)	(8.32)	(-0.39)
*BM1**	0.00532	0.00549	-0.01445	-0.00026	-0.00025
	(1.42)	(1.06)	(-3.80)	(-0.10)	(-3.29)
*BM2**	-0.00137	-0.00031	0.00508	0.00088	0.00008
	(-0.78)	(-0.15)	(2.98)	(0.79)	(2.47)
BM1 x BM2**	0.00437	0.00608	0.00214	0.00438	-0.00005
	(0.70)	(0.79)	(0.24)	(0.99)	(-0.33)
SAMEBM ^ 2*	-0.00307	-0.02086	0.00993	-0.00613	0.00013
	(-0.54)	(-3.04)	(1.22)	(-1.45)	(0.99)
SAMEBM ^ 3*	0.00807	0.04104	-0.03383	0.00866	-0.00038
	(0.84)	(2.38)	(-2.36)	(0.96)	(-1.50)
BM1 ^ 2 x BM2* ^ 2*	-0.00321	0.02175	0.00145	0.00763	0.00015
	(-0.42)	(2.16)	(0.17)	(1.44)	(0.91)
BM1 ^ 2*	-0.01963	-0.01337	0.00238	-0.01096	0.00027
	(-2.78)	(-1.94)	(0.26)	(-2.50)	(1.78)
BM2 ^ 2*	0.00369	0.01991	0.00266	0.00958	0.00004
	(0.96)	(4.25)	(0.53)	(3.42)	(0.38)
BM1 ^ 2 x BM2**	0.02383	-0.00315	-0.00152	0.00631	-0.00039
	(1.74)	(-0.21)	(-0.09)	(0.73)	(-1.38)
BM1 x BM2* ^ 2*	-0.01422	-0.05051	0.01866	-0.01865	0.00027
	(-2.55)	(-4.67)	(2.42)	(-3.11)	(1.71)
*MOM1**	0.00850	-0.00359	-0.00190	0.00093	-0.00020
	(2.70)	(-0.80)	(-0.26)	(0.32)	(-1.91)
*MOM2**	-0.00296	0.00268	0.00218	0.00066	0.00010
	(-2.14)	(1.25)	(0.59)	(0.47)	(1.89)
MOM1 x MOM2**	0.00547	0.01481	-0.00761	0.00529	-0.00011
	(1.00)	(1.76)	(-0.66)	(1.06)	(-0.63)
SAMEMOM ^ 2*	-0.01370	-0.02030	-0.03069	-0.02107	-0.00025
	(-2.84)	(-2.68)	(-2.79)	(-4.65)	(-1.50)
SAMEMOM ^ 3*	0.02436	0.01371	0.12277	0.04842	0.00121
	(2.36)	(0.78)	(3.27)	(3.57)	(2.14)
MOM1 ^ 2 x MOM2* ^ 2*	0.00531	-0.01362	0.05019	0.01092	0.00038
	(0.75)	(-0.79)	(2.50)	(1.16)	(1.29)
MOM1 ^ 2*	-0.00921	-0.02217	-0.01317	-0.01528	-0.00024
	(-1.29)	(-1.73)	(-0.77)	(-2.09)	(-0.86)
MOM2 ^ 2*	0.00754	0.01741	0.03126	0.01808	0.00034
	(2.46)	(3.23)	(3.56)	(5.40)	(2.55)
MOM1 ^ 2 x MOM2**	0.00679	0.04160	-0.03452	0.00825	-0.00015
	(0.52)	(1.45)	(-1.17)	(0.55)	(-0.32)
MOM1 x MOM2* ^ 2*	-0.02748	-0.03032	-0.11756	-0.05430	-0.00117
	(-3.89)	(-2.51)	(-3.86)	(-5.23)	(-2.55)
R-Squared	0.00175	0.00978	0.02308	0.01091	0.00029
	(13.51)	(5.65)	(13.38)	(13.88)	(11.50)
N Observations	247755.9	319918.0	287932.3	286725.2	596.2099
	(64.09)	(80.87)	(43.82)	(69.90)	(3.80)

Table AII: Quasi-natural Experiment – First Stage Regressions

This table reports results from the first stage of a 2SLS instrumental variables regression based on a quasi-natural experiment. In September 2003, 25 fund families experienced large outflows of capital as a consequence of a settlement regarding alleged illegal trading. We argue that the outflow of capital due to this scandal is an exogenous shock unrelated to the endogenous investment decisions of fund managers. In the first stage we predict the variable *FCAP** with the ratio (*RATIO*) of the total ownership in dollars by all common "scandal" funds of the two stocks over the total ownership in dollars by all common funds, both measured as of the time of the scandal (end of September of 2003). The second stage of the regression uses the fitted *FCAP** to forecast the correlation of daily Fama-French-Carhart residuals in month $t+1$. Four different specifications are shown, corresponding to the specifications shown in Table II. We add to those four groups of controls a fourth control for the level of connectedness as of the scandal, *FCAP_200309**. The left panel corresponds to the specification where directly uses the IV variable, *RATIO*, in the first stage. The right panel replaces *RATIO* in the first stage with a dummy variable that equals *1* if *RATIO* is above its median value. None of these coefficients are shown in the main body of the paper – only the second stage regressions.

	CONTINUOUS RATIO				***DISCRETE RATIO***			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant	0.07968	0.05553	-0.00303	-0.00105	0.04331	0.03250	-0.02139	-0.02021
	(9.91)	(12.34)	(-0.24)	(-0.07)	(5.84)	(7.40)	(-1.83)	(-1.53)
*RATIO**	0.03769	0.02454	0.01864	0.01970	0.07297	0.04564	0.03595	0.03737
	(20.28)	(19.09)	(14.19)	(15.79)	(25.85)	(22.09)	(14.83)	(13.02)
*FCAP_200309**	0.64029	0.53889	0.52835	0.52139	0.63994	0.53876	0.52811	0.52115
	(14.55)	(9.64)	(9.13)	(8.88)	(14.55)	(9.64)	(9.13)	(8.88)
*A**		0.01419	0.00896	0.00989		0.01414	0.00891	0.00984
		(8.53)	(7.82)	(4.69)		(8.47)	(7.73)	(4.64)
*SAMESIZE**		0.21276	0.14981	0.10458		0.21549	0.15137	0.10626
		(4.90)	(3.68)	(2.59)		(5.01)	(3.76)	(2.61)
*SAMEBM**		0.06543	0.06295	-0.15800		0.06540	0.06293	-0.15594
		(6.54)	(6.74)	(-1.98)		(6.53)	(6.73)	(-1.98)
*SAMEMOM**		0.01452	0.01234	-0.11933		0.01450	0.01231	-0.12169
		(2.71)	(2.57)	(-0.62)		(2.70)	(2.56)	(-0.63)
*NUMSIC**		0.01003	0.00621	0.00355		0.01016	0.00628	0.00363
		(20.30)	(6.49)	(2.56)		(20.38)	(6.53)	(2.61)
*SIZE1**		-0.37908	-0.45754	-0.49360		-0.36887	-0.44941	-0.48548
		(-4.50)	(-8.33)	(-6.42)		(-4.40)	(-8.18)	(-6.38)
*SIZE2**		-0.33819	-0.32782	-0.37714		-0.33566	-0.32611	-0.37519
		(-5.59)	(-5.93)	(-7.28)		(-5.53)	(-5.86)	(-7.25)
SIZE1 x SIZE2**		0.93112	1.27170	1.37814		0.90152	1.24923	1.35562
		(7.80)	(16.88)	(15.16)		(7.67)	(16.45)	(14.81)
*RETCORR**			0.03070	0.03014			0.03085	0.03031
			(7.76)	(7.32)			(7.78)	(7.35)
*ROECORR**			0.00987	0.00727			0.00986	0.00726
			(6.00)	(4.64)			(6.01)	(4.63)
*VOLCORR**			-0.01437	-0.00977			-0.01438	-0.00979
			(-8.51)	(-4.62)			(-8.48)	(-4.60)
*DIFFGRTH**			-0.00744	-0.01429			-0.00745	-0.01430
			(-3.48)	(-6.59)			(-3.47)	(-6.57)
*DIFFLEV**			-0.00935	-0.01028			-0.00930	-0.01024
			(-2.24)	(-2.79)			(-2.23)	(-2.78)
*DIFFPRICE**			-0.00721	-0.00454			-0.00717	-0.00450
			(-1.72)	(-1.28)			(-1.70)	(-1.27)
DSTATE			0.05665	0.05211			0.05665	0.05211
			(17.32)	(16.09)			(17.45)	(16.12)
DINDEX			0.10299	0.14791			0.10387	0.14887
			(4.17)	(5.93)			(4.20)	(5.96)
DLISTING			0.02389	0.03276			0.02381	0.03270
			(2.87)	(3.11)			(2.86)	(3.10)

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Table AII: Natural Experiment – First Stage Regressions (continued)

(Continued)	*CONTINUOUS RATIO*				*DISCRETE RATIO*			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
SAMESIZE ^ 2*		-0.14304	-0.07272	-0.04351		-0.14684	-0.07547	-0.04626
		(-3.26)	(-1.65)	(-0.88)		(-3.34)	(-1.69)	(-0.92)
SAMESIZE ^ 3*		0.02523	0.00896	-0.00079		0.02642	0.00987	0.00010
		(1.65)	(0.54)	(-0.04)		(1.71)	(0.59)	(0.01)
SIZE1 ^ 2 x SIZE2* ^ 2*		0.35027	0.40497	0.45306		0.33187	0.39055	0.43852
		(2.92)	(2.98)	(3.51)		(2.74)	(2.86)	(3.39)
SIZE1 ^ 2*		0.10479	0.05403	0.13418		0.09703	0.04808	0.12809
		(0.43)	(0.20)	(0.53)		(0.39)	(0.17)	(0.50)
SIZE2 ^ 2*		0.15911	0.14557	0.19168		0.15734	0.14441	0.19031
		(3.50)	(2.93)	(6.07)		(3.45)	(2.89)	(6.01)
SIZE1 ^ 2 x SIZE2**		-0.41200	-0.43606	-0.53118		-0.38591	-0.41538	-0.51047
		(-1.19)	(-1.16)	(-1.45)		(-1.11)	(-1.09)	(-1.39)
SIZE1 x SIZE2* ^ 2*		-0.53376	-0.75583	-0.83407		-0.51535	-0.74225	-0.82033
		(-8.93)	(-17.4)	(-12.6)		(-8.75)	(-17.1)	(-12.2)
*BM1**				0.19431				0.19333
				(5.11)				(5.15)
*BM2**				-0.06288				-0.06247
				(-4.54)				(-4.58)
BM1 x BM2**				-0.20932				-0.21363
				(-1.02)				(-1.04)
SAMEBM ^ 2*				-0.13847				-0.13663
				(-1.42)				(-1.40)
SAMEBM ^ 3*				0.80611				0.81136
				(2.46)				(2.48)
BM1 ^ 2 x BM2* ^ 2*				-0.15607				-0.15045
				(-0.73)				(-0.70)
BM1 ^ 2*				-0.29440				-0.28958
				(-1.63)				(-1.60)
BM2 ^ 2*				-0.01170				-0.01249
				(-0.17)				(-0.18)
BM1 ^ 2 x BM2**				0.38870				0.37759
				(0.97)				(0.94)
BM1 x BM2* ^ 2*				-0.38767				-0.38914
				(-3.21)				(-3.22)
*MOM1**				-0.02883				-0.02719
				(-0.26)				(-0.24)
*MOM2**				0.01934				0.01874
				(0.50)				(0.49)
MOM1 x MOM2**				-0.25759				-0.25392
				(-1.17)				(-1.16)
SAMEMOM ^ 2*				-0.54382				-0.54550
				(-2.71)				(-2.72)
SAMEMOM ^ 3*				0.69869				0.69476
				(4.09)				(4.09)
MOM1 ^ 2 x MOM2* ^ 2*				0.41825				0.41569
				(2.62)				(2.63)
MOM1 ^ 2*				0.42766				0.42452
				(2.43)				(2.42)
MOM2 ^ 2*				0.35627				0.35703
				(3.77)				(3.77)
MOM1 ^ 2 x MOM2**				-0.69453				-0.68857
				(-2.02)				(-2.02)
MOM1 x MOM2* ^ 2*				-0.52407				-0.52287
				(-6.71)				(-6.67)

Table AIII: Quasi-natural Experiment – Second Stage Regressions

This table reports results from the second stage of a 2SLS instrumental variables regression based on a quasi-natural experiment. In September 2003, 25 fund families experienced large outflows of capital as a consequence of a settlement regarding alleged illegal trading. We argue that the outflow of capital due to this scandal is an exogenous shock unrelated to the endogenous investment decisions of fund managers. In the first stage we predict the variable *FCAP** with the ratio (*RATIO*) of the total ownership in dollars by all common "scandal" funds of the two stocks over the total ownership in dollars by all common funds, both measured as of the time of the scandal (end of September of 2003). The second stage of the regression uses the fitted *FCAP** to forecast the correlation of daily Fama-French-Carhart residuals in month $t+1$. Four different specifications are shown, corresponding to the specifications shown in Table II. We add to those four groups of controls a fourth control for the level of connectedness as of the scandal, *FCAP_200309**. The left panel corresponds to the specification where directly uses the IV variable, *RATIO*, in the first stage. The right panel replaces *RATIO* in the first stage with a dummy variable that equals *1* if *RATIO* is above its median value. Coefficients shown in the main body of the paper (in Table III) are highlighted here in shaded area for clarity.

	CONTINUOUS RATIO				DISCRETE RATIO			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Constant	0.00440	0.00598	0.00568	0.00569	0.00448	0.00606	0.00543	0.00550
	(9.13)	(9.78)	(4.17)	(4.21)	(8.18)	(9.09)	(4.10)	(4.16)
*Fitted FCAP**	0.04204	0.04261	0.03345	0.02874	0.04107	0.04007	0.03222	0.02826
	(5.39)	(3.51)	(2.41)	(2.03)	(5.98)	(3.44)	(2.50)	(2.15)
*FCAP_200309**	-0.02167	-0.01942	-0.01405	-0.01135	-0.02123	-0.01832	-0.01392	-0.01155
	(-5.08)	(-3.68)	(-2.16)	(-1.74)	(-5.75)	(-3.64)	(-2.36)	(-1.96)
*A**		0.02399	0.02293	0.02281		0.02404	0.02294	0.02282
		(25.50)	(27.17)	(28.55)		(25.09)	(26.75)	(28.04)
*SAMESIZE**		-0.03296	-0.03178	-0.02437		-0.03189	-0.03068	-0.02364
		(-3.16)	(-3.18)	(-2.68)		(-3.22)	(-3.26)	(-2.62)
*SAMEBM**		-0.00293	-0.00285	0.01756		-0.00270	-0.00269	0.01688
		(-2.44)	(-2.31)	(1.78)		(-2.38)	(-2.34)	(1.74)
*SAMEMOM**		0.00300	0.00223	-0.00286		0.00308	0.00229	-0.00322
		(9.23)	(7.30)	(-0.23)		(9.63)	(7.45)	(-0.27)
*NUMSIC**		0.00987	0.00919	0.00927		0.00989	0.00919	0.00927
		(11.01)	(11.06)	(11.37)		(11.16)	(11.23)	(11.47)
*SIZE1**		0.06295	0.06858	0.06257		0.06119	0.06688	0.06150
		(4.84)	(4.70)	(4.80)		(5.01)	(4.86)	(4.79)
*SIZE2**		0.01170	0.00742	0.01474		0.01214	0.00865	0.01559
		(1.34)	(0.75)	(1.32)		(1.45)	(0.92)	(1.41)
SIZE1 x SIZE2**		-0.07838	-0.08848	-0.08393		-0.07609	-0.08695	-0.08323
		(-3.20)	(-2.85)	(-2.79)		(-3.30)	(-2.99)	(-2.92)
*RETCORR**			0.00850	0.00893			0.00858	0.00896
			(8.05)	(7.97)			(8.02)	(7.84)
*ROECORR**			0.00119	0.00147			0.00122	0.00148
			(1.98)	(2.74)			(2.07)	(2.80)
*VOLCORR**			0.00355	0.00322			0.00352	0.00318
			(8.46)	(8.09)			(8.46)	(8.02)
*DIFFGRTH**			-0.00302	-0.00271			-0.00306	-0.00274
			(-3.83)	(-3.64)			(-3.79)	(-3.56)
*DIFFLEV**			0.00037	0.00018			0.00035	0.00017
			(0.56)	(0.29)			(0.56)	(0.27)
*DIFFPRICE**			-0.00166	-0.00170			-0.00166	-0.00169
			(-6.39)	(-6.98)			(-6.44)	(-6.98)
DSTATE			0.00781	0.00842			0.00792	0.00849
			(6.70)	(7.88)			(7.59)	(8.72)
DINDEX			-0.00483	-0.00585			-0.00453	-0.00556
			(-2.26)	(-2.38)			(-2.22)	(-2.37)
DLISTING			0.00255	0.00187			0.00272	0.00195
			(2.54)	(1.53)			(2.68)	(1.63)

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Table AIII: Quasi-natural Experiment – Second Stage Regressions (continued)

(Continued)	*CONTINUOUS RATIO*				*DISCRETE RATIO*			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
SAMESIZE ^ 2*		0.02643	0.02462	0.02198		0.02674	0.02513	0.02233
		(3.59)	(3.55)	(3.23)		(3.67)	(3.62)	(3.28)
SAMESIZE ^ 3*		-0.00877	-0.00874	-0.00782		-0.00902	-0.00905	-0.00805
		(-2.79)	(-2.85)	(-2.64)		(-2.93)	(-2.97)	(-2.71)
SIZE1 ^ 2 x SIZE2* ^ 2*		-0.06125	-0.06533	-0.06755		-0.06240	-0.06743	-0.06914
		(-3.33)	(-3.41)	(-3.24)		(-3.33)	(-3.45)	(-3.30)
SIZE1 ^ 2*		-0.06305	-0.06682	-0.07414		-0.06548	-0.07002	-0.07614
		(-3.00)	(-3.62)	(-3.91)		(-3.13)	(-3.75)	(-3.93)
SIZE2 ^ 2*		-0.01007	-0.00832	-0.01331		-0.01064	-0.00933	-0.01396
		(-1.64)	(-1.25)	(-1.89)		(-1.83)	(-1.48)	(-2.01)
SIZE1 ^ 2 x SIZE2**		0.12109	0.12990	0.13551		0.12399	0.13426	0.13847
		(3.83)	(4.40)	(4.11)		(3.83)	(4.35)	(4.09)
SIZE1 x SIZE2* ^ 2*		0.03080	0.03540	0.03668		0.03042	0.03573	0.03714
		(2.14)	(1.77)	(1.67)		(2.21)	(1.88)	(1.78)
*BM1**				-0.01346				-0.01323
				(-2.07)				(-2.16)
*BM2**				0.00401				0.00387
				(1.40)				(1.41)
BM1 x BM2**				-0.00307				-0.00295
				(-0.25)				(-0.24)
SAMEBM ^ 2*				0.00868				0.00753
				(0.60)				(0.52)
SAMEBM ^ 3*				-0.03656				-0.03614
				(-2.44)				(-2.30)
BM1 ^ 2 x BM2* ^ 2*				0.01019				0.01059
				(0.82)				(0.89)
BM1 ^ 2*				0.02267				0.02394
				(1.76)				(1.98)
BM2 ^ 2*				0.00436				0.00489
				(0.47)				(0.54)
BM1 ^ 2 x BM2**				-0.02779				-0.02904
				(-1.36)				(-1.52)
BM1 x BM2* ^ 2*				0.02205				0.02173
				(1.87)				(1.87)
*MOM1**				0.00606				0.00528
				(0.43)				(0.36)
*MOM2**				-0.00328				-0.00297
				(-0.55)				(-0.48)
MOM1 x MOM2**				-0.01445				-0.01439
				(-0.58)				(-0.58)
SAMEMOM ^ 2*				-0.01217				-0.01419
				(-0.85)				(-0.99)
SAMEMOM ^ 3*				0.12790				0.12939
				(2.23)				(2.25)
MOM1 ^ 2 x MOM2* ^ 2*				0.09627				0.09864
				(2.76)				(2.83)
MOM1 ^ 2*				0.02667				0.02969
				(1.17)				(1.29)
MOM2 ^ 2*				0.01683				0.01829
				(1.67)				(1.73)
MOM1 ^ 2 x MOM2**				-0.12590				-0.13049
				(-2.30)				(-2.39)
MOM1 x MOM2* ^ 2*				-0.11038				-0.11211
				(-2.93)				(-2.99)

Table AIV: Quasi-natural Experiment – OLS subsample

This table reports Fama-MacBeth estimates of monthly cross-sectional regressions forecasting the correlation of returns, exactly as in Table II, but for the subsample corresponding to the quasi-natural experiment (January 2004 to December 2006), and including the control *FCAP_200309** as in the IV regressions for comparison purposes. Coefficients shown in the main body of the paper (in Table III) are highlighted here in shaded area for clarity.

OLS (Table II over this subsample)				
	(1)	(2)	(3)	(4)
Constant	0.00880	0.00874	0.00566	0.00561
	(8.32)	(8.42)	(6.74)	(6.76)
*FCAP**	0.00181	0.00062	-0.00026	0.00041
	(4.43)	(1.47)	(-0.47)	(0.83)
*FCAP_200309**	0.00234	0.00100	0.00039	0.00027
	(7.49)	(2.58)	(0.90)	(0.60)
*A**		0.02455	0.02303	0.02295
		(21.89)	(23.41)	(23.62)
*SAMESIZE**		-0.01366	-0.01463	-0.01161
		(-2.28)	(-2.31)	(-1.59)
*SAMEBM**		0.00004	-0.00053	0.00736
		(0.20)	(-2.47)	(0.95)
*SAMEMOM**		0.00380	0.00290	-0.01339
		(8.99)	(6.89)	(-1.52)
*NUMSIC**		0.01070	0.00973	0.00966
		(12.21)	(12.13)	(11.80)
*SIZE1**		0.03797	0.04211	0.04041
		(3.60)	(3.83)	(3.26)
*SIZE2**		0.00356	0.00323	0.00906
		(0.47)	(0.40)	(0.89)
SIZE1 x SIZE2**		-0.02926	-0.03544	-0.03556
		(-1.98)	(-2.21)	(-2.18)
*RETCORR**			0.00946	0.00961
			(7.30)	(7.03)
*ROECORR**			0.00141	0.00154
			(3.32)	(3.77)
*VOLCORR**			0.00281	0.00258
			(5.51)	(5.26)
*DIFFGRTH**			-0.00327	-0.00304
			(-3.30)	(-3.17)
*DIFFLEV**			-0.00021	-0.00034
			(-0.72)	(-1.24)
*DIFFPRICE**			-0.00192	-0.00182
			(-7.61)	(-7.91)
DSTATE			0.00881	0.00911
			(8.66)	(8.89)
DINDEX			0.00067	0.00024
			(0.65)	(0.21)
DLISTING			0.00275	0.00240
			(3.89)	(3.45)

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Table AIV: Quasi-natural Experiment – OLS subsample (continued)

(Continued)	(1)	(2)	(3)	(4)
SAMESIZE ^ 2*		0.01582	0.01707	0.01678
		(3.56)	(3.65)	(3.51)
SAMESIZE ^ 3*		-0.00636	-0.00703	-0.00684
		(-3.01)	(-3.15)	(-3.05)
SIZE1 ^ 2 x SIZE2* ^ 2*		-0.04193	-0.04761	-0.05192
		(-2.82)	(-3.16)	(-3.15)
SIZE1 ^ 2*		-0.06182	-0.06824	-0.07505
		(-4.84)	(-5.25)	(-5.13)
SIZE2 ^ 2*		-0.00446	-0.00432	-0.00812
		(-0.82)	(-0.77)	(-1.17)
SIZE1 ^ 2 x SIZE2**		0.09916	0.11134	0.11975
		(3.93)	(4.35)	(4.22)
SIZE1 x SIZE2* ^ 2*		0.00409	0.00663	0.00877
		(0.35)	(0.56)	(0.73)
*BM1**				-0.00779
				(-1.06)
*BM2**				0.00160
				(0.49)
BM1 x BM2**				0.00175
				(0.15)
SAMEBM ^ 2*				-0.00438
				(-0.46)
SAMEBM ^ 3*				-0.02718
				(-1.43)
BM1 ^ 2 x BM2* ^ 2*				0.00792
				(0.92)
BM1 ^ 2*				0.02276
				(1.97)
BM2 ^ 2*				0.00932
				(1.46)
BM1 ^ 2 x BM2**				-0.02323
				(-1.41)
BM1 x BM2* ^ 2*				0.01495
				(1.37)
*MOM1**				0.01249
				(1.14)
*MOM2**				-0.00540
				(-1.08)
MOM1 x MOM2**				-0.01826
				(-0.81)
SAMEMOM ^ 2*				-0.02953
				(-2.03)
SAMEMOM ^ 3*				0.15025
				(3.30)
MOM1 ^ 2 x MOM2* ^ 2*				0.09435
				(2.81)
MOM1 ^ 2*				0.02454
				(1.02)
MOM2 ^ 2*				0.02614
				(2.49)
MOM1 ^ 2 x MOM2**				-0.11779
				(-2.16)
MOM1 x MOM2* ^ 2*				-0.12807
				(-4.57)

Table AV: Cross-Sectional Variation - All Controls

This table reports Fama-MacBeth estimates of monthly cross-sectional regressions forecasting the correlation of daily Fama-French-Carhart residuals in month $t + 1$ for the sample of stocks defined in Table I. This table shows estimates for all variables and controls used in Table IV. We add interactions between *FCAP* and the total float of the pair (*PFLOAT)* and the *absolute* value of the total flows into the common funds holding the pair (*PFLOW)*. We also include a triple interaction among these three variables. *PFLOAT* is first rank transformed and then normalized to have unit standard deviation, which we denote with an asterisk superscript. We calculate Newey-West standard errors (four lags) of the Fama-MacBeth estimates that take into account autocorrelation in the cross-sectional slopes. The analysis is limited to the 1991-2008 sub-period when *PFLOAT* becomes available. Coefficients shown in the main body of the paper (Table IV) are highlighted here in shaded area for clarity.

	(1)	(2)	(3)	(4)
Intercept	0.00426	0.00454	0.00084	0.00101
	(6.74)	(6.51)	(1.19)	(1.51)
*FCAP**	0.00835	0.00428	0.00313	0.00338
	(15.95)	(12.59)	(10.86)	(12.17)
FCAP x PFLOAT**	-0.00038	-0.00016	-0.00043	-0.00038
	(-1.64)	(-0.88)	(-2.44)	(-2.10)
FCAP x PFLOW*	0.00407	0.00244	0.00253	0.00248
	(8.18)	(6.17)	(7.00)	(6.90)
FCAP x PFLOAT* x PFLOW*	-0.00051	-0.00028	-0.00050	-0.00046
	(-2.15)	(-1.39)	(-2.58)	(-2.41)
PFLOW	-0.00494	-0.00285	-0.00288	-0.00271
	(-7.43)	(-5.76)	(-6.68)	(-6.40)
*PFLOAT**	-0.00558	-0.00508	-0.00655	-0.00663
	(-11.2)	(-6.91)	(-9.37)	(-9.85)
PFLOAT x PFLOW*	-0.00040	-0.00024	-0.00003	-0.00015
	(-0.97)	(-0.78)	(-0.09)	(-0.54)
*A**		0.01967	0.01842	0.01831
		(16.42)	(16.53)	(16.31)
*SAMESIZE**		-0.00122	-0.00176	-0.00136
		(-0.30)	(-0.42)	(-0.33)
*SAMEBM**		0.00058	-0.00010	0.00284
		(3.20)	(-0.76)	(0.55)
*SAMEMOM**		0.00308	0.00188	-0.00643
		(8.28)	(5.99)	(-1.59)
*NUMSIC**		0.01020	0.00926	0.00921
		(15.44)	(15.30)	(15.04)
*SIZE1**		0.03946	0.03993	0.03905
		(6.93)	(6.61)	(6.31)
*SIZE2**		0.01709	0.01574	0.01583
		(3.23)	(3.00)	(3.04)
SIZE1 x SIZE2**		-0.08768	-0.09345	-0.09037
		(-10.1)	(-10.1)	(-9.86)
*RETCORR**			0.00808	0.00819
			(12.35)	(12.42)
*ROECORR**			0.00113	0.00120
			(8.59)	(9.17)
*VOLCORR**			0.00157	0.00152
			(8.93)	(9.08)
*DIFFGRTH**			-0.00187	-0.00163
			(-5.65)	(-5.33)
*DIFFLEV**			-0.00092	-0.00097
			(-6.04)	(-6.71)
*DIFFPRICE**			-0.00134	-0.00119
			(-9.73)	(-9.34)
DSTATE			0.00685	0.00704
			(9.44)	(9.57)
DINDEX			0.00156	0.00142
			(2.65)	(2.60)
DLISTING			0.00333	0.00313
			(7.03)	(6.46)

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Table AV: Cross-Sectional Variation - All Controls (continued)

(Continued)	(1)	(2)	(3)	(4)
SAMESIZE ^ 2*		0.00893	0.00864	0.00803
		(3.16)	(2.96)	(2.79)
SAMESIZE ^ 3*		-0.00432	-0.00436	-0.00410
		(-3.44)	(-3.38)	(-3.23)
SIZE1 ^ 2 x SIZE2* ^ 2*		-0.08500	-0.08440	-0.07861
		(-9.42)	(-10.3)	(-10.5)
SIZE1 ^ 2*		-0.07567	-0.07195	-0.06840
		(-9.78)	(-9.93)	(-9.89)
SIZE2 ^ 2*		-0.01115	-0.00980	-0.00987
		(-3.39)	(-3.01)	(-3.04)
SIZE1 ^ 2 x SIZE2**		0.15605	0.15414	0.14464
		(10.16)	(10.98)	(11.10)
SIZE1 x SIZE2* ^ 2*		0.04978	0.05201	0.05026
		(8.80)	(8.94)	(8.93)
*BM1**				-0.00370
				(-0.86)
*BM2**				0.00260
				(1.52)
BM1 x BM2**				0.00622
				(0.93)
SAMEBM ^ 2*				-0.00756
				(-1.22)
SAMEBM ^ 3*				0.01007
				(0.67)
BM1 ^ 2 x BM2* ^ 2*				0.01270
				(1.47)
BM1 ^ 2*				-0.01261
				(-1.99)
BM2 ^ 2*				0.01309
				(3.19)
BM1 ^ 2 x BM2**				0.00344
				(0.25)
BM1 x BM2* ^ 2*				-0.02416
				(-2.34)
*MOM1**				-0.00116
				(-0.27)
*MOM2**				0.00179
				(0.83)
MOM1 x MOM2**				0.00721
				(0.98)
SAMEMOM ^ 2*				-0.02839
				(-4.41)
SAMEMOM ^ 3*				0.06774
				(3.19)
MOM1 ^ 2 x MOM2* ^ 2*				0.01519
				(1.06)
MOM1 ^ 2*				-0.02401
				(-2.16)
MOM2 ^ 2*				0.02695
				(5.11)
MOM1 ^ 2 x MOM2**				0.01258
				(0.55)
MOM1 x MOM2* ^ 2*				-0.07618
				(-4.57)
R-Squared	0.00151	0.01497	0.01705	0.01822
	(6.55)	(9.59)	(9.53)	(9.66)
N Observations	239471.9	239471.9	239471.9	239471.9
	(56.47)	(56.47)	(56.47)	(56.47)

Table AVI: Robustness to other measures of connectedness

This table reports Fama-MacBeth estimates of monthly cross-sectional regressions forecasting the correlation of returns. The variables are the same as in Table II, but here we show robustness of our results to different measures of the connectedness variable. We only show results for the specifications in which all controls are included (column 4 in Table II). The first column replicates the last column in Table II, for comparison purposes. In the second column we use *FCAP*, when the variable is not rank-transformed, to show that the results do not depend on the rank-transformation of the variable. In the third and fourth columns we show the results when the commonality variable is the total number of common owners for each pair of stocks, which we label *F*, and results are shown when the variable is both rank-transformed, *F**, and not rank-transformed, *F.* None of the coefficients in columns 2 to 4 are shown in the main body of the paper. Coefficients shown in the main body of the paper (Table II, column 4) are highlighted here in shaded area for clarity.

	FCAP*	FCAP	F*	F
	(4)	(4)	(4)	(4)
Constant	0.00288	0.23012	0.00286	0.00038
	(6.85)	(16.15)	(9.96)	(10.66)
Commonality variable	0.00184	0.00129	0.00353	0.00100
	(9.85)	(3.15)	(8.04)	(2.30)
*A**	0.01334	0.01328	0.01333	0.01330
	(11.77)	(11.74)	(11.76)	(11.72)
*SAMESIZE**	-0.00402	-0.00285	-0.00576	-0.00255
	(-1.54)	(-1.11)	(-2.20)	(-0.99)
*SAMEBM**	-0.00001	0.00004	0.00039	0.00017
	(-0.00)	(0.01)	(0.12)	(0.05)
*SAMEMOM**	-0.00736	-0.00741	-0.00700	-0.00726
	(-2.36)	(-2.37)	(-2.22)	(-2.33)
*NUMSIC**	0.00671	0.00670	0.00671	0.00672
	(12.03)	(11.98)	(12.04)	(12.04)
*SIZE1**	0.04855	0.04690	0.05012	0.06954
	(11.66)	(11.51)	(12.00)	(13.89)
*SIZE2**	0.01033	0.01244	0.00941	0.01880
	(2.83)	(3.46)	(2.58)	(5.01)
SIZE1 x SIZE2**	-0.06692	-0.06799	-0.06352	-0.12136
	(-11.8)	(-12.0)	(-11.5)	(-14.5)
*RETCORR**	0.00599	0.00597	0.00598	0.00601
	(11.78)	(11.71)	(11.80)	(11.70)
*ROECORR**	0.00085	0.00084	0.00085	0.00085
	(8.08)	(7.99)	(8.05)	(7.95)
*VOLCORR**	0.00106	0.00105	0.00106	0.00105
	(7.86)	(7.77)	(7.87)	(7.75)
*DIFFGRTH**	-0.00146	-0.00145	-0.00145	-0.00146
	(-7.26)	(-7.20)	(-7.22)	(-7.25)
*DIFFLEV**	-0.00064	-0.00064	-0.00062	-0.00064
	(-6.56)	(-6.57)	(-6.38)	(-6.50)
*DIFFPRICE**	-0.00107	-0.00106	-0.00105	-0.00105
	(-11.5)	(-11.4)	(-11.3)	(-11.3)
DSTATE	0.00505	0.00492	0.00504	0.00503
	(9.01)	(8.86)	(8.97)	(8.96)
DINDEX	0.00168	0.00192	-0.00100	-0.00051
	(3.97)	(4.64)	(-1.61)	(-0.87)
DLISTING	0.00197	0.00196	0.00193	0.00206
	(5.73)	(5.70)	(5.58)	(5.79)

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Table AVI: Robustness to other measures of connectedness (continued)

(Continued)	FCAP*	FCAP	F*	F
	(4)	(4)	(4)	(4)
SAMESIZE ^ 2*	0.00773	0.00675	0.01006	0.00729
	(4.44)	(3.94)	(5.46)	(4.20)
SAMESIZE ^ 3*	-0.00312	-0.00292	-0.00392	-0.00371
	(-3.75)	(-3.53)	(-4.48)	(-4.34)
SIZE1 ^ 2 x SIZE2* ^ 2*	-0.06591	-0.06293	-0.06738	-0.10117
	(-13.6)	(-13.1)	(-13.7)	(-15.9)
SIZE1 ^ 2*	-0.07996	-0.07480	-0.08640	-0.10395
	(-14.2)	(-13.5)	(-14.8)	(-16.4)
SIZE2 ^ 2*	-0.00480	-0.00657	-0.00414	-0.01137
	(-2.08)	(-2.91)	(-1.79)	(-4.82)
SIZE1 ^ 2 x SIZE2**	0.13944	0.13156	0.14614	0.19833
	(14.60)	(13.99)	(14.92)	(16.69)
SIZE1 x SIZE2* ^ 2*	0.02689	0.02909	0.02366	0.06052
	(8.31)	(9.04)	(7.49)	(12.92)
*BM1**	-0.00026	-0.00026	-0.00054	-0.00034
	(-0.09)	(-0.09)	(-0.19)	(-0.12)
*BM2**	0.00088	0.00083	0.00099	0.00088
	(0.76)	(0.72)	(0.85)	(0.77)
BM1 x BM2**	0.00438	0.00510	0.00367	0.00423
	(0.99)	(1.15)	(0.83)	(0.95)
SAMEBM ^ 2*	-0.00613	-0.00596	-0.00591	-0.00618
	(-1.44)	(-1.41)	(-1.39)	(-1.45)
SAMEBM ^ 3*	0.00866	0.00679	0.00956	0.00880
	(0.95)	(0.75)	(1.06)	(0.97)
BM1 ^ 2 x BM2* ^ 2*	0.00763	0.00576	0.00836	0.00700
	(1.43)	(1.08)	(1.57)	(1.30)
BM1 ^ 2*	-0.01096	-0.01194	-0.01020	-0.01115
	(-2.43)	(-2.62)	(-2.25)	(-2.45)
BM2 ^ 2*	0.00958	0.00946	0.00955	0.00970
	(3.41)	(3.37)	(3.39)	(3.44)
BM1 ^ 2 x BM2**	0.00631	0.00893	0.00476	0.00689
	(0.71)	(1.00)	(0.54)	(0.77)
BM1 x BM2* ^ 2*	-0.01865	-0.01735	-0.01903	-0.01851
	(-3.07)	(-2.89)	(-3.18)	(-3.08)
*MOM1**	0.00093	0.00139	0.00080	0.00124
	(0.31)	(0.47)	(0.27)	(0.42)
*MOM2**	0.00066	0.00040	0.00067	0.00051
	(0.46)	(0.27)	(0.46)	(0.35)
MOM1 x MOM2**	0.00529	0.00591	0.00489	0.00446
	(1.05)	(1.17)	(0.97)	(0.89)
SAMEMOM ^ 2*	-0.02107	-0.02021	-0.02057	-0.02069
	(-4.56)	(-4.37)	(-4.42)	(-4.45)
SAMEMOM ^ 3*	0.04842	0.04623	0.04836	0.04977
	(3.41)	(3.28)	(3.41)	(3.53)
MOM1 ^ 2 x MOM2* ^ 2*	0.01092	0.00920	0.01092	0.01128
	(1.14)	(0.97)	(1.15)	(1.18)
MOM1 ^ 2*	-0.01528	-0.01651	-0.01497	-0.01531
	(-2.08)	(-2.24)	(-2.04)	(-2.07)
MOM2 ^ 2*	0.01808	0.01732	0.01778	0.01779
	(5.08)	(4.86)	(4.96)	(4.97)
MOM1 ^ 2 x MOM2**	0.00825	0.01093	0.00787	0.00769
	(0.55)	(0.73)	(0.53)	(0.51)
MOM1 x MOM2* ^ 2*	-0.05430	-0.05252	-0.05399	-0.05477
	(-4.87)	(-4.75)	(-4.85)	(-4.94)
R-Squared	0.01091	0.01097	0.01094	0.01091
	(8.16)	(8.18)	(8.16)	(8.18)
N Observations	286725.2	285967.0	285967.0	285967.0
	(60.89)	(61.10)	(61.10)	(61.10)

Table AVII: Alphas on Connected Stocks Trading Strategies

This table presents the profitability of a simple trading strategy exploiting stock connectedness. We independently sort stocks into quintiles based on their own return over the last three months and the return on their connected portfolio over the last three months. This table differs from Table V in that we have used FCAP* instead of FCAPO* to determine the weights on a stock's connected portfolio. We thus define the connected return as $r_{iC,t} = \sum_{j=1}^{J} FCAP_{ij,t-1}^{**} r_{j,t} / \sum_{j=1}^{J} FCAP_{ij,t-1}^{**}$ where $FCAP_{ij,t}^{**} = FCAP_{ij,t}^{*}$ if $FCAP_{ij,t} > 0$ and $FCAP_{ij,t}^{**} = 0$ if $FCAP_{ij,t} = 0$. Following Jegadeesh and Titman (1993), each composite portfolio below is an equal-weight average of the corresponding simple strategies initiated one to five months prior. The table reports the five-factor alphas on these 25 composite portfolios. The five factors include the four Fama-French/Carhart factors plus a short-term reversal factor, all downloaded from Ken French's website. We also report the average returns on a connected stocks trading strategy (*CS*) which buys the low own return / low connected return composite portfolio and sells the high own return / high connected return composite portfolio.

Five factor alphas

		Connected portfolio return						
		Low	2	3	4	High	L - H	Avg L - H
	Low	0.0031	0.0044	0.0034	0.0028	0.0004	0.0027	
		(2.34)	(4.26)	(3.39)	(2.40)	(0.30)	(1.49)	
	2	0.0043	0.0043	0.0024	0.0023	0.0013	0.0031	
Own		(4.09)	(4.93)	(2.89)	(2.58)	(1.27)	(2.48)	
Return	3	0.0033	0.0021	0.0016	0.0008	0.0001	0.0032	0.0030
		(3.45)	(2.44)	(1.94)	(0.91)	(0.14)	(2.73)	(2.72)
	4	0.0030	0.0006	0.0004	-0.0006	-0.0006	0.0036	
		(2.89)	(0.74)	(0.44)	(-.82)	(-.75)	(3.08)	
	High	0.0007	0.0009	-0.0011	-0.0016	-0.0016	0.0023	
		(0.54)	(0.91)	(-1.4)	(-1.9)	(-1.7)	(1.49)	
	L - H	0.0024	0.0035	0.0045	0.0044	0.0020	**0.0048**	**LL–HH (*CS*)**
		(1.66)	(3.03)	(3.95)	(3.45)	(1.41)	**(2.76)**	

Table AVIII: Connected Strategy and Liquidity Risk

This table measures the loadings of the connected stock trading strategy on a liquidity factor as well as on trend and quarter dummies. We study the connected strategy, *CS*, formed in Table V, which buys the low own return / low connected return composite portfolio and sells the high own return / high connected return composite portfolio. This table differs from Table VI in that we have used FCAP* instead of FCAPO* to determine the weights on a stock's connected portfolio. We regress the return on this trading strategy on a constant, the liquidity factor (PS_INNOV) from the work of Pastor and Stambaugh (2003), the Fama-French/Carhart factors, a short-term reversal factor (*STR*), a trend, and seasonal (quarterly) dummies over the period June 1980 to December 2008. Column 1 reports loadings of the return on our connected strategy on the five factors used in Table V. Column 2 adds PS_INNOV as an explanatory variable. Columns 3 and 4 include a trend or quarterly seasonal dummies respectively as additional explanatory variables.

Dependent Variable: Connected Stock Trading Strategy Return				
	1	2	3	4
Alpha	0.0048	0.0048	0.0048	0.0117
	(2.79)	(2.84)	(2.79)	(3.59)
PS_INNOV		0.0790		
		(2.85)		
RMRF	-0.0121	-0.0502	-0.0127	-0.0163
	(-0.29)	(-1.16)	(-0.30)	(-0.39)
SMB	-0.3854	-0.3913	-0.3853	-0.3692
	(-6.98)	(-7.16)	(-6.97)	(-6.62)
HML	-0.1497	-0.1666	-0.1505	-0.1297
	(-2.46)	(-2.76)	(-2.46)	(-2.12)
UMD	-0.9700	-0.9665	-0.9701	-0.9707
	(-23.7)	(-23.8)	(-23.6)	(-23.7)
STR	0.0162	0.0236	0.0161	0.0243
	(0.31)	(0.46)	(0.31)	(0.47)
Trend			-0.0000	
			(-0.13)	
Q1				-0.0095
				(-2.03)
Q2				-0.0100
				(-2.16)
Q3				-0.0088
				(-1.90)
Obs	341	341	341	341
R2	68%	69%	69%	69%

Table AIX: Hedge Fund and Mutual Fund Exposure to the Connected Strategy

This table measures the exposure of two CSFB hedge fund return indexes (all and long/short) as well as the value-weight average active mutual fund return (net of fees) to the connected strategy described in Table V. This table differs from Table VI in that we have used FCAP* instead of FCAPO* to determine the weights on a stock's connected portfolio. We regress fund index returns in excess of the Treasury bill rate on a constant, the connected strategy and either the eight Fung and Hsieh (2001, 2004) hedge fund factors or the Fama-French/Carhart model plus a short-term reversal factor (*STR*). The time period is January 1994 to December 2008. The analysis adds as additional explanatory variables the return on the connected stocks trading strategy (*CS*) of Table V as well as an interaction between *CS* and the lagged, demeaned, normalized change in the VIX (ΔVIX).

	HF ALL		HF LONG/SHORT		MF ALL
Alpha	0.0024	0.0023	0.0027	0.0017	-0.0010
	(1.96)	(2.04)	(2.70)	(1.49)	(-2.75)
CS	-0.0595	-0.1149	-0.0820	-0.1903	-0.0208
	(-1.64)	(-5.59)	(-2.82)	(-9.20)	(-1.97)
$CS * \Delta VIX_{t-1}$	-0.0037	-0.0017	-0.0090	-0.0080	-0.0015
	(-0.82)	(-0.41)	(-2.46)	(-1.89)	(-1.15)
RMRF	0.3374		0.4756		0.9534
	(11.17)		(19.66)		(108.4)
SMB	0.0714		0.1359		0.0538
	(1.79)		(4.27)		(4.64)
HML	0.0238		-0.1011		-0.0267
	(0.59)		(-3.16)		(-2.29)
UMD	0.0812		0.1325		0.0042
	(1.84)		(3.75)		(0.33)
STR	-0.0459		-0.0638		-0.0191
	(-1.39)		(-2.42)		(-1.99)
Bond-trend		-0.0220		-0.0113	
		(-2.81)		(-1.44)	
Currency-trend		0.0131		0.0071	
		(2.12)		(1.13)	
Commodity-trend		0.0109		-0.0011	
		(1.24)		(-0.12)	
Equity Market		0.1708		0.3616	
		(4.44)		(9.34)	
Size Spread		0.0467		0.1827	
		(1.31)		(5.11)	
Bond Market		-0.1390		-0.0318	
		(-3.70)		(-0.84)	
Credit Spread		-0.2134		-0.0423	
		(-4.00)		(-0.79)	
Emerging Market		0.0870		0.0880	
		(3.49)		(3.51)	
Obs	182	182	182	182	182
RSquare	53%	59%	82%	75%	99%

Table AX: Aggregate and Firm-level VAR

Panel A shows the OLS parameter estimates for a first-order monthly aggregate VAR model including a constant, the log excess market return ($r^e_{M,t+1}$), the term yield spread (*TY*), the log price-earnings ratio (*PE*), and the small-stock value spread (*VS*). Each set of two rows corresponds to a different dependent variable. The first five columns report coefficients on the five explanatory variables and the sixth column reports the corresponding adjusted R^2. Standard errors are in parentheses. The sample period for the dependent variables is December 1928 - May 2009, providing 966 monthly data points. Panel B shows the pooled-WLS parameter estimates for a first-order monthly firm-level VAR model. The model state vector includes the log stock return (r), stock momentum (MOM), and the log book-to-market (BM). We define MOM as the cumulative stock return over the last year, but excluding the most recent month. All three variables are market-adjusted: r is adjusted by subtracting r_M while MOM and BM are adjusted by removing the respective month-specific cross-sectional means. Rows correspond to dependent variables and columns to independent (lagged dependent) variables. The first three columns report coefficients on the three explanatory variables and the fourth column reports the corresponding adjusted R^2. The weights used in the WLS estimation are proportional to the inverse of the number of stocks in the corresponding cross section. Standard errors (in parentheses) take into account clustering in each cross section. The sample period for the dependent variables is January 1954 - December 2008, providing 660 monthly cross-sections and 1,658,049 firm-months.

PANEL A: Aggregate VAR

Variable	Constant	$r^e_{M,t}$	TY_t	PE_t	VS_t	*R-Squared*
$r^e_{M,t+1}$	0.0674	0.1118	0.0040	-0.0164	-0.0117	2.81%
	(0.0189)	(0.0318)	(0.0025)	(0.0048)	(0.0054)	
TY_{t+1}	-0.0278	0.0001	0.9212	-0.0051	0.0620	86.40%
	(0.0943)	(0.1585)	(0.0127)	(0.0243)	(0.0269)	
PE_{t+1}	0.0244	0.5181	0.0015	0.9923	-0.003	99.10%
	(0.0126)	(0.0212)	(0.0017)	(0.0032)	(0.0036)	
VS_{t+1}	0.0180	0.0045	0.0008	-0.0010	0.9903	98.24%
	(0.0169)	(0.0283)	(0.0022)	(0.0043)	(0.0048)	

PANEL B: Firm-level VAR

Variable	$r_{i,t}$	$MOM_{i,t}$	$BM_{i,t}$	*R-Squared*
$r_{i,t+1}$	-0.0470	0.0206	0.0048	0.64%
	(0.0066)	(0.0023)	(0.0007)	
$MOM_{i,t+1}$	0.9555	0.9051	-0.0015	91.85%
	(0.0052)	(0.0018)	(0.0007)	
$BM_{i,t+1}$	0.0475	-0.0107	0.9863	97.10%
	(0.0050)	(0.0017)	(0.0011)	

Table AXI: Connected Comovement and Return Decomposition

This table reports Fama-MacBeth estimates of monthly cross-sectional regressions forecasting the cross products of the return components (cash-flow-news and discount-rate-news), *CFxCF*, *CFxDR,* and *DRxDR* for the sample of stocks defined in Table II. The independent variables are exactly as in Table II, and we use the specification number (4), where all controls are included. The return news components are constructed from the aggregate and firm-level VARs estimated in Table AX as described in the Appendix. We calculate Newey-West standard errors (four lags) of the Fama-MacBeth estimates that take into account autocorrelation in the cross-sectional slopes.

	CF x CF	*CF x DR*	*DR x DR*
	(4)	(4)	(4)
*FCAP**	0.00008	0.00013	0.00001
	(3.94)	(5.58)	(2.96)
Constant	0.00056	-0.00094	0.00205
	(6.70)	(-5.03)	(8.93)
*A**	0.00010	-0.00002	0.00000
	(9.75)	(-3.91)	(1.20)
*SAMESIZE**	-0.00012	-0.00005	0.00018
	(-0.81)	(-0.19)	(2.09)
*SAMEBM**	-0.00038	0.00055	-0.00025
	(-2.14)	(1.58)	(-2.57)
*SAMEMOM**	-0.00056	0.00145	0.00005
	(-1.79)	(4.49)	(0.46)
*NUMSIC**	0.00008	0.00001	0.00001
	(8.76)	(1.05)	(2.89)
*SIZE1**	0.00038	0.00047	-0.00021
	(1.82)	(1.25)	(-1.80)
*SIZE2**	0.00026	-0.00010	0.00017
	(1.10)	(-0.29)	(1.52)
SIZE1 x SIZE2**	-0.00040	-0.00039	0.00017
	(-1.40)	(-0.97)	(1.53)
*RETCORR**	0.00022	0.00004	0.00004
	(4.80)	(1.20)	(5.19)
*ROECORR**	0.00002	0.00002	0.00000
	(3.66)	(2.68)	(0.78)
*VOLCORR**	0.00003	0.00001	0.00000
	(3.46)	(1.03)	(1.50)
*DIFFGRTH**	-0.00005	0.00012	-0.00001
	(-3.32)	(5.36)	(-1.43)
*DIFFLEV**	-0.00000	-0.00000	0.00000
	(-0.79)	(-0.02)	(1.91)
*DIFFPRICE**	-0.00001	0.00004	0.00000
	(-1.80)	(3.19)	(0.07)
DSTATE	0.00012	0.00017	0.00000
	(5.34)	(5.13)	(0.55)
DINDEX	-0.00001	0.00007	0.00002
	(-0.39)	(1.00)	(1.24)
DLISTING	0.00018	-0.00024	0.00002
	(2.09)	(-3.52)	(1.29)

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Table AXI: Connected Comovement and Return Decomposition (cont'd)

(Continued)	*CF x CF*	*CF x DR*	*DR x DR*
Variable	(4)	(4)	(4)
SAMESIZE ^ 2*	0.00023	-0.00018	-0.00010
	(1.89)	(-0.94)	(-1.76)
SAMESIZE ^ 3*	-0.00009	0.00008	0.00004
	(-1.91)	(1.06)	(1.89)
SIZE1 ^ 2 x SIZE2* ^ 2*	-0.00051	0.00075	0.00025
	(-1.65)	(1.35)	(1.50)
SIZE1 ^ 2*	-0.00084	0.00056	0.00020
	(-1.96)	(0.80)	(1.01)
SIZE2 ^ 2*	-0.00021	0.00010	-0.00007
	(-1.38)	(0.47)	(-1.02)
SIZE1 ^ 2 x SIZE2**	0.00120	-0.00128	-0.00050
	(1.87)	(-1.10)	(-1.47)
SIZE1 x SIZE2* ^ 2*	0.00022	0.00002	-0.00002
	(1.43)	(0.14)	(-0.47)
*BM1**	0.00057	-0.00099	0.00035
	(2.47)	(-3.25)	(4.93)
*BM2**	-0.00017	0.00033	-0.00012
	(-2.15)	(3.18)	(-4.93)
BM1 x BM2**	-0.00046	0.00084	-0.00027
	(-1.13)	(1.46)	(-1.77)
SAMEBM ^ 2*	0.00019	-0.00034	0.00008
	(0.59)	(-0.67)	(0.54)
SAMEBM ^ 3*	0.00202	-0.00223	0.00099
	(2.26)	(-2.55)	(4.64)
BM1 ^ 2 x BM2* ^ 2*	0.00097	0.00094	-0.00011
	(2.02)	(1.29)	(-0.57)
BM1 ^ 2*	-0.00059	0.00173	-0.00037
	(-1.18)	(1.93)	(-1.51)
BM2 ^ 2*	-0.00043	0.00070	-0.00024
	(-1.54)	(1.80)	(-2.48)
BM1 ^ 2 x BM2**	-0.00054	-0.00226	0.00033
	(-0.68)	(-1.51)	(0.82)
BM1 x BM2* ^ 2*	-0.00132	0.00109	-0.00053
	(-2.55)	(2.95)	(-5.59)
*MOM1**	0.00053	-0.00169	-0.00011
	(1.50)	(-5.34)	(-1.37)
*MOM2**	0.00001	0.00060	0.00004
	(0.07)	(5.34)	(1.51)
MOM1 x MOM2**	-0.00169	-0.00215	-0.00001
	(-2.24)	(-3.49)	(-0.04)
SAMEMOM ^ 2*	-0.00087	-0.00046	-0.00010
	(-2.30)	(-1.05)	(-0.96)
SAMEMOM ^ 3*	0.00795	0.00117	0.00007
	(3.35)	(1.75)	(0.54)
MOM1 ^ 2 x MOM2* ^ 2*	0.00359	0.00503	0.00053
	(3.83)	(5.41)	(2.54)
MOM1 ^ 2*	-0.00062	0.00598	0.00038
	(-0.90)	(5.11)	(1.50)
MOM2 ^ 2*	0.00050	0.00107	0.00011
	(1.77)	(2.89)	(1.75)
MOM1 ^ 2 x MOM2**	-0.00327	-0.01012	-0.00084
	(-2.79)	(-5.34)	(-1.97)
MOM1 x MOM2* ^ 2*	-0.00568	-0.00037	-0.00013
	(-3.92)	(-1.41)	(-2.23)
R-Squared	0.02378	0.06155	0.05551
	(10.29)	(15.73)	(17.75)
N Obs	285967.0	285967.0	285967.0
	(61.10)	(61.10)	(61.10)