Internet Appendix for "Anomalies and the Expected Market Return"

XI DONG, YAN LI, DAVID E. RAPACH, and GUOFO ZHOU*

This Internet Appendix provides additional information supporting the results reported in the paper. Section I derives predictive regression slope coefficients for the data-generating process in Section I of the paper. Section II furnishes details for constructing the out-of-sample forecasts outlined in Section II.A of the paper. Section III provides definitions for the 100 anomaly portfolios used in the paper. This Internet Appendix also includes 14 tables and a figure:

- Table IA.I: Anomalies
- Table IA.II: R^2_{OS} Statistics for Short-Leg Excess Returns
- Table IA.III: Cross-Autocorrelations
- Table IA.IV: Sharpe Ratios
- Table IA.V: Subsample Results
- Table IA.VI: R^2_{OS} Statistics for Popular Predictors
- Table IA.VII: Annualized Utility Gains for Popular Predictors
- Table IA.VIII: Forecast Encompassing Tests
- Table IA.IX: Forecast Relationships
- Table IA.X: R^2_{OS} Statistics for Multi-Period Returns
- Table IA.XI: R^2_{OS} Statistics for Industry Excess Returns
- Table IA.XII: Standardized Slope Coefficient Estimates

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- Table IA.XIII: Anomaly Subgroups
- Table IA.XIV: R^2_{OS} Statistics for Subgroups Based on Double Sorts
- Figure IA.1: Histograms for Sample Autocovariances

I. Slope Coefficients

This section provides derivations for the predictive regression slope coefficients in Sections I.B to I.D of the paper.

A. Data-Generating Process

The prices for the long and short legs of an anomaly portfolio contain a common martingale component with period t increment f_t; the long-leg (short-leg) price also contains a stationary component $u_{L,t} \leq 0$ ($u_{S,t} \geq 0$) related to the level of underpricing (overpricing), which is uncorrelated with the common component, so that $\text{cov}(f_t, u_{l,t}) = 0$ for $l = L, S$. The log return in each leg is then given by

$$r_{l,t} = f_t + \Delta u_{l,t} \quad \text{for } l = L, S, \tag{IA.1}$$

where $r_{L,t}$ ($r_{S,t}$) is the long-leg (short-leg) return, $\Delta u_{l,t}$ is the change in mispricing, and $\text{cov}(f_t, \Delta u_{l,t}) = 0$ for $l = L, S$. Using equation (IA.1), the long-short anomaly portfolio return $r_{LS,t}$ can be expressed as

$$r_{LS,t} = \Delta u_{L,t} - \Delta u_{S,t}. \tag{IA.2}$$

When the long and short legs together comprise the market, the (equal-weighted) market return is given by

$$r_{M,t} = f_t + 0.5(\Delta u_{L,t} + \Delta u_{S,t}). \tag{IA.3}$$

Using the Wold representation theorem, the stationary component in each leg related to mispricing can be expressed as

$$u_{l,t} = \sum_{j=0}^{\infty} \psi_{l,j} v_{l,t-j} \quad \text{for } l = L, S, \tag{IA.4}$$

where $\psi_{l,0} = 1$, $v_{L,t} \leq 0$ ($v_{S,t} \geq 0$) is a serially uncorrelated underpricing (overpricing) shock, $\text{var}(v_{l,t}) \geq 0$, $\sum_{j=1}^{\infty} \psi_{l,j}^2 < \infty$ (square summability), and $\psi_{l,j} \geq 0$ for $j \geq 1$ (to ensure that $u_{L,t} \leq 0$ and $u_{S,t} \geq 0$). We assume that $v_{L,t}$ and $v_{S,t}$ are uncorrelated. Taking the first difference of equation (IA.4), we obtain the expression for the change in mispricing:

$$\Delta u_{l,t} = \sum_{j=0}^{\infty} \tilde{\psi}_{l,j} v_{l,t-j} \quad \text{for } l = L, S, \tag{IA.5}$$

where $\tilde{\psi}_{l,0} = \psi_{l,0} = 1$ and $\tilde{\psi}_{l,j} = \psi_{l,j} - \psi_{l,j-1}$ for $j \geq 1$.

B. Predictive Regressions

Consider the following predictive regressions:

$$r_{M,t+1} = \alpha_L + \beta_L r_{L,t} + \varepsilon_{L,t+1}, \tag{IA.6}$$

$$r_{M,t+1} = \alpha_S + \beta_S r_{S,t} + \varepsilon_{S,t+1}, \tag{IA.7}$$

$$r_{M,t+1} = \alpha_{LS} + \beta_{LS} r_{LS,t} + \varepsilon_{LS,t+1}, \tag{IA.8}$$

$$r_{M,t+1} = \alpha_M + \beta_M r_{M,t} + \varepsilon_{M,t+1}, \tag{IA.9}$$

where $\varepsilon_{L,t+1}$, $\varepsilon_{S,t+1}$, $\varepsilon_{LS,t+1}$, and $\varepsilon_{M,t+1}$ are zero-mean, serially uncorrelated disturbance terms. Using equations (IA.1) to (IA.3), the standardized slope coefficients for the pre-

dictive regressions in equations (IA.6) to (IA.9) are given by

$$\begin{aligned}\tilde{\beta}_L &= \frac{\text{cov}(r_{M,t+1}, r_{L,t})}{[\text{var}(r_{L,t})]^{0.5}} \\ &= \frac{\text{cov}(f_{t+1} + 0.5(\Delta u_{L,t+1} + \Delta u_{S,t+1}), f_t + \Delta u_{L,t})}{[\text{var}(f_t + \Delta u_{L,t})]^{0.5}} \\ &= \frac{0.5\text{cov}(\Delta u_{L,t+1}, \Delta u_{L,t})}{[\text{var}(f_t) + \text{var}(\Delta u_{L,t})]^{0.5}},\end{aligned} \tag{IA.10}$$

$$\begin{aligned}\tilde{\beta}_S &= \frac{\text{cov}(r_{M,t+1}, r_{S,t})}{[\text{var}(r_{S,t})]^{0.5}} \\ &= \frac{\text{cov}(f_{t+1} + 0.5(\Delta u_{L,t+1} + \Delta u_{S,t+1}), f_t + \Delta u_{S,t})}{[\text{var}(f_t + \Delta u_{S,t})]^{0.5}} \\ &= \frac{0.5\text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t})}{[\text{var}(f_t) + \text{var}(\Delta u_{S,t})]^{0.5}},\end{aligned} \tag{IA.11}$$

$$\begin{aligned}\tilde{\beta}_{LS} &= \frac{\text{cov}(r_{M,t+1}, r_{LS,t})}{[\text{var}(r_{LS,t})]^{0.5}} \\ &= \frac{\text{cov}(f_{t+1} + 0.5(\Delta u_{L,t+1} + \Delta u_{S,t+1}), \Delta u_{L,t} - \Delta u_{S,t})}{[\text{var}(\Delta u_{L,t} - \Delta u_{S,t})]^{0.5}} \\ &\frac{0.5[\text{cov}(\Delta u_{L,t+1}, \Delta u_{L,t}) - \text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t})]}{[\text{var}(\Delta u_{L,t}) + \text{var}(\Delta u_{S,t})]^{0.5}},\end{aligned} \tag{IA.12}$$

$$\begin{aligned}\tilde{\beta}_M &= \frac{\text{cov}(r_{M,t+1}, r_{M,t})}{[\text{var}(r_{M,t})]^{0.5}} \\ &= \frac{\text{cov}(f_{t+1} + 0.5(\Delta u_{L,t+1} + \Delta u_{S,t+1}), f_t + 0.5(\Delta u_{L,t} + \Delta u_{S,t}))}{[\text{var}(f_t + 0.5(\Delta u_{L,t} + \Delta u_{S,t}))]^{0.5}} \\ &= \frac{0.5^2[\text{cov}(\Delta u_{L,t+1}, \Delta u_{L,t}) + \text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t})]}{\{0.5^2[0.5^{-2}\text{var}(f_t) + \text{var}(\Delta u_{L,t}) + \text{var}(\Delta u_{S,t})]\}^{0.5}} \\ &= \frac{0.5[\text{cov}(\Delta u_{L,t+1}, \Delta u_{L,t}) + \text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t})]}{[4\text{var}(f_t) + \text{var}(\Delta u_{L,t}) + \text{var}(\Delta u_{S,t})]^{0.5}},\end{aligned} \tag{IA.13}$$

respectively.

Using equation (IA.5), we have the following expressions, which are useful for deriving $\text{cov}(\Delta u_{l,t+1}, \Delta u_{l,t})$ for $l = L, S$:

$$\Delta u_{l,t} = v_{l,t} + \sum_{j=1}^{\infty}(\psi_{l,j} - \psi_{l,j-1})v_{l,t-j}, \tag{IA.14}$$

$$\Delta u_{l,t+1} = v_{l,t+1} + (\psi_{l,1} - 1)v_{l,t} + \sum_{j=2}^{\infty}(\psi_{l,j} - \psi_{l,j-1})v_{l,t+1-j}. \tag{IA.15}$$

Based on equations (IA.14) and (IA.15), we have

$$\text{cov}(\Delta u_{l,t+1}, \Delta u_{l,t}) = \left[(\psi_{l,1} - 1) + \sum_{j=1}^{\infty}(\psi_{l,j} - \psi_{l,j-1})(\psi_{l,j+1} - \psi_{l,j})\right]\text{var}(v_{l,t}) \text{ for } l = L, S. \tag{IA.16}$$

Assuming that $\text{var}(v_{l,t}) > 0$, the autocovariance in equation (IA.16) will be positive when

$$(\psi_{l,1} - 1) + \sum_{j=1}^{\infty}(\psi_{l,j} - \psi_{l,j-1})(\psi_{l,j+1} - \psi_{l,j}) > 0, \tag{IA.17}$$

which we can rewrite as

$$\sum_{j=1}^{\infty}(\psi_{l,j} - \psi_{l,j-1})(\psi_{l,j+1} - \psi_{l,j}) > -(\psi_{l,1} - 1). \tag{IA.18}$$

If equation (IA.18) holds, then $\tilde{\beta}_l > 0$ in equation (IA.10) or (IA.11). If

$$\text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t}) > \text{cov}(\Delta u_{L,t+1}, \Delta u_{L,t}), \tag{IA.19}$$

then $\tilde{\beta}_{LS} < 0$ in equation (IA.12).

When $\text{cov}(\Delta u_{L,t+1}, \Delta u_{L,t}) = 0$, we have $\tilde{\beta}_L = 0$ in equation (IA.10). The slope coefficients in equations (IA.12) and (IA.13) then become

$$\tilde{\beta}_{LS}\big|_{\tilde{\beta}_L=0} = \frac{-0.5\text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t})}{[\text{var}(\Delta u_{L,t}) + \text{var}(\Delta u_{S,t})]^{0.5}}, \tag{IA.20}$$

$$\tilde{\beta}_{M}\big|_{\tilde{\beta}_L=0} = \frac{0.5\text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t})}{[4\text{var}(f_t) + \text{var}(\Delta u_{L,t}) + \text{var}(\Delta u_{S,t})]^{0.5}}, \tag{IA.21}$$

respectively.

Suppose that

$$r^i_{LS,t} = \Delta u_{L,t} - \Delta u_{S,t} + \omega^i_t \quad \text{for } i = i, \ldots, n, \tag{IA.22}$$

where ω_t^i is a serially uncorrelated shock, $\text{cov}(\Delta u_{L,t}, \omega_{i,t}) = \text{cov}(\Delta u_{S,t}, \omega_{i,t}) = \text{cov}(f_t, \omega_{i,t}) = 0$, and $\text{cov}\big(\omega_t^i, \omega_t^j\big) = 0$ for $i \neq j$. Consider the following predictive regression:

$$r_{M,t+1} = \alpha_{LS}^i + \beta_{LS}^i r_{LS,t}^i + \varepsilon_{LS,t+1}^i. \tag{IA.23}$$

The standardized slope coefficient for the predictive regression in equation (IA.23) is given by

$$\begin{aligned}
\tilde{\beta}_{LS}^i &= \frac{\text{cov}\big(r_{M,t+1}, r_{LS,t}^i\big)}{\big[\text{var}\big(r_{LS,t}^i\big)\big]^{0.5}} \\
&= \frac{\text{cov}(f_{t+1} + 0.5(\Delta u_{L,t+1} + \Delta u_{S,t+1}), \Delta u_{L,t} - \Delta u_{S,t} + \omega_t^i)}{[\text{var}(\Delta u_{L,t} - \Delta u_{S,t} + \omega_t^i)]^{0.5}} \\
&= \frac{0.5[\text{cov}(\Delta u_{L,t+1}, \Delta u_{L,t}) - \text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t})]}{[\text{var}(\Delta u_{L,t}) + \text{var}(\Delta u_{S,t}) + \text{var}(\omega_t^i)]^{0.5}}.
\end{aligned} \tag{IA.24}$$

Assuming that $\text{cov}(\Delta u_{L,t+1}, \Delta u_{L,t}) = \tilde{\beta}_L = 0$, the standardized slope coefficient in equation (IA.24) becomes

$$\tilde{\beta}_{LS}^i\big|_{\tilde{\beta}_L = 0} = \frac{-0.5\text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t})}{[\text{var}(\Delta u_{L,t}) + \text{var}(\Delta u_{S,t}) + \text{var}(\omega_t^i)]^{0.5}}. \tag{IA.25}$$

Next, consider the predictive regression

$$r_{M,t+1} = \alpha_{LS}^{\text{Avg}} + \beta_{LS}^{\text{Avg}} \bar{r}_{LS,t} + \varepsilon_{LS,t+1}^{\text{Avg}}, \tag{IA.26}$$

where

$$\bar{r}_{LS,t} = \frac{1}{n}\sum_{i=1}^{n} r_{LS,t}^i = \Delta u_{L,t} - \Delta u_{S,t} + \frac{1}{n}\sum_{i=1}^{n} \omega_t^i. \tag{IA.27}$$

The standardized slope coefficient for the predictive regression in equation (IA.26) is given by

$$\begin{aligned}\tilde{\beta}_{LS}^{\text{Avg}} &= \frac{\text{cov}(r_{M,t+1}, \bar{r}_{LS,t})}{[\text{var}(\bar{r}_{LS,t})]^{0.5}} \\ &= \frac{\text{cov}\big(f_{t+1} + 0.5(\Delta u_{L,t+1} + \Delta u_{S,t+1}), \Delta u_{L,t} - \Delta u_{S,t} + \frac{1}{n}\sum_{i=1}^{n}\omega_t^i\big)}{\big[\text{var}\big(\Delta u_{L,t} - \Delta u_{S,t} + \frac{1}{n}\sum_{i=1}^{n}\omega_t^i\big)\big]^{0.5}} \\ &= \frac{0.5[\text{cov}(\Delta u_{L,t+1}, \Delta u_{L,t}) - \text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t})]}{\big[\text{var}(\Delta u_{L,t}) + \text{var}(\Delta u_{S,t}) + \frac{1}{n}\overline{\text{var}}(\omega_t^i)\big]^{0.5}},\end{aligned} \tag{IA.28}$$

where $\overline{\text{var}}(\omega_t^i) = \frac{1}{n}\sum_{i=1}^{n}\text{var}(\omega_t^i)$. When $\text{cov}(\Delta u_{L,t+1}, \Delta u_{L,t}) = \tilde{\beta}_L = 0$, the slope coefficient in equation (IA.28) simplifies to

$$\tilde{\beta}_{LS}^{\text{Avg}}\big|_{\tilde{\beta}_L=0} = \frac{-0.5\text{cov}(\Delta u_{S,t+1}, \Delta u_{S,t})}{\big[\text{var}(\Delta u_{L,t}) + \text{var}(\Delta u_{S,t}) + \frac{1}{n}\overline{\text{var}}(\omega_t^i)\big]^{0.5}}. \tag{IA.29}$$

II. Forecast Construction

This section provides details for the construction of the out-of-sample forecasts described in Section II.A of the paper.

A. Prevailing Mean Benchmark

The prevailing mean forecast is given by

$$\hat{r}_{M,t+1|t}^{\text{PM}} = \frac{1}{t}\sum_{s=1}^{t} r_{M,s}, \tag{IA.30}$$

which corresponds to the random walk with drift (or constant expected excess return) model

$$r_{M,t+1} = \alpha + \varepsilon_{t+1}, \tag{IA.31}$$

where $r_{M,t+1}$ is the period $t+1$ market excess return and ε_{t+1} is a zero-mean disturbance term.

B. *Conventional OLS*

The conventional ordinary least squares (OLS) forecast is based on a multiple predictive regression that includes all of the lagged predictor variables,

$$r_{M,t+1} = \alpha + \sum_{i=1}^{n} \beta_i r^i_{LS,t} + \varepsilon_{t+1}, \tag{IA.32}$$

where $r^i_{LS,t}$ is the long-short anomaly portfolio return for $i = 1, \ldots, n$. It is straightforward to use OLS to generate a forecast of $r_{M,t+1}$ based on information available through period t:

$$\hat{r}^{\text{OLS}}_{M,t+1|t} = \hat{\alpha}^{\text{OLS}}_{(1:t)} + \sum_{i=1}^{n} \hat{\beta}^{\text{OLS}}_{i,(1:t)} r^i_{LS,t}, \tag{IA.33}$$

where $\hat{\alpha}^{\text{OLS}}_{(1:t)}$ and $\hat{\beta}^{\text{OLS}}_{i,(1:t)}$ are the OLS estimates of α and β_i, respectively, for $i = 1, \ldots, n$ in equation (IA.32) based on data available from the start of the sample through period t.

C. *ENet*

The elastic net (ENet; Zou and Hastie (2005)) objective function for estimating the parameters in equation (IA.32) can be expressed as

$$\underset{\alpha,\beta_1,\ldots,\beta_N \in \mathbb{R}}{\arg\min} \left[\frac{1}{2t} \sum_{s=1}^{t} \left(r_{M,s} - \alpha - \sum_{i=1}^{n} \beta_i r^i_{LS,s-1} \right)^2 + \lambda P_\delta(\beta_1, \ldots, \beta_n) \right], \tag{IA.34}$$

where

$$P_\delta(\beta_1, \ldots, \beta_n) = 0.5(1-\delta) \sum_{i=1}^{n} \beta_i^2 + \delta \sum_{i=1}^{n} |\beta_i|, \tag{IA.35}$$

$\lambda \geq 0$ is a regularization parameter, and δ is a parameter for blending the ℓ_1 and ℓ_2 components in the penalty term. The parameter λ governs the degree of shrinkage. When $\lambda = 0$, there is no shrinkage, so that the objection function in equation (IA.34) coincides with that for OLS. Because equation (IA.35) includes an ℓ_1 component, like the LASSO, the ENet permits shrinkage to zero (for sufficiently large λ) and hence it performs

variable selection. A potential drawback to the LASSO, which corresponds to $\delta = 1$ in equation (IA.35), is that it tends to somewhat arbitrarily select one predictor from a group of highly correlated predictors. The ENet mitigates this tendency by including an ℓ_2 component in the penalty. We follow the recommendation of Hastie and Qian (2016) and set $\delta = 0.5$ in equation (IA.35).

To implement ENet estimation of equation (IA.32), we need to choose the value of λ in equation (IA.34). A popular approach is K-fold cross validation; however, the number and definition of the folds need to be specified, and it is difficult to know a priori which specifications are the most appropriate. To circumvent these issues, we rely on the corrected Akaike (1973) information criterion (Hurvich and Tsai (1989)) to select λ. Flynn, Hurvich, and Simonoff (2013) show that the corrected Akaike information criterion has desirable asymptotic properties and performs well in finite-sample simulations for selecting λ for objective functions based on the smoothly clipped absolute deviation (SCAD; Fan and Li (2001)) and LASSO penalties, which are similar to the ENet penalty. With λ in hand, the ENet forecast is given by

$$\hat{r}^{\text{ENet}}_{M,t+1|t} = \hat{\alpha}^{\text{ENet}}_{(1:t)} + \sum_{i=1}^{n} \hat{\beta}^{\text{ENet}}_{i,(1:t)} r^{i}_{LS,t}, \tag{IA.36}$$

where $\hat{\alpha}^{\text{ENet}}_{(1:t)}$ and $\hat{\beta}^{\text{ENet}}_{i,(1:t)}$ are the ENet estimates of α and β_i, respectively, for $i = 1, \ldots, n$ in equation (IA.32) based on data available through period t.

D. *Simple Combination*

Instead of starting with the multiple predictive regression in equatiion (IA.32), forecast combination begins with a set of univariate predictive regressions based on the individual predictors,

$$r_{M,t+1} = \eta_i + \theta_i r^{i}_{LS,t} + \varepsilon_{i,t+1}, \tag{IA.37}$$

for $i = 1, \ldots, n$. Corresponding to each individual predictor, $r^i_{LS,t}$ for $i = 1, \ldots, n$, we compute a forecast based on equation (IA.37):

$$\hat{r}^i_{M,t+1|t} = \hat{\eta}_{i,(1:t)} + \hat{\theta}_{i,(1:t)} r^i_{LS,t}, \tag{IA.38}$$

where $\hat{\eta}_{i,(1:t)}$ and $\hat{\theta}_{i,(1:t)}$ are the OLS estimates of η_i and θ_i, respectively, in equation (IA.37) based on data available through period t. A combination forecast is then computed as a convex combination of the individual univariate predictive regression forecasts in equation (IA.38). The simple combination forecast is the arithmetic mean of the individual forecasts in equation (IA.38),

$$\hat{r}^{\mathrm{C}}_{M,t+1|t} = \frac{1}{n} \sum_{i=1}^{n} \hat{r}^i_{M,t+1|t}. \tag{IA.39}$$

As shown by Rapach, Strauss, and Zhou (2010), the simple combination forecast exerts a strong shrinkage effect by making two adjustments to the conventional OLS forecast in equation (IA.33): first, it replaces the OLS multiple predictive regression slope coefficient estimates with their univariate counterparts, thereby increasing the efficiency of the parameter estimates; second, averaging across the individual forecasts shrinks the slope coefficient estimates by the factor $1/n$, thereby shrinking the forecast toward the prevailing mean.

E. Combination ENet

To refine the combination forecast, consider the following Granger and Ramanathan (1984) multiple regression that relates the actual return to the individual univariate predictive regression forecasts in equation (IA.38):

$$r_{M,t} = \phi + \sum_{i=1}^{n} \chi_i \hat{r}^i_{M,t|t-1} + \varepsilon_t. \tag{IA.40}$$

We estimate equation (IA.40) via the ENet over a holdout out-of-sample period and refine the combination forecast by averaging only across the individual univariate predictive regression forecasts selected by the ENet.

We compute the C-ENet forecast by proceeding in three steps.

Step 1: For each predictor variable, compute recursive univariate predictive regression forecasts based on equation (IA.38) over the holdout out-of-sample period,

$$\hat{r}^{i}_{M,s|s-1} = \hat{\eta}_{i,(1:s-1)} + \hat{\theta}_{i,(1:s-1)} r^{i}_{LS,s-1}, \tag{IA.41}$$

for $s = t_1 + 1, \ldots, t$ and $i = 1, \ldots, n$, where t_1 is the length of the initial in-sample estimation period.

Step 2: Estimate the Granger and Ramanathan (1984) regression in equation (IA.40) via the ENet over the holdout out-of-sample period,

$$r_{M,s} = \phi + \sum_{i=1}^{n} \chi_i \hat{r}^{i}_{M,s|s-1} + \varepsilon_s, \tag{IA.42}$$

for $s = t_1+1, \ldots, t$. Let $\mathcal{I}_t \subseteq \{1, \ldots, n\}$ denote the index set of individual univariate predictive regression forecasts selected by the ENet in equation (IA.42).[1]

Step 3: Compute the C-ENet forecast as

$$\hat{r}^{\text{C-ENet}}_{M,t+1|t} = \frac{1}{|\mathcal{I}_t|} \sum_{i \in \mathcal{I}_t} \hat{r}^{i}_{M,t+1|t}, \tag{IA.43}$$

where $|\mathcal{I}_t|$ is the cardinality of $\mathcal{I}_t$ and $r^{i}_{M,t+1|t}$ is given by equation (IA.38) for $i = 1, \ldots, n$.

[1] In the spirit of Campbell and Thompson (2008) and Pettenuzzo, Timmermann, and Valkanov (2014), we impose the economically reasonable restriction that $\chi_i \geq 0$ for $i = 1, \ldots, n$ when estimating equation (IA.42) via the ENet, so that an individual univariate predictive regression forecast needs to be positively related to the actual market excess return to be selected by the ENet in equation (IA.42).

F. *Predictor Average*

The predictor average forecast is based on the following univariate predictive regression:

$$r_{M,t+1} = \alpha + \beta \bar{r}_{LS,t} + \varepsilon_{t+1}, \tag{IA.44}$$

where

$$\bar{r}_{LS,t} = \frac{1}{n} \sum_{i=1}^{N} r^i_{LS,t}. \tag{IA.45}$$

The predictor average forecast is given by

$$\hat{r}^{\text{Avg}}_{M,t+1|t} = \hat{\alpha}^{\text{Avg}}_{(1:t)} + \hat{\beta}^{\text{Avg}}_{(1:t)} \bar{r}_{LS,t}, \tag{IA.46}$$

where $\hat{\alpha}^{\text{Avg}}_{(1:t)}$ and $\hat{\beta}^{\text{Avg}}_{(1:t)}$ are the OLS estimates of α and β, respectively, in equation (IA.44) based on data through period t. Equation (IA.46) incorporates information from the entire set of predictors in a low-dimensional predictive regression.

G. *Principal Component*

We compute the first principal component for the set of predictors and use the lagged principal component as the explanatory variable in a univariate predictive regression:

$$r_{M,t+1} = \alpha + \beta Z_t + \varepsilon_{t+1}, \tag{IA.47}$$

where Z_t is the first principal component for the set of predictors. The first principal component is a (normalized) linear combination of the predictors that explains as much of the total variation in the predictors as possible. Based on equation (IA.47), the principal component forecast is given by

$$\hat{r}_{M,t+1|t} = \hat{\alpha}^{\text{PC}}_{(1:t)} + \hat{\beta}^{\text{PC}}_{(1:t)} \hat{Z}_{t,(1:t)}, \tag{IA.48}$$

where $\hat{\alpha}^{\text{PC}}_{(1:t)}$ and $\hat{\beta}^{\text{PC}}_{(1:t)}$ are the OLS estimates of α and β, respectively, in equation (IA.47) and $\hat{Z}_{t,(1:t)}$ is the first principal component for the set of predictors, all computed based on data through period t.

H. PLS

Analogously to equation (IA.47), we specify a univariate predictive regression model,

$$r_{M,t+1} = \alpha + \beta Z^*_t + \varepsilon_{t+1}, \tag{IA.49}$$

where Z^*_t is the target-relevant factor for the set of predictors.[2] Analogously to equation (IA.48), the partial least squares (PLS) forecast is given by

$$\hat{r}^{\text{PLS}}_{M,t+1|t} = \hat{\alpha}^{\text{PLS}}_{(1:t)} + \hat{\beta}^{\text{PLS}}_{(1:t)} \hat{Z}^*_{t,(1:t)}, \tag{IA.50}$$

where $\hat{\alpha}^{\text{PLS}}_{(1:t)}$ and $\hat{\beta}^{\text{PLS}}_{(1:t)}$ are the OLS estimates of α and β, respectively, in equation (IA.49) and $\hat{Z}^*_{t,(1:t)}$ is the target-relevant factor for the set of predictors, all computed based on data through period t.

III. Anomaly Portfolio Definitions

This section provides definitions for the anomaly portfolios.[3]

Absolute value of accruals (ABSACC): At the beginning of each month, we sort stocks into deciles based on the absolute value of accruals (Bandyopadhyay, Huang, and Wirjanto (2010)) for the most recent reporting year. Accruals are income before extraordinary items (Compustat annual item IB) minus net cash flow from operating activities (item OANCF), all divided by the average of total assets (item AT) for the current and previous

[2]See Kelly and Pruitt (2013, 2015) for details on computing the target-relevant factor.

[3]For a number of anomalies, the definitions follow Hou, Xue, and Zhang (2020).

years. If data are missing for the above formula, we use the definition

$$\text{Accruals} = \frac{(\Delta\text{CA} - \Delta\text{Cash}) - (\Delta\text{CL} - \Delta\text{STD} - \Delta\text{TP}) - \text{Dep}}{\text{Average total assets}},$$

where ΔCA is the change in current assets (item ACT), ΔCash is the change in cash and short-term investments (item CHE), ΔCL is the change in current liabilities (item LCT), ΔSTD is the change in debt in current liabilities (item DCL), ΔTP is the change in income taxes payable (item TXP), and Dep is depreciation and amortization (item DP). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Accruals (ACC): At the beginning of each month, we sort stocks into deciles based on accruals (Sloan (1996)) for the most recent reporting year. ACC is income before extraordinary items (Compustat annual item IB) minus net cash flow from operating activities (item OANCF), all divided by the average of total assets (item AT) for the current and previous years. If data are missing for the above formula, we use the definition

$$\text{Accruals} = \frac{(\Delta\text{CA} - \Delta\text{Cash}) - (\Delta\text{CL} - \Delta\text{STD} - \Delta\text{TP}) - \text{Dep}}{\text{Average total assets}},$$

where ΔCA is the change in current assets (item ACT), ΔCash is the change in cash and short-term investments (item CHE), ΔCL is the change in current liabilities (item LCT), ΔSTD is the change in debt in current liabilities (item DCL), ΔTP is the change in income taxes payable (item TXP), and Dep is Depreciation and Amortization (item DP). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Firm age (AGE): At the beginning of each month, we sort stocks into deciles based on firm age (Jiang, Lee, and Zhang (2005)). AGE is the number of years that a firm has been listed in the Compustat database.

Asset growth (AGR): At the beginning of each month, we sort stocks into deciles based on asset growth (Cooper, Gulen, and Schill (2008)) for the most recent reporting year.

AGR is the growth in total assets (Computat annual item AT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Short-term beta (BETA1): At the beginning of each month, we sort stocks into deciles based on market beta (Fama and MacBeth (1973)) estimated over the prior 52 weeks (i.e., one year). The market beta is estimated using the CRSP equal-weighted market excess return.

Short-term smoothed beta (BETA1LAG): At the beginning of each month, we sort stocks into deciles based on smoothed market beta (Hou and Moskowitz (2005)) estimated over the prior 52 weeks (i.e., one year). The smoothed market beta is the average of the slope coefficients estimated from a regression of the excess return on the contemporaneous value and four lags of the CRSP equal-weighted market excess return.

Long-term beta (BETA3): At the beginning of each month, we sort stocks into deciles based on market beta (Fama and MacBeth (1973)) estimated over the prior 156 weeks (i.e., three years). The market beta is estimated using the CRSP equal-weighted market excess return.

Long-term smoothed beta (BETA3LAG): At the beginning of each month, we sort stocks into deciles based on smoothed market beta (Hou and Moskowitz (2005)) estimated over the prior 156 weeks (i.e., three years). The smoothed market beta is the average of the slope coefficients estimated from a regression of the excess return on the contemporaneous value and four lags of the CRSP equal-weighted market excess return.

Book to market (BM): At the beginning of each month, we sort stocks into deciles based on book to market (Rosenberg, Reid, and Lanstein (1985)) for the most recent reporting year. BM is common/ordinary equity (Compustat annual item CEQ) divided by market equity (from CRSP). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Cash to assets (CASH): At the beginning of each month, we sort stocks into deciles based on cash to assets (Palazzo (2012)) for the most recent reporting quarter. CASH is cash and short-term investments (Compustat quarterly item CHEQ) divided by total assets (item ATQ). The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Cash flow to debt (CASHDEBT): At the beginning of each month, we sort stocks into deciles based on cash flow to long-term debt (Ou and Penman (1989)) for the most recent reporting year. CASHDEBT is income before extraordinary items (Compustat annual item IB) plus depreciation and amortization (item DP), all divided by total long-term debt (item DLTT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Cash productivity (CASHPR): At the beginning of each month, we sort stocks into deciles based on cash productivity (Chandrashekar and Rao (2009)) for the most recent reporting year. CASHPR is market equity (from CRSP) minus common/ordinary equity (Compustat annual item CEQ), all divided by cash and short-term investments (item CHEQ). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the end of the current month.

Composite equity issuance, annual rebalancing (CEIANN): At the beginning of July of each year, we sort stocks into deciles based on composite equity issuance (Daniel and Titman (2006)). Composite equity issuance is the annual growth in market equity minus the stock return (from CRSP). Monthly portfolio returns are calculated for July of year t to June of year $t+1$.

Composite equity issuance, fiscal-year rebalancing (CEIFY): At the beginning of each month, we sort stocks into deciles based on composite equity issuance (Daniel and Titman (2006)) for the most recent reporting fiscal year. Composite equity issuance is the annual growth in market equity minus the stock return (from CRSP) for the fiscal year. The most recent reporting fiscal year is the closest one that ends (according to item DATADATE) at least four months before the end of the current month.

Composite equity issuance, monthly rebalancing (CEIMO): At the beginning of each month, we sort stocks into deciles based on composite equity issuance (Daniel and Titman (2006)). Composite equity issuance is the annual growth in market equity minus the stock return (from CRSP); the measure is lagged by four months.

Industry-adjusted cash flow to price (CFPIA): At the beginning of each month, we sort stocks into deciles based on industry-adjusted cash flow to price (Lakonishok, Shleifer, and Vishny (1994), Asness, Porter, and Stevens (2000)) for the most recent reporting year. Cash flow to price is net cash flow from operating activities (Compustat annual item OANCF) divided by market equity (from CRSP). If missing, cash flow is defined as income before extraordinary items (item IB) minus the change in working capital (item WCAP). We demean cash flow to price within each industry, where the industries are defined using two-digit SIC codes. The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Cash flow to price (CFPJUN): At the beginning of July of each year, we sort stocks into deciles based on cash flow to price (Lakonishok, Shleifer, and Vishny (1994)). Cash flow is given by

$$\text{Cash flow} = \frac{\text{IB} + [\text{MVE}/(\text{AT} - \text{BE} + \text{MVE})]\text{DP} + \text{TXDC}}{\text{MVE}},$$

where IB is income before extraordinary items (Compustat annual item IB), MVE is market equity (from CRSP), AT is total assets (item AT), BE is book equity, DP is depreciation and amortization (item DP), and TXDC is deferred taxes (item TXDC, if available). BE is shareholders' equity plus balance sheet deferred taxes and investment tax credit (item TXDITC, if available) minus the book value of preferred stock (item PSTKRV); depending on availability, we use (1) stockholders' equity (item SEQ), (2) common equity (item CEQ) plus the book value of preferred stock, or (3) total assets minus total liabilities (item LT) in that order for shareholders' equity. The cash flow to price used to form portfolios at the beginning of July of year t is the cash flow for the

fiscal year ending in calendar year $t-1$ divided by market equity at the end of December of year $t-1$. Monthly portfolio returns are calculated for July of year t to June of year $t+1$.

Industry-adjusted change in asset turnover (CHATOIA): At the beginning of each month, we sort stocks into deciles based on the industry-adjusted change in asset turnover (Soliman (2008)) for the most recent reporting year. Change in asset turnover is the change in net sales (Compustat annual item SALE) divided by total assets (item AT). We demean the change in asset turnover within each industry, where the industries are defined using two-digit SIC codes. The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Industry-adjusted % change in employees (CHEMPIA): At the beginning of each month, we sort stocks into deciles based on the industry-adjusted percent change in the number of employees (Asness, Porter, and Stevens (2000), Belo, Lin, and Bazdresch (2014)) for the most recent reporting year. If the number of employees (Compustat annual item EMP) is missing, then we assume no change for that year. We demean employee growth within each industry, where the industries are defined using two-digit SIC codes. The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Change in forecasted earnings per share (CHFEPS): At the beginning of each month, we sort stocks into deciles based on the change in forecasted earnings per share (Hawkins, Chamberlin, and Daniel (1984)) for the most recent reporting fiscal year. We compute the average of the forecasts of earnings per share (from I/B/E/S) for the quarters comprising the current fiscal year. The most recent reporting fiscal year is the closest one that ends (according to item DATADATE) before the beginning of the current month.

Change in inventories (CHINV): At the beginning of each month, we sort stocks into deciles based on the change in inventories (Thomas and Zhang (2002)) for the most recent reporting year. CHINV is the change in total inventories (Compustat annual item

INVT) divided by total assets (item AT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Industry-adjusted change in profit margin (CHPMIA): At the beginning of each month, we sort stocks into deciles based on the industry-adjusted change in profit margin (Soliman (2008)) for the most recent reporting year. Profit margin is income before extraordinary items (Compustat annual item IB) divided by net sales (item SALE). We demean the change in profit margin within each industry, where the industries are defined using two-digit SIC codes. The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

% change in tax expense (CHTAX): At the beginning of each month, we sort stocks into deciles based on the percent change in tax expense (Thomas and Zhang (2011)) for the most recent reporting quarter. CHTAX is the percent change in tax expense (Compustat quarterly item TXTQ) computed from four quarters ago to the current quarter. The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Capital investment (CINVEST): At the beginning of each month, we sort stocks into deciles based on capital investment (Titman, Wei, and Xie (2004)) for the most recent reporting quarter. Investment is the quarterly change in gross property, plant, and equipment (Compustat quarterly item PPEGTQ) plus the quarterly change in inventories (item INVTQ), all divided by net sales (item SALEQ). CHINVEST is the deviation of investment from its mean over the previous four quarters. The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Composite earnings surprise (CSUE): At the beginning of each month, we sort stocks into deciles based on composite earnings surprise (Foster, Olsen, and Shevlin (1984)) for the most recent reporting quarter. Composite earnings surprise is the first nonmissing

value of standardized earning surprise or earnings forecast error. Standardized earnings surprise is income before extraordinary items (Compustat quarterly item IBQ) minus income before extraordinary items from four quarters ago, all divided by market equity (from CRSP). Forecast error is the difference between actual earnings and forecasted earnings per share (from I/B/E/S), all divided by the share price (from CRSP). The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Current ratio (CURRAT): At the beginning of each month, we sort stocks into deciles based on the current ratio (Ou and Penman (1989)) for the most recent reporting year. CURRAT is current assets (Compustat annual item ACT) divided by current liabilities (item LCT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Depreciation to gross PP&E (DEPR): At the beginning of each month, we sort stocks into deciles based on depreciation to gross PP&E (Holthausen and Larcker (1992)) for the most recent reporting quarter. DEPR is depreciation and amortization (Compustat quarterly item DPQ) divided by gross property, plant, and equipment (item PPEGTQ). The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Dollar trading volume (DOLVOL): At the beginning of each month, we sort stocks into deciles based on dollar trading volume from two months ago (Chordia, Subrahmanyam, and Anshuman (2001)). DOLVOL is the number of shares traded times the share price (from CRSP).

Change in quarterly return on assets (DROAQ): At the beginning of each month, we sort stocks into deciles based on the change in quarterly return on assets (Hou, Xue, and Zhang (2020)) for the most recent reporting quarter. Return on assets is income before extraordinary items (Compustat quarterly item IBQ) divided by the previous quarter's total assets (item ATQ). DROAQ is the quarterly return on assets minus its value from

four quarters ago. The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Change in quarterly return on equity (DROEQ): At the beginning of each month, we sort stocks into deciles based on the change in quarterly return on equity (Hou, Xue, and Zhang (2020)) for the most recent reporting quarter. Return on equity is income before extraordinary items (Compustat quarterly item IBQ) divided by the previous quarter's common/ordinary equity (item CEQQ). DROAQ is the quarterly return on assets minus its value from four quarters ago. The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Earnings announcement return (EAR): At the beginning of each month, we sort stocks into deciles based on the earnings announcement return (Chan, Jegadeesh, and Lakonishok (1996)) for the most recent earnings announcement. EAR is the three-day cumulative return surrounding the earnings announcement date (from I/B/E/S). The most recent earnings announcement is the closest announcement preceding the current month.

Book equity growth (EGR): At the beginning of each month, we sort stocks into deciles based on book equity growth (Richardson et al. (2005)) for the most recent reporting year. EGR is the growth in common/ordinary equity (Compustat annual item CEQ). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Earnings to price (EP): At the beginning of each month, we sort stocks into deciles based on earnings to price (Basu (1977)) for the most recent reporting year. EP is income before extraordinary items (Compustat annual item IB) divided by market equity (from CRSP). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Earnings forecast error (FERR): At the beginning of each month, we sort stocks into deciles based on the earnings forecast error (Kothari (2001)) for the most recent reporting

quarter. FERR is the difference between actual earnings and forecasted earnings per share (from I/B/E/S), all divided by the share price (from CRSP). The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Failure probability (FP): At the beginning of each month, we sort stocks into deciles based on failure probability (Campbell, Hilscher, and Szilagyi (2008)) for the most recent reporting quarter. FP is given by

$$\begin{aligned}\text{FP} = &-9.16 - 20.26\text{NIMTAAVG} + 1.42\text{TLMTA} - 7.13\text{EXRETAVG} \\ &+ 1.41\text{SIGMA} - 0.045\text{RSIZE} - 2.13\text{CASHMTA} + 0.075\text{MB} - 0.058\text{PRICE},\end{aligned}$$

where NIMTAAVG is the adjusted average of NIMTA over the past year, with NIMTA net income (Compustat quarterly item NIQ) divided by firm scale and firm scale the sum of total liabilities (item LTQ) and market equity (from CRSP); TLMTA is total liabilities divided by firm scale; EXRETAVG is the adjusted average of EXRET over the past year, with EXRET the monthly log return minus the S&P 500 log return; SIGMA is the daily standard deviation of the return for the most recent three months expressed on an annualized basis; RSIZE is the log of the ratio of market equity to that of the S&P500; CASHMTA is cash and short-term investments (item CHEQ) divided by firm scale; MB is market equity divided by common/ordinary equity (item CEQQ); and PRICE is the log of the share price, truncated above at \$15. All explanatory variables (except PRICE) are winsorized above and below at the 5% level in the cross section. The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Gross profitability to assets (GPA): At the beginning of each month, we sort stocks into deciles based on gross profitability to assets (Novy-Marx (2013)) for the most recent reporting year. GPA is total revenue (Compustat annual item REVT) minus the cost of goods sold (item COGS), all divided by current total assets (item AT). The most recent

reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Growth in long-term debt (GRLTD): At the beginning of each month, we sort stocks into deciles based on the growth in long-term debt (Richardson et al. (2005)) for the most recent reporting year. GRLTD is the growth in total long-term debt (Compustat annual item DLTT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Growth in long-term net operating assets (GRLTNOA): At the beginning of each month, we sort stocks into deciles based on the growth in long-term net operating assets (Fairfield, Whisenant, and Yohn (2003)) for the most recent reporting year. GRLTNOA is the change in long-term net operating assets divided by the average of total assets (Compustat annual item AT) for the current and previous years. The change in long-term net operating assets is the change in net property, plant, and equipment (item PPENT) plus the change in intangibles (item INTAN) plus the change in other assets (item AO) minus the change in other total liabilities (item LO) plus depreciation and amortization (item DP). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Industry sales concentration (HERF): At the beginning of each month, we sort stocks into deciles based on industry sales concentration (Hou and Robinson (2006)) for the most recent reporting year. Sales concentration is measured using the Herfindahl index for net sales (Compustat annual item SALE). Industries are defined using two-digit SIC codes. The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

% change in employees (HIRE): At the beginning of each month, we sort stocks into deciles based on the percent change in employees (Belo, Lin, and Bazdresch (2014)) for the most recent reporting year. If the number of employees (Compustat annual item EMP) is missing, then we assume no change for that year. The most recent reporting

year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Idiosyncratic return volatility (IDIOVOL): At the beginning of each month, we sort stocks into deciles based on idiosyncratic return volatility (Ali, Hwang, and Trombley (2003)) computed over the previous 36 months. Idiosyncratic volatility is the standard deviation of the residuals for a regression of the weekly excess return on the CRSP equal-weighted market excess return.

Illiquidity (ILLIQ): At the beginning of each month, we sort stocks into deciles based on illiquidity (Amihud (2002)) computed over the previous 12 months. ILLIQ is the absolute value of the daily return divided by daily dollar trading volume, averaged over the previous 12 months. Dollar trading volume is the number of shares traded times the share price (from CRSP). We adjust the NASDAQ trading volume to account for the institutional differences between NASDAQ and NYSE-Amex volumes (Gao and Ritter (2010)).

Twelve-month industry momentum (INDMOM12M): At the beginning of each month, we sort stocks into deciles based on 12-month industry momentum (Moskowitz and Grinblatt (1999)). INDMOM12M is the average cumulative returns over the previous 12 months for the firms in an industry, where industries are defined using two-digit SIC codes.

One-month industry momentum (INDMOM1M): At the beginning of each month, we sort stocks into deciles based on one-month industry momentum (Moskowitz and Grinblatt (1999)). INDMOM1M is the average return for the previous month for the firms in an industry, where industries are defined using two-digit SIC codes.

Maximum daily return (MAXRET): At the beginning of each month, we sort stocks into deciles based on the maximum daily return (Bali, Cakici, and Whitelaw (2011)) for the previous month.

Twelve-month momentum (MOM12M): At the beginning of each month, we sort stocks into deciles based on 12-month momentum (Jegadeesh and Titman (1993)). MOM12M is the cumulative return from 12 to two months ago.

One-month momentum (MOM1M): At the beginning of each month, we sort stocks into deciles based on the return in the previous month (Jegadeesh (1990)).

36-month momentum (MOM36M): At the beginning of each month, we sort stocks into deciles based on 36-month momentum (De Bondt and Thaler (1985)). MOM36M is the cumulative return from 36 to 13 months ago.

Six-month momentum (MOM6M): At the beginning of each month, we sort stocks into deciles based on six-month momentum (Jegadeesh and Titman (1993)). MOM6M is the cumulative return from six to two months ago.

Growth score (MS): At the beginning of each month, we sort stocks into deciles based on the (Mohanram (2005)) growth score based on data for the most recent reporting year/quarter. The score is the sum of eight binary signals (G1 through G8). G1 equals one if the return on assets is greater than the industry median and zero otherwise, where return on assets is income before extraordinary items (Compustat annual item IB) divided by average total assets (item AT) for the current and previous years. G2 equals one if the cash flow return on assets is greater than the industry median and zero otherwise, where the cash flow return on assets is net cash flow from operating activities (item OANCF) divided by average total assets (item AT) for the current and previous years. G3 equals one if net cash flow from operating activities is greater than income before extraordinary items and zero otherwise. G4 equals one if earnings variability is less than the industry median and zero otherwise, where earnings variability is the variance of the quarterly return on assets for the previous 16 quarters (six quarters minimum) and the quarterly return on assets is quarterly income before extraordinary items (Compustat quarterly item IBQ) divided by the previous quarter's total assets (item ATQ). G5 equals one if sales growth variability is less than the industry median and zero otherwise, where sales growth variability is the variance of quarterly sales growth for the previous 16

quarters (six quarters minimum) and quarterly sales growth is the growth in quarterly net sales (item SALEQ) from its value four quarters ago. G6 equals one if research and development expense (Compustat annual item XRD) divided by the previous year's total assets is greater than the industry median and zero otherwise. G7 equals one if capital expenditure (item CAPX) divided by the previous year's total assets is greater than the industry median and zero otherwise. G8 equals one if advertising expenses (item XAD) divided by the previous year's total assets is greater than the industry median and zero otherwise. Industries are defined using two-digit SIC codes. The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month; the most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Market equity (MVE): At the beginning of each month, we sort stocks into deciles based on market equity (Banz (1981)) at the end of the previous month. Market equity data are from CRSP.

Number of quarters with consecutive earnings increase (NINCR): At the beginning of each month, we sort stocks into deciles based on the number of quarters with consecutive earnings increase (Barth, Elliott, and Finn (1999)) for the most recent reporting quarter. NINCR is the number of consecutive quarters with an increase in earnings (Compustat quarterly item IBQ); if the firm experiences consecutive earnings decreases, then NINCR is negative. The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Net operating assets (NOA): At the beginning of each month, we sort stocks into deciles based on net operating assets (Hirshleifer et al. (2004)) for the most recent reporting year. NOA is operating assets minus operating liabilities, all divided by the previous year's total assets (Compustat annual item AT). Operating assets are total assets (item AT) minus cash and short-term investment (item CHE); operating liabilities are total assets minus debt in current liabilities (item DLC) minus total long-term debt (item DLTT)

minus common/ordinary equity (item CEQ) minus minority interests (item MIB) minus preferred stock (item PSTK). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Net share issuance, annual rebalancing (NSIANN): At the beginning of July of each year, we sort stocks into deciles based on net share issuance (Novy-Marx and Velikov (2016)) over the previous 12 months. Net share issuance is the annual growth in common shares outstanding, adjusted for stock splits (from CRSP). Monthly portfolio returns are calculated for July of year t to June of year $t+1$.

Net share issuance, fiscal-year rebalancing (NSIFY): At the beginning of each month, we sort stocks into deciles based on net share issuance (Pontiff and Woodgate (2008)) over the previous 12 months for the most recent reporting fiscal year. Net share issuance is the annual growth in common shares outstanding, adjusted for stock splits (from CRSP). The most recent reporting fiscal year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Net share issuance, monthly rebalancing (NSIMO): At the beginning of each month, we sort stocks into deciles based on net share issuance (Novy-Marx and Velikov (2016)) over the previous 12 months. Net share issuance is the annual growth in common shares outstanding, adjusted for stock splits (from CRSP); the measure is lagged by four months.

Operating leverage (OL): At the beginning of each month, we sort stocks into deciles based on operating leverage (Novy-Marx (2011)) for the most recent reporting year. OL is the cost of goods sold (Compustat annual item COGS) plus selling, general, and administrative expense (item XSGA), all divided by total assets (item AT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Operating profitability (OPERPROF): At the beginning of each month, we sort stocks into deciles based on operating profitability (Fama and French (2015)) for the most recent

reporting year. OPERPROF is total revenue (Compustat annual item REVT) minus cost of goods sold (item COGS, zero if missing) minus selling, general, and administrative expense (item XSGA, zero if missing) minus interest expense (item XINT, zero if missing), all divided by common/ordinary equity (item CEQ). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Organization capital to assets (ORGCAP): At the beginning of each month, we sort stocks into deciles based on (Eisfeldt and Papanikolaou (2013)) for the most recent reporting year. ORGCAP is given by $\text{ORGCAP}_t = (1-\delta)\text{ORGCAP}_{t-1} + \text{SG\&A}_t/\text{CPI}_t$, all divided by average total assets (Compustant annual item AT) for the current and previous years, where SG&A is selling, general, and administrative (SG&A) expense (item XSGA), CPI is the average consumer price index for the year, and δ is the annual depreciation rate for organization capital. The initial stock of organization capital is $(\text{SG\&A}_{t_0}/\text{CPI}_{t_0})/(g+\delta)$, where $\text{SG\&A}_{t_0}$ is the first valid SG&A observation (zero or positive) and g is the long-term growth rate of SG&A; we use $g = 0.10$ and $\delta = 0.15$. Missing SG&A values after the starting date are treated as zero. The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

O-score (OSCORE): At the beginning of each month, we sort stocks into deciles based on O-score (Ohlson (1980)) for the most recent reporting year. OSCORE is a financial distress score corresponding to the probability of bankruptcy in a static model based on accounting variables,

$$\begin{aligned}\text{OSCORE} = &-1.32 - 0.407\text{Size} + 6.03\text{TLTA} - 1.43\text{WCTA} + 0.76\text{CLCA} \\ &- 1.72\text{OENEG} - 2.37\text{NITA} - 1.83\text{FUTL} + 0.285\text{INTWO} \\ &- 0.521\text{CHIN},\end{aligned}$$

where Size is the log of total assets (Compustat annual item AT), TLTA is the book value of debt (item DLC plus item DLTT) divided by total assets, WCTA is working

capital (item ACT minus item LCT) divided by total assets, CLCA is current liabilities (item LCT) divided by current assets (item ACT), OENEG equals one if total liabilities (item LT) are greater than total assets and zero otherwise, NITA is net income (item NI) divided by total assets, FUTL is funds provided by operations (item PI plus item DP) divided by total liabilities, INTWO is equal to one if net income (item NI) is negative for the last two years and zero otherwise, and CHIN is $(\text{NI}_t - \text{NI}_{t-1})/(|\text{NI}_t| + |\text{NI}_{t-1}|)$, where NI_t is year t net income. The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

% change in current ratio (PCHCURRAT): At the beginning of each month, we sort stocks into deciles based on the percent change in the current ratio (Ou and Penman (1989)) for the most recent reporting year. The current ratio is current assets (Compustat annual item ACT) divided by current liabilities (item LCT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

% change in depreciation to gross PP&E (PCHDEPR): At the beginning of each month, we sort stocks into deciles based on the percent change in depreciation to gross PP&E (Holthausen and Larcker (1992)) for the most recent reporting quarter. Depreciation to gross PP&E is depreciation and amortization (Compustat quarterly item DPQ) divided by gross property, plant, and equipment (item PPEGTQ). The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

% change in gross margin minus % change in sales (PCHGMSALE): At the beginning of each month, we sort stocks into deciles based on the percent change in gross margin minus the percent change in sales (Abarbanell and Bushee (1998)) for the most recent reporting year. Gross margin is net sales (Compustat annual item SALE) minus the cost of goods sold (item COGS) and sales are net sales. The most recent reporting year is the

closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

% change in quick ratio (PCHQUICK): At the beginning of each month, we sort stocks into deciles based on the percent change in the quick ratio (Ou and Penman (1989)) for the most recent reporting year. The quick ratio is current assets (Compustat annual item ACT) minus total inventories (item INVT), all divided by current liabilities (item LCT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

% change in sales minus % change in inventories (PCHSALEINV): At the beginning of each month, we sort stocks into deciles based on the percent change in sales minus the percent change in inventories (Ou and Penman (1989)) for the most recent reporting year. Sales are net sales (Compustat annual item SALE) and inventories are total inventories (item INVT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

% change in sales to inventories (PCHSALEINVT): At the beginning of each month, we sort stocks into deciles based on the percent change in sales to inventories (inventory cycle, Ou and Penman (1989)) for the most recent reporting year. The inventory cycle is net sales (Compustat annual item SALE) divided by total inventories (item INVT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

% change in sales minus % change in accounts receivable (PCHSALEREC): At the beginning of each month, we sort stocks into deciles based on the percent change in sales minus the percent change in accounts receivable (Ou and Penman (1989)) for the most recent reporting year. Sales are net sales (Compustat annual item SALE) and accounts receivable are total receivables (item RECT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

% change in sales minus % change in SG&A (PCHSALESGM): At the beginning of each month, we sort stocks into deciles based on the percent change in sales minus the percent change in SG&A (Ou and Penman (1989)) for the most recent reporting year. Sales are net sales (Compustat annual item SALE) and SG&A is selling, general, and administrative expense (item XSGA). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Fundamental score (PS): At the beginning of each month, we sort stocks into deciles based on fundamental score (Piotroski (2000)) for the most recent reporting year. PS is the sum of nine binary signals (PROA, PΔROA, PCFA, PACC, PΔMARGIN, PΔTURN, PΔLEVER, PΔLIQUID, PEQ). PROA equals one if income before extraordinary items (Computstat annual item IB) divided by the previous year's total assets (item AT) is positive and zero otherwise. PΔROA equals one if the change in PROA is positive and zero otherwise. PCFA equals one if CFA is positive and zero otherwise; CFA is net cash flow from operating activities (item OANCF) divided by the previous year's total assets. PACC equals one if CFA is greater then ROA and zero otherwise. PΔMARGIN equals one if ΔMARGIN is positive and zero otherwise, where ΔMARGIN is the change in gross margin (item SALE minus item COGS) divided by net sales (item SALE). PΔTURN equals one if ΔTURN is positive and zero otherwise, where ΔTURN is change in net sales (item SALE) divided by the previous year's total assets. PΔLEVER equals one if ΔLEVER is negative and zero otherwise, where ΔLEVER is the change in total long-term debt (item DLTT) divided by the average of the current and previous year's total assets. PΔLIQUID equals one if ΔLIQUID is positive and zero otherwise, where ΔLIQUID is the change in the current ratio; the current ratio is current assets (item ACT) divided by current liabilities (item LCT). PEQ equals one if the firm does not issue common equity during the current year and zero otherwise, where the issuance of common equity is sales of common and preferred stocks (item SSTK) minus any increase in preferred stocks (item PSTK). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Quick ratio (QUICK): At the beginning of each month, we sort stocks into deciles based on the quick ratio (Ou and Penman (1989)) for the most recent reporting year. QUICK is current assets (Compustat annual item ACT) minus total inventories (item INVT), all divided by current liabilities (item LCT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

R&D expense to market (RD): At the beginning of each month, we sort stocks into deciles based on R&D expense to market (Chan, Lakonishok, and Sougiannis (2001)) for the most recent reporting year. RD is research and development expense (Compustat annual item XRD) divided by market equity (from CSRP). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Return volatility (RETVOL): At the beginning of each month, we sort stocks into deciles based on return volatility for the previous month (Ang et al. (2006)). Volatility is the standard deviation of daily returns for the month.

Return on assets (ROA): At the beginning of each month, we sort stocks into deciles based on the return on assets (Haugen and Baker (1996)) for the most recent reporting year. ROA is income before extraordinary items (Compustat annual item IB) divided by total assets (item AT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Quarterly return on assets (ROAQ): At the beginning of each month, we sort stocks into deciles based on the quarterly return on assets (Balakrishnan, Bartov, and Faurel (2010)) for the most recent reporting quarter. The return on assets is income before extraordinary items (Compustat quarterly item IBQ) divided by the previous quarter's total assets (item ATQ). The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Volatility of return on assets (ROAVOL): At the beginning of each month, we sort stocks into deciles based on the volatility of return on assets (Francis et al. (2004)) computed over the most recent 16 reporting quarters. Return on assets is income before extraordinary items (Compustat quarterly item IBQ) divided by the previous quarter's total assets (item ATQ). The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Return on equity (ROE): At the beginning of each month, we sort stocks into deciles based on the return on equity (Haugen and Baker (1996)) for the most recent reporting year. ROE is income before extraordinary items (Compustat annual item IB) divided by common/ordinary equity (Compustat annual item CEQ). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Quarterly return on equity (ROEQ): At the beginning of each month, we sort stocks into deciles based on the return on equity (Hou, Xue, and Zhang (2015)) for the most recent reporting quarter. ROEQ is income before extraordinary items (Compustat quarterly item IBQ) divided by the previous quarter's common/ordinary equity (item CEQQ). The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Return on invested capital (ROIC): At the beginning of each month, we sort stocks into deciles based on the return on invested capital (Brown and Rowe (2007)) for the most recent reporting year. ROIC is income before extraordinary items (Compustat annual item IB) divided by long-term capital, where long-term capital is total assets (item AT) minus cash and short-term investments (item CHE). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Return on market equity (ROM): At the beginning of each month, we sort stocks into deciles based on the return on market equity (Hou, Xue, and Zhang (2015)) for the most recent reporting quarter. ROM is income before extraordinary items (Compustat

quarterly item IBQ) divided by the previous quarter's market equity. The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Revenue surprise (RSUP): At the beginning of each month, we sort stocks into deciles based on revenue surprise (Kama (2009)) for the most recent reporting quarter. RSUP is net sales (Compustat quarterly item SALEQ) minus its value from four quarters ago, all dividend by market equity. The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Sales to cash (SALECASH): At the beginning of each month, we sort stocks into deciles based on sales to cash (cash cycle; Ou and Penman (1989)) for the most recent reporting year. SALECASH is net sales (Compustat annual item SALE) divided by cash and short-term investments (item CHE). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Sales to inventories (SALEINV): At the beginning of each month, we sort stocks into deciles based on sales to inventories (inventory cycle; Ou and Penman (1989)) for the most recent reporting year. SALEINV is net sales (Compustat annual item SALE) divided by total inventories (item INVT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Sales to accounts receivable (SALEREC): At the beginning of each month, we sort stocks into deciles based on sales to accounts receivable (accounts receivable cycle; Ou and Penman (1989)) for the most recent reporting year. SALEREC is net sales (Compustat annual item SALE) divided by total receivables (item RECT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Sales growth (SGR): At the beginning of each month, we sort stocks into deciles based on sales growth (Lakonishok, Shleifer, and Vishny (1994)) for the most recent reporting year. SGR is the growth in net sales (Compustat annual item SALE). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Short-term share issuance (SHR1): At the beginning of each month, we sort stocks into deciles based on short-term share issuance (Pontiff and Woodgate (2008)). SHR1 is the log change in the split-adjusted number of shares outstanding from 17 to six months ago; the measure is lagged by four months.

Long-term share issuance, annual rebalancing (SHR5ANN): At the beginning of July of each year, we sort stocks into deciles based on long-term share issuance (Pontiff and Woodgate (2008)). Long-term share issuance is the log change in the split-adjusted number of shares outstanding (from CRSP) from 60 months to one month ago. Monthly portfolio returns are calculated for July of year t to June of year $t + 1$.

Long-term share issuance, monthly rebalancing (SHR5MO): At the beginning of each month, we sort stocks into deciles based on long-term share issuance (Pontiff and Woodgate (2008)). Long-term share issuance is the log change in the split-adjusted number of shares outstanding (from CRSP) from 60 months to one month ago; the measure is lagged by four months.

Sales to price (SP): At the beginning of each month, we sort stocks into deciles based on sales to price (Barbee, Jr., Mukherji, and Raines (1996)) for the most recent reporting year. SP is net sales (Compustat annual item SALE) divided by market equity (from CRSP). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Special items (SPI): At the beginning of each month, we sort stocks into deciles based on special items (Dechow and Ge (2006)) for the most recent reporting year. SPI is special items (Compustat annual item SPI) divided by the average of total assets (item AT) for

the current and previous years. The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Standard deviation of accruals (STDACC): At the beginning of each month, we sort stocks into deciles based on the standard deviation of accruals (Bandyopadhyay, Huang, and Wirjanto (2010)) for the most recent 16 quarters. Accruals are ΔCA $-$ ΔCash $-$ (ΔCL$-\Delta$STD), all divided by net sales (Compustat quarterly item SALEQ), where ΔCA is the change in current assets (item ACTQ), ΔCash is the change in cash and short-term investments (item CHEQ), ΔCL is the change in current liabilities (item LCTQ), and ΔSTD is the change in debt in current liabilities (item DCLQ). If net sales is missing, it is replaced by \$10,000. The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Standard deviation of cash flows (STDCF): At the beginning of each month, we sort stocks into deciles based on the standard deviation of cash flows (Huang (2009)) for the 16 most recent reporting quarters. Cash flow is IB $-$ (ΔCA $-$ ΔCash) $+$ (ΔCL $-$ ΔSTD), all divided by net sales (Compustat quarterly item SALEQ), where IB is income before extraordinary items (item IBQ), ΔCA is the change in current assets (item ACTQ), ΔCash is the change in cash and short-term investments (item CHEQ), ΔCL is the change in current liabilities (item LCTQ), and ΔSTD is the change in debt in current liabilities (item DCLQ). If net sales is missing, it is replaced by \$10,000. The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Standard deviation of turnover (STDTURN): At the beginning of each month, we sort stocks into deciles based on the standard deviation of turnover for the previous month (Chordia, Subrahmanyam, and Anshuman (2001)). The monthly standard deviation for turnover is computed using daily trading volume divided by the number of shares outstanding (from CRSP).

Standardized earnings surprise (SUE): At the beginning of each month, we sort stocks into deciles based on standardized earnings surprises (Foster, Olsen, and Shevlin (1984)) for the most recent reporting quarter. SUE is income before extraordinary items (Compustat quarterly item IBQ) minus income before extraordinary items from four quarters ago, all divided by the market value of equity (from CRSP). The most recent reporting quarter is the closest quarter preceding the current month according to the reporting date provided by Compustat (item RDQ).

Tangibility (TANG): At the beginning of each month, we sort stocks into deciles based on tangibility (Almeida and Campello (2007)) for the most recent reporting year. TANG is cash and short-term investments (Compustat annual item CHE) + 0.715 × receivables (item RECT) + 0.547 × inventories (item INVT) + 0.535 × gross property, plant, and equipment (item PPEGT), all divided by total assets (item AT). The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Taxable income to book income (TIBI): At the beginning of each month, we sort stocks into deciles based on taxable income to book income (Lev and Nissim (2004)) for the most recent reporting year. TIBI is taxes paid times the corporate tax rate divided by income before extraordinary items (Compustat annual item IB). The corporate tax rate is 48% before fiscal year 1979, 46% for fiscal years 1979 to 1986, 40% for fiscal year 1987, 34% for fiscal years 1988 to 1992, and 35% thereafter. Taxes paid is the sum of federal and foreign income taxes (items TXFED and TXFO, respectively); if the value is not available, then we use total income taxes (item TXT) minus deferred income taxes (item TXDI). If book income is negative, then the value is set to one. We demean taxable income to book income within each industry, where the industries are defined using two-digit SIC codes. The most recent reporting year is the closest one that ends (according to item DATADATE) at least four months before the beginning of the current month.

Total turnover (TURN): At the beginning of each month, we sort stocks into deciles based on turnover for the previous month (Chordia, Subrahmanyam, and Anshuman

(2001)). Turnover is monthly trading volume divided by the number of shares outstanding (from CRSP).

Average turnover, three months (TURN3): At the beginning of each month, we sort stocks into deciles based on average turnover for the previous three months (Datar, Naik, and Radcliffe (1998)). Turnover is monthly trading volume divided by the number of shares outstanding (from CRSP).

Lagged total turnover (TURNL): At the beginning of each month, we sort stocks into deciles based on turnover from two months ago (Chordia, Subrahmanyam, and Anshuman (2001)). Turnover is monthly trading volume divided by the number of shares outstanding (from CRSP).

Average number of turnover-adjusted zero trading volume (ZEROAVG): At the beginning of each month, we sort stocks into deciles based on the average turnover-adjusted number of zero daily volume (Liu (2006)) for the previous month. We calculate the standardized turnover-adjusted number of zero daily volume as

$$\text{Zerotrade} = \left[\#\text{ of zero daily volume in month } t + \frac{1/(\text{Avg. of month-}t\text{ daily TO})}{\text{Deflator}}\right]\left(\frac{21}{\#\text{TD}}\right),$$

where daily turnover (TO) is the number of shares traded on that day divided by the number of shares outstanding (from CRSP), Deflator $= 480,000$, and #TD is the number of trading days in the month. We require a minimum of 15 daily turnover observations for the previous month for a stock to be included.

Total number of turnover-adjusted zero daily volume (ZEROTOT): At the beginning of each month, we sort stocks into deciles based on the total turnover-adjusted number of zero daily volume (Liu (2006)) for the previous month. We calculate the standardized

turnover-adjusted number of zero daily volume as

$$\text{Zerotrade} = \left[\#\text{ of zero daily volume in month } t + \frac{1/(\text{Sum of month-}t\text{ daily TO})}{\text{Deflator}}\right]\left(\frac{21}{\#\text{TD}}\right),$$

where daily turnover (TO) is the number of shares traded on that day divided by the number of shares outstanding (from CRSP), Deflator $= 480,000$, and #TD is the number of trading days in the month. We require a minimum of 15 daily turnover observations for the previous month for a stock to be included.

Table IA.I
Anomalies

The table lists 100 anomalies used to form long-short anomaly portfolio returns. Section III of the Internet Appendix provides detailed definitions for the anomalies.

(1) Abbreviation	(2) Description	(3) Abbreviation	(4) Description
ABSACC	Absolute value of accruals	CURRAT	Current ratio
ACC	Accruals	DEPR	Depreciation to gross PP&E
AGE	Firm age	DOLVOL	Dollar trading volume
AGR	Asset growth	DROAQ	Change in quarterly return on assets
BETA1	Short-term beta	DROEQ	Change in quarterly return on equity
BETA1LAG	Short-term smoothed beta	EAR	Earnings announcement return
BETA3	Long-term beta	EGR	Book equity growth
BETA3LAG	Long-term smoothed beta	EP	Earnings to price
BM	Book to market	FERR	Earnings forecast error
CASH	Cash to assets	FP	Failure probability
CASHDEBT	Cash flow to debt	GPA	Gross profitability to assets
CASHPR	Cash productivity	GRLTD	Growth in long-term debt
CEIANN	Composite equity issuance, annual rebalancing	GRLTNOA	Growth in long-term net operating assets
CEIFY	Composite equity issuance, fiscal-year rebalancing	HERF	Industry sales concentration
CEIMO	Composite equity issuance, monthly rebalancing	HIRE	% change in employees
CFPIA	Industry-adjusted cash flow to price	IDIOVOL	Idiosyncratic return volatility
CFPJUN	Cash flow to price	ILLIQ	Illiquidity
CHATOIA	Industry-adjusted change in asset turnover	INDMOM12M	Twelve-month industry momentum
CHEMPIA	Industry-adjusted percent change in employees	INDMOM1M	One-month industry momentum
CHFEPS	Change in forecasted earnings per share	MAXRET	Maximum daily return
CHINV	Change in inventories	MOM12M	Twelve-month momentum
CHPMIA	Industry-adjusted change in profit margin	MOM1M	One-month momentum
CHTAX	% change in tax expense	MOM36M	36-month momentum
CINVEST	Corporate investment	MOM6M	Six-month momentum
CSUE	Composite earnings surprise	MS	Growth score

Table IA.I (continued)

(1) Abbreviation	(2) Description	(3) Abbreviation	(4) Description
MVE	Market equity	ROE	Return on equity
NINCR	Number of quarters with consecutive earnings increase	ROEQ	Quarterly return on equity
NOA	Net operating assets	ROIC	Return on invested capital
NSIANN	Net share issuance, annual rebalancing	ROM	Return on market equity
NSIFY	Net share issuance, fiscal-year rebalancing	RSUP	Revenue surprise
NSIMO	Net share issuance, annual rebalancing	SALECASH	Sales to cash
OL	Operating leverage	SALEINV	Sales to inventories
OPERPROF	Operating profitability	SALEREC	Sales to receivables
ORGCAP	Organization capital to assets	SGR	Sales growth
OSCORE	O-score	SHR1	Short-term share issuance
PCHCURRAT	% change in current ratio	SHR5ANN	Long-term share issuance, annual rebalancing
PCHDEPR	% change in depreciation to gross PP&E	SHR5MO	Long-term share issuance, monthly rebalancing
PCHGMSALE	% change in gross margin minus % change in sales	SP	Sales to price
PCHQUICK	% change in quick ratio	SPI	Special items
PCHSALEINV	% change in sales minus % change in inventories	STDACC	Standard deviation of accruals
PCHSALEINVT	% change in sales to inventories	STDCF	Standard deviation of cash flows
PCHSALEREC	% change in sales minus % change in accounts receivable	STDTURN	Standard deviation of turnover
PCHSALESGM	% change in sales minus % change in SG&M	SUE	Standardized earnings surprise
PS	Fundamental score	TANG	Tangibility
QUICK	Quick ratio	TIBI	Taxable income to book income
RD	R&D expense to market	TURN	Total turnover
RETVOL	Return volatility	TURN3	Average turnover, three months
ROA	Return on assets	TURNL	Lagged total turnover
ROAQ	Quarterly return on assets	ZEROAVG	Average number of turnover-adjusted zero daily volume
ROAVOL	Volatility of return on assets	ZEROTOT	Total number of turnover-adjusted zero daily volume

Table IA.II
R^2_{OS} Statistics for Short-Leg Excess Returns

The table reports Campbell and Thompson (2008) out-of-sample R^2 (R^2_{OS}) statistics in percent for monthly short-leg anomaly portfolio excess return forecasts based on lagged short-leg anomaly portfolio excess returns. The out-of-sample period is 1985:01 to 2017:12. The individual forecasts are computed via univariate predictive regressions for the anomaly in the first, third, fifth, or seventh column. Based on the Clark and West (2007) test, *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively, for the positive R^2_{OS} statistics.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Anomaly	R^2_{OS}	Anomaly	R^2_{OS}	Anomaly	R^2_{OS}	Anomaly	R^2_{OS}
ABSACC	0.32*	CURRAT	−0.19	MVE	−0.14	ROE	0.85*
ACC	1.36**	DEPR	0.10	NINCR	1.50**	ROEQ	2.64**
AGE	0.92*	DOLVOL	−0.18	NOA	1.57**	ROIC	0.07
AGR	1.51**	DROAQ	0.47*	NSIANN	2.12**	ROM	3.89***
BETA1	0.13	DROEQ	1.56**	NSIFY	1.39*	RSUP	1.64*
BETA1LAG	0.84*	EAR	0.23	NSIMO	2.63**	SALECASH	0.65*
BETA3	0.43*	EGR	1.34**	OL	0.95*	SALEINV	1.19**
BETA3LAG	0.56*	EP	1.12**	OPERPROF	1.37**	SALEREC	1.16**
BM	0.49	FERR	4.91***	ORGCAP	0.80	SGR	0.52*
CASH	0.10	FP	−0.10	OSCORE	0.29	SHR1	0.94**
CASHDEBT	0.16	GPA	3.01**	PCHCURRAT	0.41	SHR5ANN	0.47
CASHPR	0.79*	GRLTD	0.85*	PCHDEPR	0.76*	SHR5MO	0.63*
CEIANN	1.84**	GRLTNOA	1.06*	PCHGMSALE	2.48**	SP	−0.10
CEIFY	0.20	HERF	0.13	PCHQUICK	0.81*	SPI	−0.37
CEIMO	1.74**	HIRE	1.08**	PCHSALEINV	1.44**	STDACC	0.49
CFPIA	0.49	IDIOVOL	0.44*	PCHSALEINVT	1.50**	STDCF	0.57
CFPJUN	2.28**	ILLIQ	−0.01	PCHSALEREC	1.04*	STDTURN	−0.30
CHATOIA	2.11**	INDMOM12M	0.37	PCHSALESGA	0.20	SUE	2.37**
CHEMPIA	0.54*	INDMOM1M	0.75*	PS	0.52*	TANG	1.04**
CHFEPS	0.32	MAXRET	0.44	QUICK	0.05	TIBI	1.49**
CHINV	1.07*	MOM12M	0.80*	RD	0.47*	TURN	0.21
CHPMIA	−0.38	MOM1M	−0.65	RETVOL	0.40	TURN3	0.74*
CHTAX	0.50	MOM36M	0.21	ROA	0.03	TURNL	0.40
CINVEST	0.88*	MOM6M	0.60	ROAQ	1.69**	ZEROAVG	0.36
CSUE	2.41**	MS	2.05**	ROAVOL	−0.18	ZEROTOT	0.36

Table IA.III
Cross-Autocorrelations

The table reports cross-autocorrelations for the month $t+1$ long-short anomaly portfolio return in the row heading and month t long-short anomaly portfolio return in the column heading; 0.00 indicates less than 0.005 in absolute value. The sample period is 1970:01 to 2017:11. The anomalies are listed in Table IA.I.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Anomaly	ABS-ACC	ACC	AGE	AGR	BETA1	BETA1-LAG	BETA3	BETA3-LAG	BM	CASH	CASH-DEBT	CASH-PR	CEI-ANN	CEI-FY	CEI-MO	CFPIA	CFP-JUN	CHA-TOIA	CHEM-PIA	CHF-EPS
ABSACC	0.07	0.00	0.08	0.07	0.08	0.08	0.06	0.09	0.08	-0.14	0.09	0.11	0.13	0.06	0.12	0.02	0.13	0.13	0.04	-0.02
ACC	0.02	0.04	-0.02	0.01	0.01	0.01	0.02	0.01	-0.04	0.05	-0.01	-0.03	0.01	-0.07	0.03	0.02	-0.07	-0.03	0.03	0.03
AGE	0.08	0.05	0.12	0.09	0.13	0.12	0.12	0.11	0.08	-0.14	0.11	0.07	0.17	0.09	0.15	0.05	0.14	0.13	0.00	-0.03
AGR	0.11	0.04	0.15	0.12	0.08	0.07	0.08	0.09	0.15	-0.16	0.11	0.07	0.09	0.07	0.13	0.05	0.10	0.04	0.09	-0.08
BETA1	0.07	0.06	0.07	0.10	0.11	0.10	0.09	0.09	0.05	-0.10	0.08	0.06	0.16	0.07	0.14	0.01	0.12	0.13	0.05	0.01
BETA1LAG	0.08	0.06	0.09	0.11	0.14	0.13	0.13	0.13	0.04	-0.09	0.12	0.05	0.16	0.07	0.15	0.01	0.11	0.13	0.05	0.02
BETA3	0.04	0.06	0.08	0.09	0.09	0.09	0.09	0.10	0.05	-0.11	0.10	0.05	0.17	0.07	0.15	0.03	0.13	0.12	0.05	0.04
BETA3LAG	0.04	0.10	0.08	0.12	0.11	0.11	0.13	0.13	0.04	-0.11	0.09	0.06	0.18	0.08	0.15	0.02	0.13	0.14	0.09	0.04
BM	0.06	0.03	0.04	0.09	-0.02	-0.01	-0.06	-0.04	0.19	-0.06	-0.05	0.12	0.06	0.07	0.05	0.04	0.01	0.00	0.04	-0.17
CASH	0.01	0.03	0.00	-0.01	0.04	0.04	0.05	0.06	-0.08	0.02	-0.03	-0.07	-0.06	-0.03	-0.04	-0.07	-0.06	-0.11	0.05	0.08
CASHDEBT	0.00	0.04	0.01	0.05	0.06	0.05	0.07	0.02	-0.02	-0.04	-0.04	-0.02	0.11	0.07	0.05	-0.02	0.04	0.07	0.03	-0.01
CASHPR	0.11	0.08	0.03	0.09	0.06	0.06	0.06	0.08	0.09	-0.09	0.04	0.12	0.12	0.09	0.10	0.04	0.06	0.03	0.06	-0.14
CEIANN	0.04	0.11	0.07	0.13	0.12	0.09	0.11	0.10	0.07	-0.09	0.08	0.02	0.20	0.11	0.16	-0.01	0.09	0.13	0.10	-0.02
CEIFY	0.03	0.04	0.04	0.01	0.02	0.04	0.04	0.04	0.04	-0.10	0.08	0.03	0.10	0.04	0.08	0.03	0.06	0.05	0.03	-0.08
CEIMO	0.01	0.10	0.06	0.10	0.09	0.08	0.10	0.08	0.02	-0.08	0.07	-0.01	0.16	0.05	0.13	0.03	0.09	0.14	0.08	-0.02
CFPIA	0.07	-0.04	0.04	0.05	0.03	0.04	0.03	0.05	0.03	-0.02	0.01	0.00	-0.03	0.04	-0.03	-0.05	-0.01	-0.01	0.04	0.01
CFPJUN	0.07	0.07	0.07	0.05	0.10	0.10	0.11	0.11	0.02	-0.13	0.06	0.05	0.14	0.05	0.11	0.01	0.14	0.06	0.05	0.03
CHATOIA	0.04	-0.06	0.04	0.00	0.03	0.05	0.04	0.06	0.04	-0.05	0.00	0.01	0.04	0.01	0.04	-0.03	0.02	0.06	0.03	0.04
CHEMPIA	0.04	0.00	0.02	0.05	0.03	0.01	0.03	0.00	0.04	-0.07	-0.04	0.04	0.06	-0.01	0.08	-0.01	0.05	0.09	0.02	-0.04
CHFEPS	-0.08	0.04	-0.11	-0.10	-0.10	-0.07	-0.10	-0.10	0.01	0.08	-0.06	-0.07	-0.11	-0.10	-0.10	0.03	-0.08	0.02	-0.07	-0.03
CHINV	0.10	0.01	0.08	0.10	0.06	0.04	0.06	0.05	0.06	-0.06	0.06	0.04	0.06	0.02	0.07	0.04	0.04	0.04	0.09	-0.03
CHPMIA	-0.02	0.02	-0.08	0.03	0.00	0.02	-0.01	-0.02	-0.04	0.12	-0.07	-0.06	0.01	0.00	-0.03	-0.02	-0.05	-0.01	0.03	0.04
CHTAX	0.02	-0.04	-0.05	-0.03	0.02	0.02	0.01	0.01	-0.01	-0.02	-0.07	0.01	-0.05	-0.01	-0.05	-0.08	-0.02	0.00	0.04	0.02
CINVEST	0.01	-0.03	0.02	0.01	0.00	0.01	0.02	0.04	0.03	-0.01	0.08	-0.01	0.02	0.02	0.02	-0.02	0.02	-0.02	-0.01	0.00
CSUE	0.05	-0.04	0.06	0.03	0.07	0.08	0.08	0.06	0.05	-0.04	0.09	0.07	0.01	0.02	0.03	-0.05	0.08	0.01	0.04	0.05
CURRAT	-0.11	-0.08	-0.09	-0.09	-0.11	-0.08	-0.13	-0.13	-0.05	0.11	-0.09	-0.09	-0.15	-0.07	-0.14	0.00	-0.11	-0.10	-0.10	0.01
DEPR	-0.08	-0.10	-0.10	-0.11	-0.09	-0.09	-0.10	-0.13	-0.07	0.13	-0.10	-0.11	-0.13	-0.07	-0.15	-0.03	-0.08	-0.09	-0.08	-0.03
DOLVOL	0.02	-0.12	-0.01	0.01	-0.10	-0.07	-0.12	-0.10	0.16	-0.05	-0.04	0.06	-0.02	0.05	-0.03	0.07	0.04	-0.01	-0.02	-0.07
DROAQ	0.03	0.02	0.03	-0.01	0.04	0.05	0.05	0.06	0.02	-0.05	0.07	-0.02	0.00	0.00	0.02	0.00	-0.01	0.01	0.08	-0.01
DROEQ	0.03	0.03	0.06	0.03	0.09	0.09	0.09	0.09	-0.02	-0.05	0.11	0.02	0.05	0.00	0.07	-0.04	0.05	0.07	0.07	0.10
EAR	0.07	-0.05	0.03	-0.01	0.02	0.00	0.02	0.01	0.07	0.02	-0.03	0.06	-0.02	0.04	0.02	-0.03	0.01	-0.04	0.04	0.03
EGR	0.09	0.07	0.09	0.12	0.09	0.05	0.08	0.09	0.12	-0.12	0.08	0.08	0.10	0.04	0.13	0.02	0.10	0.07	0.10	-0.06
EP	0.06	0.10	0.05	0.04	0.08	0.08	0.09	0.09	0.01	-0.12	0.04	0.04	0.12	0.04	0.07	0.01	0.13	0.08	0.01	-0.03
FERR	-0.11	-0.05	-0.13	-0.08	-0.09	-0.05	-0.07	-0.08	-0.16	0.14	0.03	-0.16	-0.03	-0.16	-0.05	0.09	-0.06	-0.01	-0.01	0.05
FP	0.05	0.09	0.04	0.02	0.10	0.09	0.11	0.10	-0.03	-0.07	0.07	-0.04	0.06	-0.01	0.06	0.04	0.05	0.07	0.09	0.09
GPA	-0.01	-0.04	0.08	-0.04	0.07	0.04	0.10	0.06	-0.03	-0.04	0.10	-0.02	0.05	0.01	0.04	-0.01	0.07	0.04	-0.03	0.07
GRLTD	0.12	-0.01	0.13	0.12	0.05	0.04	0.05	0.05	0.15	-0.11	0.05	0.08	0.05	0.06	0.08	0.00	0.06	0.06	0.06	-0.11
GRLTNOA	0.09	0.01	0.05	0.09	0.09	0.06	0.08	0.07	0.02	-0.05	0.02	-0.02	0.01	0.05	0.02	0.04	0.06	0.05	-0.01	-0.02
HERF	0.13	0.03	0.16	-0.01	0.13	0.16	0.16	0.18	-0.01	-0.18	0.21	0.06	0.11	0.00	0.14	0.00	0.14	0.07	0.05	0.17
HIRE	0.08	0.07	0.09	0.16	0.08	0.05	0.07	0.06	0.14	-0.11	0.04	0.09	0.15	0.10	0.16	0.01	0.07	0.07	0.10	-0.09
IDIOVOL	0.05	0.10	0.10	0.13	0.13	0.13	0.14	0.14	0.05	-0.14	0.11	0.04	0.20	0.09	0.18	0.01	0.12	0.13	0.08	0.01
ILLIQ	0.01	-0.16	-0.05	0.00	-0.15	-0.10	-0.17	-0.14	0.15	0.04	-0.10	0.06	-0.08	0.04	-0.09	0.03	-0.04	-0.07	-0.05	-0.05
INDMOM12M	0.00	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.05	-0.06	0.08	0.01	0.02	0.00	0.06	-0.05	0.00	-0.03	0.07	0.01
INDMOM1M	0.12	0.04	0.15	0.11	0.14	0.16	0.16	0.15	-0.01	-0.11	0.07	-0.02	0.10	0.09	0.12	-0.10	0.04	-0.01	0.09	0.05
MAXRET	0.02	0.04	0.04	0.08	0.07	0.08	0.08	0.07	0.03	-0.08	0.06	0.02	0.15	0.03	0.11	0.04	0.07	0.15	0.02	0.00
MOM12M	0.02	0.02	0.02	0.00	0.04	0.04	0.05	0.03	-0.01	0.00	0.04	-0.06	0.00	-0.05	0.00	-0.04	-0.04	-0.02	0.05	0.04
MOM1M	-0.06	-0.12	-0.15	-0.07	-0.11	-0.13	-0.13	-0.12	0.01	0.09	-0.12	0.01	-0.12	-0.08	-0.15	0.10	-0.08	0.04	-0.15	-0.13
MOM36M	0.11	-0.03	0.11	0.07	0.01	0.02	0.01	0.03	0.14	-0.07	0.09	0.10	0.05	0.07	0.05	0.02	0.05	0.01	0.08	-0.07
MOM6M	0.07	-0.02	-0.02	-0.04	0.03	0.03	0.02	0.01	-0.01	0.06	0.00	-0.05	-0.03	-0.06	-0.04	-0.04	-0.07	0.02	0.05	0.01
MS	0.00	0.00	0.03	-0.03	0.07	0.07	0.11	0.08	-0.10	0.03	0.04	-0.05	0.06	-0.04	0.07	-0.04	0.02	0.07	0.00	0.17

Table IA.III (continued)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Anonmly	ABS-ACC	ACC	AGE	AGR	BETA1	BETA1-LAG	BETA3	BETA3-LAG	BM	CASH	CASH-DEBT	CASH-PR	CEI-ANN	CEI-FY	CEI-MO	CFPIA	CFP-JUN	CHA-TOIA	CHEM-PIA	CHF-EPS
MVE	-0.05	-0.20	-0.13	-0.03	-0.22	-0.19	-0.24	-0.23	0.16	0.04	-0.13	0.04	-0.14	0.01	-0.15	0.10	-0.04	-0.04	-0.10	-0.09
NINCR	0.03	0.04	0.07	-0.04	0.12	0.09	0.10	0.08	0.00	-0.09	0.08	0.00	0.00	0.01	0.01	-0.01	0.08	0.00	0.02	-0.02
NOA	0.08	0.05	0.05	0.05	0.09	0.04	0.07	0.07	0.03	-0.03	0.00	0.04	0.06	0.06	0.05	0.02	0.05	0.01	0.03	0.06
NSIANN	0.03	0.08	0.08	0.09	0.09	0.06	0.08	0.08	0.03	-0.09	0.05	-0.03	0.15	0.09	0.10	-0.05	0.09	0.09	0.08	-0.04
NSIFY	0.00	0.09	0.05	0.06	0.06	0.02	0.06	0.03	0.05	-0.07	0.03	0.01	0.11	0.04	0.09	0.03	0.09	0.10	0.06	-0.08
NSIMO	0.04	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.02	-0.10	0.07	-0.01	0.14	0.06	0.12	0.01	0.11	0.10	0.08	-0.09
OL	-0.04	-0.06	0.03	-0.06	0.00	-0.06	0.01	-0.02	-0.04	0.00	0.00	-0.02	-0.02	-0.03	0.01	-0.02	0.00	-0.06	-0.01	-0.01
OPERPROF	0.03	0.03	0.06	0.00	0.09	0.06	0.09	0.06	-0.03	-0.10	0.08	-0.03	0.08	0.05	0.07	-0.01	0.09	0.10	0.03	0.02
ORGCAP	-0.01	-0.13	0.13	-0.04	0.02	-0.02	0.03	0.01	0.03	-0.03	0.05	0.02	-0.01	0.06	0.00	-0.05	0.07	-0.07	-0.07	0.01
OSCORE	-0.01	0.06	0.02	0.07	0.08	0.06	0.09	0.08	-0.06	-0.04	-0.03	-0.04	0.14	0.04	0.09	0.00	0.03	0.09	0.05	0.06
PCHCURRAT	0.06	0.00	0.04	0.02	-0.02	-0.02	-0.02	-0.02	0.04	-0.05	-0.03	0.03	-0.06	0.03	-0.06	0.08	-0.02	-0.06	-0.05	-0.14
PCHDEPR	0.02	0.00	-0.01	0.01	0.02	0.02	0.02	0.03	-0.06	0.07	-0.04	-0.09	0.00	0.00	0.00	0.04	-0.03	-0.02	0.00	0.00
PCHGMSALE	0.01	0.02	0.01	-0.02	0.03	0.04	0.03	0.00	-0.02	0.03	-0.01	-0.06	-0.01	-0.02	-0.02	-0.04	-0.01	-0.01	0.02	0.06
PCHQUICK	0.07	0.03	-0.02	0.02	-0.01	0.01	-0.02	-0.01	-0.02	-0.02	-0.01	-0.03	-0.01	-0.02	-0.01	0.05	-0.05	0.02	-0.02	-0.08
PCHSALEINV	0.04	0.05	0.05	0.04	0.04	0.01	0.04	0.04	-0.03	-0.01	0.08	-0.04	0.03	-0.04	0.03	0.01	-0.02	0.02	0.01	-0.01
PCHSALEINVT	0.07	0.03	0.06	0.06	0.08	0.05	0.08	0.07	-0.03	-0.04	0.09	-0.03	0.06	0.00	0.07	-0.02	0.03	0.01	0.03	0.01
PCHSALEREC	0.02	0.00	-0.12	0.05	-0.04	-0.05	-0.03	-0.04	0.03	0.07	-0.19	-0.01	-0.01	0.01	-0.02	-0.03	-0.05	0.06	-0.03	-0.02
PCHSALESGA	0.01	-0.06	-0.04	0.01	-0.05	-0.06	-0.02	-0.01	0.03	0.03	-0.08	0.04	-0.01	0.02	-0.03	-0.02	-0.05	0.02	-0.04	-0.10
PS	-0.01	0.00	0.01	-0.01	0.04	0.05	0.07	0.06	-0.08	-0.03	0.04	-0.01	0.05	-0.03	0.05	-0.02	0.06	0.07	0.05	0.03
QUICK	-0.08	-0.08	-0.08	-0.08	-0.10	-0.08	-0.11	-0.12	-0.01	0.10	-0.08	-0.08	-0.15	-0.09	-0.13	0.00	-0.09	-0.08	-0.07	-0.01
RD	-0.01	0.02	-0.03	0.02	0.00	0.03	-0.01	0.02	0.05	-0.02	0.06	-0.02	0.02	-0.02	0.06	-0.04	-0.01	0.01	0.09	0.08
RETVOL	0.03	0.06	0.07	0.08	0.08	0.09	0.09	0.08	0.03	-0.11	0.08	0.02	0.14	0.04	0.11	0.03	0.07	0.13	0.02	0.01
ROA	-0.01	0.00	0.05	0.02	0.08	0.07	0.09	0.06	-0.02	-0.04	0.02	-0.02	0.08	0.05	0.04	0.00	0.04	0.10	-0.02	0.03
ROAQ	0.05	0.01	0.07	0.03	0.10	0.10	0.11	0.08	0.00	-0.08	0.05	-0.02	0.11	0.06	0.08	0.00	0.08	0.13	-0.05	-0.01
ROAVOL	0.01	0.05	0.00	0.05	0.02	0.03	0.00	0.02	0.06	-0.02	0.02	0.05	0.08	0.08	0.02	0.06	0.05	0.11	-0.02	-0.04
ROE	0.03	0.00	0.07	0.01	0.10	0.09	0.10	0.09	-0.03	-0.06	0.07	0.00	0.09	0.06	0.04	0.01	0.08	0.07	-0.01	0.04
ROEQ	0.03	0.04	0.09	0.04	0.11	0.12	0.13	0.10	-0.02	-0.07	0.12	-0.01	0.11	0.07	0.09	0.00	0.12	0.08	0.02	0.03
ROIC	0.06	0.01	0.07	0.05	0.11	0.08	0.11	0.09	0.03	-0.11	0.02	0.03	0.12	0.11	0.10	0.00	0.11	0.10	0.00	-0.01
ROM	0.07	0.04	0.06	0.04	0.09	0.10	0.09	0.08	0.01	-0.12	0.08	0.01	0.09	0.05	0.06	0.00	0.13	0.07	0.04	-0.01
RSUP	0.09	-0.02	0.03	0.04	0.07	0.06	0.07	0.05	0.06	-0.09	0.02	0.07	0.03	0.03	0.02	-0.04	0.07	0.05	0.01	-0.03
SALECASH	-0.02	0.02	-0.06	-0.02	-0.05	-0.02	-0.05	-0.03	-0.05	0.08	-0.07	-0.06	-0.11	-0.06	-0.11	-0.01	-0.09	-0.05	0.01	0.08
SALEINV	0.07	0.06	0.13	0.07	0.12	0.08	0.14	0.13	0.04	-0.13	0.09	0.07	0.17	0.08	0.19	-0.06	0.14	0.03	0.14	-0.01
SALEREC	-0.10	0.01	-0.01	-0.06	-0.03	-0.06	0.00	-0.02	-0.11	0.06	-0.04	-0.10	-0.02	-0.04	-0.01	-0.04	-0.05	-0.06	-0.04	0.07
SGR	0.07	0.04	0.09	0.15	0.05	0.02	0.05	0.03	0.13	-0.06	0.06	0.06	0.06	0.06	0.07	0.06	0.05	0.06	0.06	-0.05
SHR1	0.03	0.07	0.10	0.03	0.07	0.05	0.07	0.06	0.05	-0.10	0.08	0.02	0.10	0.08	0.08	-0.03	0.11	0.10	0.04	-0.02
SHR5ANN	-0.02	0.00	0.05	0.05	0.01	0.01	0.01	-0.01	0.06	-0.03	0.03	-0.01	0.08	0.04	0.06	0.04	0.04	0.02	-0.01	-0.03
SHR5MO	-0.02	0.00	0.04	0.05	0.03	0.01	0.02	0.00	0.07	-0.04	0.02	-0.01	0.10	0.06	0.08	0.03	0.04	0.02	-0.01	-0.03
SP	0.01	-0.01	0.00	0.03	-0.04	-0.06	-0.07	-0.06	0.13	-0.05	0.04	0.08	0.02	0.05	0.01	0.06	0.03	0.01	0.01	-0.15
SPI	0.03	0.03	0.02	0.00	0.04	0.05	0.04	0.03	-0.06	0.00	0.02	-0.01	-0.02	-0.04	-0.01	-0.01	0.00	0.00	0.11	0.02
STDACC	0.06	0.09	0.06	0.04	0.13	0.07	0.09	0.10	0.02	-0.15	0.06	0.03	0.10	0.05	0.09	-0.02	0.06	0.10	0.11	-0.01
STDCF	0.08	0.09	0.06	0.07	0.14	0.10	0.13	0.13	0.02	-0.17	0.06	0.03	0.11	0.04	0.11	-0.02	0.05	0.10	0.13	0.00
STDTURN	-0.03	-0.04	-0.07	-0.11	-0.10	-0.09	-0.09	-0.07	-0.07	0.11	-0.05	-0.05	-0.15	-0.06	-0.13	-0.04	-0.09	-0.17	-0.04	0.01
SUE	0.05	-0.03	0.06	0.03	0.07	0.07	0.08	0.06	0.04	-0.04	0.09	0.07	0.01	0.02	0.03	-0.04	0.08	0.01	0.04	0.05
TANG	0.00	0.01	0.01	-0.04	0.00	0.00	0.02	0.01	-0.03	0.05	0.00	-0.03	-0.07	-0.03	-0.06	-0.05	-0.05	-0.09	-0.02	0.09
TIBI	-0.01	0.06	-0.07	0.01	-0.01	-0.03	-0.02	-0.06	0.00	0.07	-0.06	-0.07	0.05	0.03	0.01	0.01	-0.02	-0.03	0.08	-0.06
TURN	0.00	0.02	0.01	0.07	0.01	0.02	0.00	0.01	0.07	-0.05	0.04	0.01	0.12	0.04	0.09	0.06	0.06	0.14	0.03	-0.03
TURN3	0.03	0.03	0.05	0.09	0.03	0.03	0.03	0.03	0.09	-0.09	0.05	0.04	0.14	0.07	0.12	0.03	0.11	0.13	0.05	-0.03
TURNL	0.01	0.02	0.02	0.07	0.01	0.02	0.01	0.01	0.06	-0.06	0.05	0.01	0.11	0.03	0.09	0.06	0.06	0.13	0.03	-0.04
ZEROAVG	0.03	-0.03	0.03	0.07	0.00	0.01	0.00	0.00	0.10	-0.10	0.04	0.05	0.10	0.06	0.08	0.06	0.09	0.12	0.01	-0.01
ZEROTOT	0.03	-0.03	0.03	0.07	0.00	0.01	0.00	0.00	0.10	-0.10	0.04	0.05	0.10	0.06	0.08	0.06	0.09	0.12	0.01	-0.01

Table IA.III (continued)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Anomaly	CHINV	CHP-MIA	CHTAX	CIN-VEST	CSUE	CUR-RAT	DEPR	DOL-VOL	DROAQ	DROEQ	EAR EAR	EGR	EP	FERR	FP	GPA	GRLTD	GRL-TNOA	HERF	HIRE
ABSACC	0.02	-0.02	-0.04	0.05	0.06	-0.13	-0.06	0.00	-0.03	0.01	0.00	0.05	0.11	-0.12	-0.05	0.01	0.02	-0.04	-0.06	0.04
ACC	0.07	0.02	0.08	0.06	-0.06	0.00	-0.03	0.00	-0.03	0.01	0.05	0.00	-0.07	0.03	-0.05	-0.04	-0.06	0.01	0.07	0.00
AGE	0.05	0.00	-0.02	0.09	0.08	-0.15	-0.06	0.07	-0.01	0.01	0.09	0.08	0.09	-0.10	0.01	0.11	0.03	-0.05	-0.03	0.03
AGR	0.05	0.03	0.01	0.05	0.09	-0.09	0.00	0.05	-0.01	0.00	-0.02	0.06	0.10	-0.06	-0.06	0.03	0.06	0.05	-0.06	0.09
BETA1	0.05	0.02	0.03	0.05	0.04	-0.11	-0.02	0.07	-0.08	0.00	0.03	0.07	0.08	-0.01	-0.06	0.06	0.01	-0.05	-0.01	0.04
BETA1LAG	0.05	0.05	0.02	0.01	0.03	-0.13	-0.04	0.09	-0.12	-0.02	0.03	0.06	0.07	0.01	-0.03	0.08	0.03	-0.05	-0.01	0.05
BETA3	0.02	0.02	0.04	0.05	0.09	-0.12	-0.02	0.07	-0.05	0.04	0.05	0.06	0.08	0.04	-0.03	0.08	0.01	-0.06	-0.02	0.03
BETA3LAG	0.05	0.02	0.05	0.04	0.11	-0.13	-0.05	0.07	-0.02	0.05	0.09	0.09	0.07	0.02	0.00	0.08	0.02	-0.05	0.01	0.05
BM	0.08	0.03	-0.04	0.02	0.01	0.02	0.00	0.03	0.02	0.00	-0.02	0.05	0.06	-0.17	-0.13	-0.14	0.06	0.09	-0.09	0.12
CASH	0.02	-0.02	-0.05	-0.09	-0.02	0.00	-0.06	-0.04	0.00	0.00	-0.07	0.00	-0.06	0.16	0.05	-0.02	0.02	0.02	0.13	0.00
CASHDEBT	-0.01	0.01	0.03	0.07	0.05	-0.04	0.00	0.08	-0.02	0.01	0.10	0.06	-0.02	-0.06	0.02	0.10	0.04	-0.06	0.02	0.04
CASHPR	0.10	0.08	0.01	0.01	0.05	-0.09	-0.07	-0.01	0.03	0.03	0.03	0.07	0.10	-0.11	-0.01	-0.03	0.06	0.03	-0.04	0.09
CEIANN	0.09	0.03	0.03	-0.03	0.06	-0.10	-0.03	0.06	-0.04	0.02	0.05	0.10	0.07	-0.02	-0.01	0.12	0.04	0.05	-0.02	0.11
CEIFY	0.03	0.05	0.00	0.00	0.07	-0.08	0.00	-0.01	0.05	0.06	0.02	-0.02	0.06	-0.01	-0.09	0.06	-0.04	-0.01	-0.03	0.05
CEIMO	0.08	0.02	0.08	0.00	0.14	-0.11	-0.06	0.02	0.02	0.08	0.09	0.06	0.05	0.03	0.01	0.13	0.03	0.02	-0.01	0.08
CFPIA	0.00	-0.04	0.00	0.02	-0.04	0.04	-0.04	0.04	0.02	-0.01	-0.08	0.03	0.04	-0.07	0.03	0.00	0.05	0.09	-0.07	0.04
CFPJUN	0.08	-0.02	0.02	0.15	0.13	-0.12	-0.07	0.01	0.05	0.08	0.08	0.06	0.11	-0.05	0.00	0.06	0.03	0.04	-0.03	0.08
CHATOIA	-0.01	-0.04	-0.03	0.02	0.08	-0.03	-0.03	0.00	-0.01	0.01	0.03	-0.02	0.05	0.04	-0.03	0.10	0.02	0.04	-0.01	0.00
CHEMPIA	-0.01	-0.04	0.07	0.04	0.04	-0.04	-0.01	0.07	-0.04	-0.02	0.05	0.02	0.03	-0.04	-0.04	0.03	-0.03	-0.04	0.00	0.04
CHFEPS	-0.11	0.07	0.10	-0.04	-0.04	-0.01	0.13	-0.02	-0.03	-0.05	0.01	-0.12	-0.12	0.08	-0.11	-0.07	-0.10	-0.16	-0.05	-0.11
CHINV	0.11	0.02	0.06	0.00	0.05	-0.05	0.01	0.02	0.03	0.03	-0.03	0.06	0.06	0.01	0.03	-0.01	0.04	0.03	-0.05	0.09
CHPMIA	0.09	0.04	-0.03	0.00	0.02	0.06	0.05	0.00	0.00	0.06	0.06	0.08	-0.08	0.15	0.05	-0.02	0.02	0.10	0.01	0.05
CHTAX	0.00	0.02	-0.03	-0.11	0.04	0.02	-0.03	0.01	0.02	0.03	-0.03	-0.03	-0.01	0.11	0.05	0.00	0.03	0.03	0.04	0.00
CINVEST	-0.04	-0.04	0.09	-0.03	0.04	0.00	0.00	-0.02	0.02	0.04	-0.06	-0.03	0.03	-0.03	0.08	0.04	-0.01	0.01	-0.07	0.00
CSUE	0.05	-0.01	0.01	-0.08	0.01	-0.08	-0.04	0.07	-0.09	-0.01	-0.08	0.00	0.06	-0.02	0.00	0.05	0.04	0.03	0.03	0.04
CURRAT	-0.07	0.00	-0.03	-0.04	-0.06	0.14	0.08	0.00	0.00	-0.04	-0.07	-0.08	-0.10	0.00	0.03	-0.04	-0.01	0.02	-0.02	-0.08
DEPR	-0.09	0.01	-0.01	-0.06	-0.09	0.12	0.06	-0.02	0.02	-0.05	-0.02	-0.09	-0.08	0.02	0.04	-0.04	-0.06	0.03	0.07	-0.10
DOLVOL	-0.06	-0.02	-0.05	0.14	-0.02	0.04	0.11	0.00	0.03	-0.09	0.01	-0.05	0.07	-0.04	-0.13	-0.11	0.00	0.01	-0.13	0.02
DROAQ	-0.01	-0.03	0.01	-0.08	0.02	-0.03	-0.02	0.04	-0.06	0.04	-0.11	-0.03	0.00	-0.01	0.06	0.00	0.02	0.04	-0.01	0.06
DROEQ	-0.01	-0.01	0.04	-0.05	0.02	-0.05	-0.05	0.05	-0.08	0.06	-0.08	0.02	0.07	0.07	0.08	0.04	0.03	0.01	0.04	0.04
EAR	-0.02	0.02	-0.02	-0.05	-0.04	0.00	0.02	0.04	-0.08	-0.08	-0.09	-0.01	0.02	0.08	-0.07	-0.04	0.03	0.03	0.00	0.01
EGR	0.07	0.02	0.00	0.01	0.05	-0.12	-0.04	0.09	-0.02	0.01	-0.03	0.07	0.09	-0.01	-0.04	0.03	0.04	0.01	0.04	0.10
EP	0.06	0.02	-0.01	0.10	0.11	-0.12	-0.06	0.00	0.04	0.05	0.09	0.04	0.10	-0.11	-0.01	0.07	0.00	0.00	-0.07	0.04
FERR	-0.02	-0.01	0.18	0.02	0.02	-0.01	0.07	-0.14	0.03	0.05	0.08	-0.09	-0.11	0.09	0.04	0.01	-0.03	-0.03	-0.05	-0.08
FP	0.00	-0.01	0.00	0.03	0.07	-0.10	-0.02	0.10	-0.10	-0.03	0.00	-0.01	-0.02	0.14	-0.02	0.08	-0.01	-0.08	0.08	0.00
GPA	-0.08	-0.01	-0.02	-0.01	0.08	-0.07	0.04	0.09	-0.04	-0.02	0.11	-0.01	0.00	0.10	0.05	0.18	0.00	-0.10	0.05	-0.05
GRLTD	0.07	-0.01	-0.02	0.01	0.06	-0.04	0.00	0.03	-0.06	-0.06	-0.04	0.07	0.05	-0.08	-0.04	0.02	0.12	0.05	-0.01	0.09
GRLTNOA	0.07	0.07	0.04	0.01	0.10	-0.08	-0.05	0.08	0.04	0.01	0.06	0.05	0.03	-0.04	0.04	0.04	0.06	0.02	0.05	0.01
HERF	0.02	-0.06	0.04	0.05	0.05	-0.18	-0.11	0.00	-0.01	0.02	-0.03	0.00	0.15	0.14	0.02	0.04	-0.04	0.01	-0.01	0.03
HIRE	0.09	0.00	0.03	0.03	0.07	-0.09	-0.01	0.08	-0.03	0.01	0.01	0.11	0.06	-0.09	-0.02	0.02	0.06	0.04	-0.02	0.15
IDIOVOL	0.06	0.03	0.02	0.06	0.11	-0.15	-0.06	0.06	-0.02	0.04	0.08	0.10	0.06	-0.03	-0.02	0.10	0.04	-0.05	0.01	0.07
ILLIQ	-0.05	0.00	-0.04	0.07	-0.05	0.09	0.14	0.01	0.04	-0.06	-0.03	-0.05	0.01	-0.01	-0.12	-0.16	0.02	0.04	-0.12	0.02
INDMOM12M	0.03	-0.01	0.03	-0.01	-0.02	-0.05	0.02	0.09	-0.07	-0.02	-0.11	0.01	-0.03	0.08	-0.03	0.03	0.04	-0.02	-0.01	0.03
INDMOM1M	0.02	-0.04	-0.03	-0.07	0.04	-0.11	-0.02	0.07	-0.07	0.00	-0.05	0.07	0.07	0.12	0.13	0.16	0.09	0.16	0.07	0.06
MAXRET	0.03	0.05	0.07	0.06	0.11	-0.09	-0.01	0.04	0.00	0.06	0.07	0.06	0.00	0.00	-0.01	0.06	0.02	-0.07	-0.02	0.03
MOM12M	0.00	0.01	0.02	-0.05	-0.03	-0.02	0.04	0.10	-0.09	0.00	-0.07	-0.03	-0.06	0.16	-0.01	0.02	0.01	-0.05	0.03	0.00
MOM1M	-0.02	-0.01	0.05	0.11	-0.09	0.12	0.00	-0.06	0.09	0.01	0.00	-0.01	-0.10	-0.19	-0.11	-0.18	-0.01	-0.08	-0.03	-0.08
MOM36M	0.04	0.03	-0.01	0.00	0.02	-0.08	0.01	0.00	0.01	-0.02	-0.04	0.03	0.07	-0.01	0.00	0.01	0.05	0.09	-0.09	0.09
MOM6M	0.02	0.01	0.05	0.00	-0.04	0.01	0.02	0.08	-0.08	0.01	-0.06	-0.03	-0.06	0.18	0.00	-0.01	-0.02	-0.04	0.02	0.01
MS	0.02	-0.01	0.02	-0.01	0.02	-0.06	-0.03	0.02	-0.03	0.00	0.06	0.00	-0.03	0.25	0.11	0.10	-0.03	-0.02	0.14	-0.07

Table IA.III (continued)

(1) Anomaly	(2) CHINV	(3) CHPMIA	(4) CHTAX	(5) CINVEST	(6) CSUE	(7) CURRAT	(8) DEPR	(9) DOLVOL	(10) DROAQ	(11) DROEQ	(12) EAREAR	(13) EGR	(14) EP	(15) FERR	(16) FP	(17) GPA	(18) GRLTD	(19) GRLTNOA	(20) HERF	(21) HIRE
MVE	-0.09	-0.03	0.01	0.11	-0.02	0.18	0.18	0.02	0.07	-0.08	0.00	-0.10	-0.01	-0.03	-0.19	-0.15	-0.01	-0.01	-0.17	-0.03
NINCR	-0.02	0.02	0.02	-0.02	0.06	-0.06	-0.02	0.05	-0.02	0.03	-0.02	-0.03	0.05	-0.03	0.00	0.06	-0.03	-0.04	0.05	-0.05
NOA	0.05	0.03	0.02	-0.03	0.08	-0.07	-0.06	-0.01	0.06	-0.04	0.03	0.05	0.05	0.04	0.13	0.01	0.03	0.10	0.07	0.04
NSIANN	0.02	0.02	-0.04	-0.05	0.05	-0.07	-0.03	0.07	-0.06	-0.01	0.01	0.05	0.07	0.00	-0.02	0.15	0.00	0.04	0.05	0.08
NSIFY	0.03	0.05	-0.05	-0.06	0.07	-0.07	-0.02	0.06	-0.03	-0.01	0.03	0.03	0.05	-0.02	-0.06	0.06	0.00	0.02	0.04	0.08
NSIMO	0.06	0.02	0.04	-0.04	0.08	-0.09	-0.05	0.02	0.00	0.04	0.05	0.03	0.06	0.03	-0.02	0.12	0.02	0.00	0.02	0.08
OL	-0.07	-0.06	-0.07	-0.03	0.03	-0.02	0.04	0.03	-0.07	-0.04	0.08	0.00	-0.04	0.06	0.02	0.12	0.01	-0.02	0.04	-0.04
OPERPROF	-0.04	0.01	0.00	0.09	0.08	-0.09	0.00	0.06	-0.04	-0.01	0.07	0.02	0.04	-0.07	-0.01	0.15	-0.02	-0.09	-0.03	-0.05
ORGCAP	-0.12	0.00	-0.09	-0.05	-0.01	-0.01	0.04	0.08	-0.07	-0.09	-0.02	-0.01	0.03	0.03	0.01	0.10	-0.01	-0.03	0.02	-0.07
OSCORE	0.00	0.02	0.06	0.07	0.07	-0.07	-0.05	0.01	0.00	0.01	0.14	0.06	-0.02	0.03	0.05	0.13	0.07	0.00	0.00	0.03
PCHCURRAT	0.04	0.00	-0.04	-0.02	-0.11	0.01	0.03	-0.02	-0.08	-0.06	-0.05	-0.03	0.02	-0.08	-0.09	-0.02	0.00	0.04	-0.02	0.02
PCHDEPR	0.02	-0.03	-0.05	-0.03	-0.03	-0.02	0.02	-0.07	-0.05	-0.03	-0.02	-0.02	-0.07	0.03	-0.02	0.02	-0.02	0.04	0.02	-0.03
PCHGMSALE	0.01	-0.11	-0.04	-0.06	-0.03	0.02	0.02	0.05	-0.11	-0.03	0.04	0.00	-0.05	0.03	0.00	0.08	-0.03	0.02	0.05	-0.03
PCHQUICK	0.07	-0.05	0.02	0.01	-0.05	0.07	0.04	0.01	0.00	0.02	-0.02	-0.04	-0.02	-0.03	-0.06	-0.01	0.01	0.01	0.00	0.01
PCHSALEINV	0.05	-0.01	0.04	-0.04	0.04	-0.01	0.06	-0.07	0.01	0.05	0.09	-0.01	-0.03	0.02	-0.02	0.07	0.05	0.05	-0.07	0.01
PCHSALEINVT	0.05	-0.03	0.00	-0.01	0.07	-0.06	0.01	-0.03	0.00	0.07	0.09	0.01	0.01	0.00	0.01	0.12	0.04	0.04	0.00	0.01
PCHSALEREC	0.12	-0.07	0.00	0.08	0.07	0.02	0.00	-0.01	0.07	0.07	0.09	0.06	-0.11	0.11	-0.08	-0.07	0.05	0.08	0.10	0.03
PCHSALESGA	-0.02	0.05	-0.03	-0.10	-0.03	-0.04	-0.04	-0.03	-0.04	-0.01	0.01	0.03	-0.02	-0.05	-0.03	-0.02	0.01	0.01	0.03	0.00
PS	-0.01	-0.06	0.03	0.10	0.08	-0.08	-0.04	0.00	-0.03	0.01	0.09	0.00	-0.01	0.03	0.02	0.10	-0.02	-0.07	0.03	0.00
QUICK	-0.05	0.03	-0.01	-0.05	-0.07	0.13	0.06	0.01	0.00	-0.03	-0.10	-0.08	-0.07	0.02	0.03	-0.08	-0.04	0.00	-0.01	-0.05
RD	0.04	0.01	-0.02	0.03	-0.03	0.01	-0.03	-0.01	0.03	-0.03	-0.06	-0.03	0.00	0.12	0.01	-0.07	0.01	0.01	0.02	0.05
RETVOL	0.03	0.03	0.05	0.05	0.13	-0.10	0.00	0.05	0.00	0.06	0.07	0.06	0.01	0.01	-0.01	0.10	0.03	-0.05	-0.03	0.04
ROA	-0.05	0.02	-0.01	0.06	0.05	-0.06	0.01	0.07	-0.06	-0.03	0.08	0.04	-0.01	-0.07	0.03	0.14	0.04	-0.07	-0.03	-0.03
ROAQ	-0.04	0.04	0.06	0.03	0.10	-0.09	-0.03	0.07	-0.03	0.02	0.02	0.03	0.03	-0.07	0.04	0.13	0.04	-0.04	0.00	-0.03
ROAVOL	0.02	0.06	0.04	0.07	0.04	-0.07	0.00	0.04	0.00	-0.01	0.04	0.02	0.03	-0.16	-0.04	0.02	0.00	-0.06	-0.07	0.00
ROE	-0.03	0.03	-0.02	0.07	0.08	-0.08	-0.03	0.01	-0.04	0.02	0.04	0.03	0.02	-0.08	0.01	0.13	0.00	-0.10	-0.01	-0.03
ROEQ	0.00	0.04	0.01	0.00	0.10	-0.10	-0.04	0.06	-0.06	0.03	0.00	0.02	0.08	-0.07	0.02	0.14	0.02	-0.05	0.00	-0.02
ROIC	-0.02	0.01	-0.01	0.10	0.04	-0.09	-0.03	0.08	-0.05	-0.03	0.05	0.06	0.05	-0.09	0.00	0.11	0.03	-0.03	-0.02	0.00
ROM	0.04	-0.02	-0.02	0.07	0.10	-0.09	-0.06	0.04	-0.01	0.01	0.02	0.01	0.12	-0.09	-0.01	0.11	0.04	0.02	-0.02	0.03
RSUP	0.08	0.02	-0.04	-0.03	-0.01	-0.07	0.00	0.03	0.00	-0.05	-0.03	0.00	0.07	-0.03	-0.08	0.03	0.05	-0.04	0.01	0.02
SALECASH	0.02	-0.02	0.07	-0.05	-0.05	0.09	-0.01	-0.03	0.06	0.02	-0.05	-0.04	-0.07	0.05	0.04	-0.07	-0.02	0.02	0.00	-0.03
SALEINV	0.06	0.07	-0.03	0.04	0.05	-0.13	-0.07	0.04	-0.05	0.01	0.01	0.10	0.10	0.04	0.01	0.07	0.02	0.03	0.05	0.09
SALEREC	-0.13	-0.06	-0.05	-0.04	0.04	0.01	0.03	-0.04	-0.06	-0.01	0.10	0.00	-0.09	0.10	0.06	0.13	0.00	0.00	0.08	-0.06
SGR	0.06	0.02	0.03	0.01	0.05	-0.03	-0.01	0.07	-0.02	0.00	-0.02	0.11	0.07	-0.09	0.06	0.00	0.09	0.07	-0.04	0.13
SHR1	-0.02	0.04	-0.02	-0.08	0.07	-0.07	-0.04	0.03	-0.05	0.00	0.00	0.01	0.08	0.02	-0.04	0.11	-0.05	0.01	0.03	0.04
SHR5ANN	0.03	0.05	0.02	-0.08	0.02	-0.01	0.03	0.06	-0.04	0.03	0.00	0.03	0.02	-0.02	-0.04	0.01	0.01	0.01	-0.04	0.07
SHR5MO	0.02	0.07	0.02	-0.05	0.02	-0.01	0.02	0.08	-0.03	0.04	-0.01	0.05	0.02	0.00	-0.05	0.01	0.02	0.03	-0.02	0.08
SP	0.04	0.04	-0.04	0.03	0.02	-0.01	0.06	0.02	0.02	0.00	0.03	0.01	0.08	-0.19	-0.12	-0.03	0.02	0.06	-0.14	0.08
SPI	0.06	-0.03	0.05	-0.02	-0.03	0.00	0.01	-0.03	-0.04	-0.01	-0.04	-0.02	-0.02	0.14	0.02	-0.04	-0.02	0.04	0.04	0.04
STDACC	0.04	-0.03	-0.01	0.11	0.12	-0.12	-0.02	0.07	0.04	0.05	0.11	0.07	0.01	-0.13	0.00	0.12	0.01	0.00	-0.06	0.06
STDCF	0.06	-0.03	0.01	0.13	0.15	-0.13	-0.03	0.05	0.09	0.09	0.10	0.08	0.01	-0.13	0.02	0.13	0.05	0.03	-0.05	0.09
STDTURN	-0.04	-0.02	-0.06	-0.07	-0.11	0.08	0.02	-0.06	0.00	-0.03	-0.06	-0.08	-0.03	0.05	0.02	-0.07	-0.04	0.06	0.03	-0.04
SUE	0.05	-0.01	0.01	-0.08	0.01	-0.07	-0.04	0.07	-0.09	-0.01	-0.08	0.00	0.06	-0.02	0.00	0.05	0.04	0.03	0.02	0.04
TANG	0.00	-0.03	-0.02	-0.13	-0.05	0.02	-0.01	-0.03	-0.04	-0.06	-0.04	-0.03	-0.04	0.14	0.08	0.00	-0.01	0.00	0.08	-0.04
TIBI	0.06	-0.01	0.00	0.04	-0.05	0.07	0.04	-0.02	-0.09	0.01	0.05	0.01	-0.07	-0.07	-0.09	-0.01	-0.01	-0.01	0.01	0.03
TURN	0.04	0.08	0.07	0.06	0.08	-0.05	0.06	0.00	0.02	0.02	0.05	0.04	0.04	-0.05	-0.08	0.01	0.01	-0.05	-0.08	0.03
TURN3	0.04	0.06	0.04	0.05	0.10	-0.07	0.03	0.02	0.02	0.03	0.03	0.07	0.07	-0.04	-0.08	0.01	0.02	-0.04	-0.05	0.05
TURNL	0.03	0.06	0.05	0.06	0.06	-0.05	0.06	0.01	0.00	0.00	0.04	0.04	0.04	-0.05	-0.10	0.03	0.01	-0.04	-0.07	0.02
ZEROAVG	-0.01	0.02	0.04	0.08	0.09	-0.05	0.05	0.04	0.02	0.00	0.06	0.03	0.06	-0.01	-0.09	0.03	0.02	-0.04	-0.09	0.03
ZEROTOT	-0.01	0.02	0.04	0.08	0.09	-0.05	0.05	0.04	0.02	0.00	0.06	0.03	0.06	-0.01	-0.09	0.03	0.02	-0.04	-0.09	0.03

Table IA.III (continued)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Anomaly	IDIO-VOL	ILLIQ	INDM-OM12M	INDM-OM1M	MAX-RET	MOM-12M	MOM1M	MOM-36M	MOM6M	MS MS	MVE	NINCR	NOA	NSI-ANN	NSIFY	NSIMO	OL	OPER-PROF	ORG-CAP	OSCORE
ABSACC	0.06	-0.03	-0.05	0.02	0.03	-0.08	-0.06	-0.04	-0.02	-0.05	0.01	0.04	0.01	0.13	0.06	0.09	0.00	0.01	-0.01	0.10
ACC	0.01	0.01	0.02	-0.05	0.01	0.04	0.01	-0.03	0.02	0.04	-0.05	-0.07	-0.01	-0.04	-0.06	-0.02	-0.01	-0.02	-0.02	0.05
AGE	0.12	0.05	-0.01	-0.02	0.09	-0.03	0.01	0.04	0.07	0.02	0.05	0.07	-0.06	0.17	0.10	0.15	0.09	0.09	0.04	0.08
AGR	0.09	0.02	-0.12	-0.11	0.11	-0.13	0.11	0.00	-0.06	-0.06	0.04	0.04	0.01	0.08	0.04	0.11	-0.02	0.04	0.02	0.12
BETA1	0.09	0.04	-0.02	-0.03	0.05	-0.02	-0.03	0.00	0.02	-0.01	0.03	0.01	0.00	0.16	0.12	0.15	0.02	0.05	0.06	0.09
BETA1LAG	0.11	0.03	-0.05	-0.02	0.09	-0.01	-0.01	0.02	0.00	0.05	0.03	-0.02	0.01	0.17	0.12	0.16	0.04	0.09	0.05	0.12
BETA3	0.09	0.03	-0.01	-0.01	0.05	-0.01	-0.03	0.00	0.03	0.01	0.03	0.04	-0.02	0.17	0.12	0.16	0.06	0.07	0.06	0.11
BETA3LAG	0.11	0.02	0.02	0.01	0.08	0.03	-0.04	0.01	0.06	0.02	0.02	0.06	0.01	0.18	0.12	0.15	0.05	0.07	0.04	0.10
BM	-0.03	0.05	-0.11	-0.10	-0.05	-0.12	0.06	0.07	-0.04	-0.15	0.03	-0.02	0.08	0.07	0.06	0.03	-0.10	-0.08	-0.07	-0.01
CASH	0.03	-0.06	0.02	0.05	0.09	0.08	-0.08	-0.02	0.02	0.08	-0.07	-0.05	0.01	-0.14	-0.07	-0.08	-0.06	-0.01	-0.03	0.00
CASHDEBT	0.05	0.10	0.05	0.03	0.01	0.08	-0.03	0.09	0.13	0.05	0.07	0.00	-0.04	0.15	0.10	0.10	0.13	0.04	0.10	-0.05
CASHPR	0.06	-0.03	-0.06	-0.10	0.01	-0.04	-0.01	0.06	0.03	-0.01	-0.06	-0.01	0.05	0.10	0.10	0.05	-0.06	-0.03	-0.08	0.07
CEIANN	0.08	0.09	-0.02	-0.05	0.07	0.04	0.01	0.06	0.08	0.01	0.04	-0.01	-0.02	0.21	0.15	0.17	0.07	0.08	0.08	0.08
CEIFY	0.03	0.01	-0.10	-0.13	0.06	-0.07	0.08	0.00	-0.01	-0.02	0.02	0.01	-0.06	0.07	0.04	0.06	0.02	0.02	0.00	0.11
CEIMO	0.08	0.04	0.01	-0.05	0.06	0.06	0.01	0.02	0.11	0.02	0.00	0.06	-0.01	0.16	0.12	0.14	0.09	0.10	0.06	0.09
CFPIA	0.02	0.04	-0.02	0.05	0.06	0.05	-0.01	0.00	0.03	-0.02	0.02	0.02	0.09	-0.02	0.05	-0.03	-0.03	-0.02	0.06	-0.04
CFPJUN	0.11	0.00	0.00	-0.02	0.05	0.02	-0.02	0.02	0.06	0.01	-0.01	0.10	0.00	0.15	0.11	0.11	0.02	0.06	0.03	0.07
CHATOIA	0.03	0.00	0.00	0.02	0.04	0.01	-0.04	0.01	0.02	-0.01	0.03	0.03	0.03	0.06	0.07	0.08	0.01	0.08	0.07	0.01
CHEMPIA	0.00	0.09	-0.01	-0.04	-0.03	-0.03	0.03	0.02	0.04	-0.08	0.07	-0.04	-0.04	0.06	-0.01	0.08	0.03	-0.02	-0.02	-0.01
CHFEPS	-0.11	-0.01	-0.02	-0.05	-0.11	0.01	0.04	0.00	0.00	0.02	-0.02	0.00	-0.05	-0.12	-0.05	-0.09	0.02	-0.07	-0.03	-0.02
CHINV	0.05	0.03	-0.04	-0.01	0.06	0.00	-0.03	0.04	0.01	0.01	-0.01	-0.07	0.00	0.09	0.03	0.06	-0.05	0.00	0.03	0.09
CHPMIA	-0.05	0.06	0.08	0.04	0.02	0.10	-0.04	0.04	0.09	0.06	0.01	-0.03	0.08	0.03	-0.02	-0.02	-0.01	-0.09	0.06	-0.06
CHTAX	-0.03	0.04	0.05	0.03	0.02	0.06	-0.02	-0.03	0.02	-0.01	0.03	0.01	-0.05	-0.05	0.00	-0.03	0.03	-0.03	0.01	-0.06
CINVEST	0.04	-0.02	0.03	0.07	0.04	0.06	-0.03	-0.01	0.06	-0.02	-0.01	0.05	0.11	0.05	0.03	0.07	-0.03	0.04	0.03	0.05
CSUE	0.07	0.07	0.02	-0.04	0.10	0.01	0.01	0.00	-0.04	0.01	0.06	0.06	-0.05	0.00	0.05	0.01	0.05	0.03	0.00	0.03
CURRAT	-0.11	0.07	0.02	0.05	-0.07	0.00	0.03	-0.02	0.00	-0.03	0.07	0.00	-0.02	-0.13	-0.11	-0.13	-0.01	-0.06	-0.02	-0.10
DEPR	-0.11	0.05	-0.01	0.01	-0.05	0.05	0.06	-0.03	0.01	0.02	0.01	-0.06	-0.06	-0.14	-0.10	-0.13	-0.01	-0.05	0.00	-0.12
DOLVOL	-0.06	0.04	-0.04	-0.08	-0.08	-0.12	0.13	0.06	-0.09	-0.19	0.05	0.02	0.01	0.05	0.02	0.06	-0.08	-0.07	-0.02	-0.06
DROAQ	0.04	0.01	0.04	0.03	0.09	0.02	-0.04	-0.08	-0.05	0.00	0.04	0.06	-0.05	-0.02	0.02	-0.01	0.07	0.04	0.01	0.08
DROEQ	0.09	0.04	0.06	0.06	0.12	0.04	-0.05	-0.07	-0.03	0.02	0.04	0.05	-0.05	0.04	0.06	0.05	0.05	0.04	0.00	0.10
EAR	-0.01	0.05	-0.04	-0.06	0.03	-0.04	0.08	0.01	-0.12	-0.08	0.03	-0.08	-0.03	-0.08	0.00	-0.01	-0.02	0.00	-0.02	-0.02
EGR	0.08	0.09	-0.10	-0.11	0.08	-0.09	0.06	0.00	-0.03	-0.05	0.07	-0.02	-0.04	0.05	0.02	0.07	0.00	0.02	-0.01	0.11
EP	0.09	-0.01	-0.01	-0.05	0.03	0.01	0.02	0.01	0.06	0.00	0.00	0.08	-0.02	0.13	0.08	0.07	0.02	0.04	0.02	0.05
FERR	-0.10	-0.14	0.07	0.09	-0.08	0.10	-0.08	-0.09	0.01	0.15	-0.14	0.03	-0.01	-0.06	0.03	-0.03	0.12	-0.03	0.00	0.10
FP	0.06	0.04	0.04	-0.09	0.07	0.00	0.04	-0.04	0.00	0.02	0.09	0.00	-0.07	0.03	0.03	0.07	0.10	0.11	0.10	0.08
GPA	0.07	0.07	-0.03	0.00	0.09	-0.04	0.00	0.02	-0.01	0.07	0.09	0.03	-0.10	0.08	0.03	0.12	0.16	0.11	0.14	0.05
GRLTD	0.04	0.05	-0.07	-0.11	0.07	-0.13	0.08	0.03	-0.04	-0.06	0.07	-0.03	0.01	0.06	0.02	0.08	-0.02	0.02	0.04	0.02
GRLTNOA	0.05	0.08	-0.05	-0.02	0.06	-0.01	-0.04	0.03	0.00	0.01	0.04	0.01	0.01	0.06	0.03	0.04	0.02	0.01	0.03	0.00
HERF	0.18	-0.13	-0.02	0.01	0.15	-0.07	-0.11	-0.05	-0.06	0.03	-0.06	0.06	-0.02	0.07	0.07	0.11	0.01	0.18	-0.05	0.20
HIRE	0.05	0.11	-0.01	-0.06	0.05	-0.04	0.02	0.07	0.02	-0.06	0.08	-0.04	0.00	0.13	0.07	0.13	0.00	-0.02	0.00	0.05
IDIOVOL	0.12	0.03	0.02	-0.01	0.09	0.00	-0.01	0.03	0.04	0.02	0.04	0.06	-0.02	0.18	0.13	0.17	0.06	0.09	0.07	0.09
ILLIQ	-0.10	0.08	-0.03	-0.04	-0.09	-0.10	0.11	0.10	-0.09	-0.20	0.08	-0.02	0.01	-0.03	-0.01	-0.02	-0.13	-0.12	-0.01	-0.09
INDMOM12M	0.03	0.07	0.04	-0.01	0.06	0.01	-0.05	-0.01	-0.05	-0.02	0.10	-0.06	-0.04	-0.03	0.02	0.03	0.08	0.03	0.03	0.10
INDMOM1M	0.13	0.03	0.00	-0.03	0.18	0.03	0.01	0.03	0.01	0.09	0.04	0.05	0.05	0.10	0.12	0.09	0.06	0.16	0.18	0.03
MAXRET	0.08	0.03	0.04	-0.01	0.04	0.02	-0.02	0.04	0.07	0.01	0.02	0.06	-0.04	0.16	0.09	0.13	0.06	0.04	0.02	0.07
MOM12M	0.00	0.08	0.01	-0.08	0.06	0.02	0.04	-0.02	-0.06	0.01	0.10	-0.07	-0.02	-0.06	-0.01	0.00	0.02	0.01	0.08	0.08
MOM1M	-0.09	-0.02	0.04	0.12	-0.14	-0.04	-0.09	0.00	-0.06	-0.05	-0.03	-0.05	-0.02	-0.11	-0.17	-0.16	-0.07	-0.17	-0.16	-0.10
MOM36M	0.03	0.02	-0.10	-0.10	0.07	-0.10	0.08	0.07	-0.04	-0.04	0.03	-0.02	-0.02	0.02	0.02	0.03	-0.02	-0.03	-0.01	0.09
MOM6M	-0.02	0.08	0.01	-0.13	0.05	0.03	0.10	-0.01	-0.03	-0.02	0.08	-0.08	0.00	-0.07	-0.03	-0.03	-0.01	0.01	0.05	0.06
MS	0.06	-0.01	0.05	0.08	0.11	0.09	-0.05	-0.03	0.10	0.13	0.01	-0.06	-0.08	0.00	0.01	0.05	0.09	0.09	0.07	0.07

Table IA.III (continued)

(1) Anomaly	(2) IDIO-VOL	(3) ILLIQ	(4) INDM-OM12M	(5) INDM-OM1M	(6) MAX-RET	(7) MOM-12M	(8) MOM1M	(9) MOM-36M	(10) MOM6M	(11) MS MS	(12) MVE	(13) NINCR	(14) NOA	(15) NSI-ANN	(16) NSIFY	(17) NSIMO	(18) OL	(19) OPER-PROF	(20) ORG-CAP	(21) OSCORE
MVE	-0.18	0.11	-0.01	-0.06	-0.17	-0.09	0.15	0.08	-0.08	-0.24	0.12	0.03	-0.04	-0.05	-0.05	-0.04	-0.08	-0.14	-0.02	-0.17
NINCR	0.08	0.04	0.03	-0.05	0.11	-0.02	0.07	-0.03	-0.04	-0.01	0.07	0.11	-0.12	-0.01	0.01	0.01	0.07	0.11	0.02	0.05
NOA	0.06	0.01	0.04	-0.02	0.08	0.08	-0.04	0.04	0.08	0.01	-0.02	0.07	0.04	0.00	0.03	0.01	-0.07	0.04	-0.02	0.01
NSIANN	0.07	0.11	-0.08	-0.10	0.08	0.00	0.10	0.04	0.03	-0.02	0.06	0.00	-0.03	0.18	0.15	0.15	0.08	0.12	0.10	0.07
NSIFY	0.04	0.10	-0.09	-0.11	0.04	-0.02	0.07	0.04	0.03	-0.02	0.06	-0.06	-0.04	0.09	0.07	0.10	0.04	0.06	0.00	0.06
NSIMO	0.08	0.05	-0.07	-0.08	0.07	0.00	0.05	0.03	0.04	0.02	0.01	0.03	-0.05	0.14	0.11	0.14	0.09	0.13	0.03	0.09
OL	-0.02	0.06	-0.03	0.03	0.02	-0.02	0.06	0.02	0.00	0.08	0.07	-0.06	-0.06	-0.02	-0.03	0.05	0.14	0.04	0.13	-0.02
OPERPROF	0.08	0.04	0.01	-0.01	0.06	0.00	0.01	0.01	0.05	0.06	0.06	0.04	-0.10	0.14	0.09	0.16	0.14	0.14	0.12	0.04
ORGCAP	0.02	0.07	-0.10	0.04	0.08	-0.14	0.06	0.00	-0.11	0.01	0.11	-0.01	-0.07	0.01	-0.01	0.05	0.12	0.06	0.12	-0.01
OSCORE	0.05	0.02	0.06	0.08	0.04	0.14	-0.08	0.06	0.16	0.11	0.00	0.04	-0.01	0.14	0.07	0.09	0.13	0.05	0.12	-0.01
PCHCURRAT	-0.02	0.00	-0.10	-0.12	0.01	-0.09	0.13	0.04	-0.13	-0.04	-0.02	-0.07	0.03	-0.03	-0.08	-0.05	-0.08	-0.04	0.02	-0.01
PCHDEPR	-0.01	-0.04	-0.02	-0.07	0.03	0.05	0.04	0.02	0.01	0.08	-0.06	-0.11	0.04	-0.02	-0.03	0.00	-0.06	-0.02	0.07	-0.02
PCHGMSALE	0.01	0.09	-0.02	-0.03	0.04	0.01	0.02	0.02	0.03	0.04	0.07	-0.02	-0.05	0.02	0.03	0.04	0.05	0.08	0.08	-0.04
PCHQUICK	-0.04	0.03	-0.06	-0.08	0.01	0.00	0.03	0.01	-0.03	-0.02	0.01	-0.02	-0.01	0.04	-0.02	0.00	-0.04	-0.04	0.04	-0.02
PCHSALEINV	0.02	-0.07	-0.01	0.01	0.06	0.03	-0.04	-0.03	-0.01	0.07	-0.08	0.02	0.05	0.04	0.05	0.05	0.04	0.06	0.09	0.07
PCHSALEINVT	0.05	-0.04	0.00	-0.05	0.08	0.02	0.00	-0.01	0.00	0.07	-0.04	0.02	-0.01	0.06	0.06	0.08	0.05	0.10	0.10	0.08
PCHSALEREC	-0.07	0.04	0.07	0.04	-0.06	0.09	-0.05	0.07	0.08	0.00	0.03	-0.07	0.08	-0.07	-0.03	-0.03	-0.07	-0.10	0.00	-0.15
PCHSALESGA	-0.04	0.00	0.01	0.05	-0.06	-0.02	-0.12	0.00	-0.03	-0.01	-0.01	-0.10	0.07	-0.03	0.01	-0.06	0.00	-0.08	0.02	-0.07
PS	0.05	-0.02	0.05	-0.01	0.02	0.00	-0.03	-0.02	0.03	0.07	0.00	0.02	-0.02	0.04	0.02	0.07	0.15	0.07	0.08	0.02
QUICK	-0.09	0.06	-0.02	0.03	-0.06	-0.01	0.02	-0.02	-0.02	-0.06	0.04	-0.04	-0.03	-0.13	-0.12	-0.13	-0.06	-0.05	-0.06	-0.07
RD	0.02	-0.01	0.00	-0.01	0.04	0.03	-0.04	-0.07	0.03	-0.04	0.00	-0.08	-0.04	0.00	0.03	0.02	-0.05	0.02	-0.10	0.03
RETVOL	0.08	0.04	0.03	-0.03	0.06	0.02	0.00	0.02	0.07	0.01	0.04	0.07	-0.04	0.15	0.09	0.13	0.07	0.06	0.07	0.07
ROA	0.07	0.08	0.02	0.05	0.04	0.02	0.00	0.07	0.05	0.04	0.08	0.00	-0.05	0.14	0.07	0.10	0.11	0.08	0.13	0.00
ROAQ	0.10	0.08	0.02	0.02	0.09	0.02	-0.01	0.04	0.06	0.04	0.08	0.05	-0.08	0.14	0.10	0.11	0.13	0.13	0.12	0.01
ROAVOL	0.02	0.05	0.03	-0.04	-0.02	-0.01	0.02	0.04	0.04	-0.02	0.07	0.03	0.02	0.10	0.06	0.04	0.03	0.00	0.00	0.03
ROE	0.10	-0.01	0.04	0.01	0.06	0.01	0.01	0.05	0.03	0.05	0.02	0.02	-0.05	0.14	0.07	0.11	0.07	0.11	0.10	0.05
ROEQ	0.12	0.05	0.03	-0.02	0.11	0.00	0.04	0.00	0.02	0.03	0.08	0.10	-0.06	0.14	0.11	0.14	0.10	0.15	0.08	0.07
ROIC	0.11	0.06	0.01	-0.01	0.07	-0.01	0.04	0.06	0.05	0.00	0.07	0.02	-0.06	0.16	0.10	0.15	0.07	0.11	0.08	0.00
ROM	0.08	0.02	-0.01	-0.03	0.07	-0.02	-0.01	-0.02	-0.02	-0.01	0.05	0.10	-0.04	0.11	0.10	0.09	0.07	0.12	0.05	0.05
RSUP	0.02	0.04	-0.02	0.02	0.03	-0.04	-0.07	-0.02	0.00	-0.01	0.05	0.04	-0.05	0.00	0.03	0.00	0.02	-0.01	0.02	0.01
SALECASH	-0.05	-0.03	0.03	0.05	-0.03	0.08	-0.06	-0.07	0.01	0.00	-0.04	0.02	0.02	-0.12	-0.08	-0.16	-0.08	-0.07	-0.04	-0.05
SALEINV	0.13	-0.03	-0.01	-0.07	0.11	0.00	0.02	0.05	0.02	0.04	-0.02	-0.06	-0.06	0.11	0.10	0.15	0.04	0.08	0.01	0.13
SALEREC	-0.03	0.00	0.01	0.06	0.00	0.01	-0.01	-0.01	0.00	0.15	-0.01	-0.04	0.00	-0.03	-0.02	0.00	0.16	0.02	0.13	0.00
SGR	0.04	0.07	-0.03	0.00	0.06	-0.03	0.04	0.05	0.03	-0.06	0.05	0.00	0.02	0.09	0.03	0.06	-0.01	-0.01	0.01	0.05
SHR1	0.07	0.05	-0.11	-0.09	0.07	-0.02	0.06	0.03	0.01	0.00	0.03	-0.01	-0.03	0.11	0.10	0.11	0.05	0.11	0.02	0.11
SHR5ANN	0.03	0.09	-0.04	0.02	0.01	0.00	0.00	0.04	0.03	-0.04	0.05	0.02	0.02	0.12	0.06	0.08	0.01	0.06	0.04	0.02
SHR5MO	0.03	0.12	-0.03	0.02	0.02	0.00	0.00	0.06	0.04	-0.06	0.07	0.01	0.02	0.14	0.08	0.09	0.01	0.05	0.04	0.00
SP	-0.04	0.07	-0.08	-0.12	-0.05	-0.10	0.13	0.03	-0.04	-0.12	0.04	0.04	0.02	0.05	0.05	0.03	0.03	-0.04	0.01	0.02
SPI	0.01	-0.06	-0.03	0.00	0.04	-0.02	-0.02	-0.04	-0.06	0.02	-0.02	0.00	0.00	-0.06	-0.04	-0.05	-0.02	0.02	-0.01	0.03
STDACC	0.07	0.03	0.00	-0.06	0.05	-0.01	0.04	0.00	0.08	0.03	0.08	0.11	-0.05	0.11	0.08	0.10	0.10	0.05	0.09	0.02
STDCF	0.09	0.01	0.01	-0.02	0.07	0.00	0.02	-0.03	0.08	0.03	0.09	0.12	-0.05	0.12	0.07	0.11	0.07	0.04	0.09	0.02
STDTURN	-0.07	-0.06	-0.05	-0.01	-0.05	0.00	0.02	-0.03	-0.07	0.01	-0.06	-0.06	0.03	-0.16	-0.09	-0.14	-0.05	-0.04	-0.03	-0.06
SUE	0.07	0.07	0.01	-0.04	0.10	0.01	0.01	-0.01	-0.04	0.01	0.06	0.06	-0.05	0.00	0.05	0.01	0.06	0.03	0.00	0.03
TANG	0.02	-0.07	-0.01	0.02	0.07	0.04	-0.05	0.01	-0.01	0.03	-0.06	0.00	0.00	-0.12	-0.06	-0.08	-0.04	0.02	-0.01	0.03
TIBI	-0.03	0.02	0.01	-0.07	-0.07	0.02	0.07	0.02	0.09	0.02	0.02	-0.06	-0.02	0.04	0.06	0.04	0.01	0.00	0.05	-0.03
TURN	0.01	0.03	0.02	0.02	-0.02	-0.02	0.01	0.02	0.04	-0.05	0.03	0.05	0.00	0.13	0.09	0.12	0.00	-0.01	0.04	0.05
TURN3	0.04	0.03	0.01	0.02	0.00	-0.03	0.00	0.02	0.03	-0.05	0.02	0.06	0.00	0.15	0.11	0.14	-0.01	0.01	0.03	0.06
TURNL	0.01	0.04	0.00	0.01	-0.02	-0.03	0.00	0.02	0.03	-0.04	0.03	0.02	0.00	0.12	0.08	0.11	0.03	0.00	0.06	0.06
ZEROAVG	0.02	0.07	-0.01	-0.02	-0.01	-0.07	0.04	0.03	-0.01	-0.08	0.07	0.04	-0.03	0.14	0.09	0.14	0.02	0.01	0.04	0.03
ZEROTOT	0.02	0.07	-0.01	-0.02	-0.01	-0.07	0.04	0.03	-0.01	-0.08	0.07	0.04	-0.03	0.14	0.09	0.14	0.02	0.01	0.04	0.03

Table IA.III (continued)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Anomaly	PCHCU-RRAT	PCH-DEPR	PCHG-MSALE	PCHQ-UICK	PCHSA-LEINV	PCHSAL-EINVT	PCHSA-LEREC	PCHSA-LESGA	PS	QUICK	RD	RET-VOL	ROA	ROAQ	ROA-VOL	ROE	ROEQ	ROIC	ROM	RSUP
ABSACC	0.06	-0.04	-0.05	0.02	-0.07	-0.07	0.03	0.00	-0.02	-0.12	-0.14	0.07	0.06	0.08	0.10	0.07	0.11	0.08	0.07	-0.05
ACC	-0.09	0.08	-0.03	-0.05	0.05	0.02	0.01	0.10	-0.06	0.01	0.05	0.00	-0.02	-0.04	-0.07	-0.03	-0.08	-0.05	-0.11	-0.02
AGE	-0.07	-0.03	-0.01	-0.08	0.01	-0.02	0.08	-0.03	-0.01	-0.14	-0.10	0.13	0.08	0.14	0.07	0.07	0.11	0.10	0.10	-0.01
AGR	-0.12	0.03	-0.07	-0.11	0.01	0.00	0.02	-0.05	0.01	-0.07	-0.04	0.10	0.08	0.12	0.06	0.04	0.07	0.08	0.07	-0.03
BETA1	-0.05	-0.03	-0.03	-0.05	-0.01	-0.03	0.02	0.04	-0.02	-0.10	-0.06	0.06	0.06	0.09	0.04	0.07	0.09	0.07	0.07	-0.03
BETA1LAG	-0.06	-0.01	-0.01	-0.07	0.00	-0.02	0.07	0.00	0.00	-0.12	-0.11	0.11	0.09	0.09	0.06	0.11	0.10	0.10	0.06	-0.06
BETA3	-0.05	-0.03	-0.01	-0.06	-0.03	-0.05	0.04	0.01	-0.01	-0.12	-0.07	0.07	0.07	0.11	0.04	0.07	0.10	0.07	0.10	-0.01
BETA3LAG	-0.02	-0.02	-0.01	-0.02	-0.01	-0.03	0.05	-0.01	0.00	-0.12	-0.08	0.11	0.07	0.12	0.05	0.08	0.12	0.07	0.10	-0.02
BM	0.04	0.09	-0.10	0.00	0.02	0.02	0.00	0.01	-0.11	0.05	0.08	-0.03	-0.03	-0.04	0.03	-0.04	-0.04	-0.02	-0.03	-0.10
CASH	0.03	-0.02	-0.02	0.04	-0.02	0.03	-0.09	0.00	0.07	0.03	0.02	0.05	-0.03	-0.07	0.00	-0.02	-0.03	-0.02	-0.04	0.00
CASHDEBT	-0.02	-0.03	0.10	-0.02	-0.02	-0.03	0.06	-0.05	-0.03	-0.07	-0.08	0.04	0.00	0.04	-0.02	0.01	0.04	-0.01	0.03	0.04
CASHPR	-0.01	0.10	-0.05	-0.06	-0.01	0.01	0.00	0.04	-0.01	-0.06	0.03	0.04	0.05	0.05	0.06	0.04	0.06	0.04	0.02	-0.09
CEIANN	-0.04	0.01	0.05	-0.05	0.05	0.05	0.05	0.02	0.00	-0.09	-0.07	0.07	0.06	0.09	-0.03	0.07	0.07	0.06	0.06	-0.06
CEIFY	-0.01	0.00	0.00	-0.07	-0.02	-0.03	-0.06	-0.01	-0.01	-0.04	0.00	0.04	0.07	0.11	-0.05	0.07	0.08	0.05	0.02	-0.13
CEIMO	-0.02	0.01	0.06	-0.04	0.05	0.03	0.07	0.00	0.01	-0.10	-0.06	0.07	0.07	0.11	-0.03	0.07	0.10	0.07	0.07	-0.03
CFPIA	0.01	0.03	-0.03	0.02	-0.04	-0.03	0.04	0.00	0.01	0.04	-0.07	0.05	0.06	0.00	0.09	0.02	0.00	0.04	0.01	0.07
CFPJUN	0.01	-0.04	0.07	-0.04	-0.04	-0.04	-0.04	-0.03	0.01	-0.10	-0.10	0.10	0.08	0.15	0.02	0.08	0.14	0.09	0.11	0.03
CHATOIA	0.04	-0.01	0.03	0.00	0.08	0.08	-0.01	-0.05	0.02	-0.06	-0.07	0.05	0.05	0.03	0.08	0.04	0.07	0.04	0.05	0.03
CHEMPIA	-0.04	0.08	-0.01	-0.04	-0.01	-0.04	0.02	-0.04	-0.01	-0.05	-0.04	-0.01	-0.01	0.03	-0.04	-0.02	0.02	-0.02	0.05	0.04
CHFEPS	0.07	0.09	0.07	0.10	-0.03	-0.06	0.06	-0.02	-0.02	-0.01	0.05	-0.11	-0.10	-0.07	-0.11	-0.09	-0.05	-0.08	-0.06	-0.06
CHINV	-0.08	0.08	-0.04	-0.06	-0.04	-0.02	0.02	0.07	-0.02	-0.03	0.02	0.06	0.06	0.04	0.04	0.02	0.03	0.04	0.02	-0.02
CHPMIA	-0.05	0.01	0.03	0.00	-0.01	-0.01	-0.02	-0.03	-0.07	0.11	0.05	-0.03	-0.04	-0.10	-0.06	-0.07	-0.09	-0.08	-0.05	0.04
CHTAX	0.11	0.00	0.09	0.13	0.01	0.01	-0.02	-0.04	0.04	-0.01	-0.06	0.01	-0.02	-0.01	-0.03	-0.04	0.02	-0.02	0.04	0.08
CINVEST	-0.04	-0.02	0.03	-0.01	-0.10	-0.10	0.05	-0.05	-0.02	-0.04	-0.05	0.04	0.07	0.08	0.05	0.09	0.09	0.07	0.07	-0.02
CSUE	-0.04	0.00	0.05	0.05	0.00	0.03	0.05	-0.06	0.04	-0.07	-0.05	0.08	0.06	0.10	0.03	0.04	0.07	0.06	0.05	0.02
CURRAT	0.06	0.00	-0.01	0.05	-0.05	-0.01	-0.04	-0.02	-0.04	0.12	0.08	-0.10	-0.06	-0.05	-0.06	-0.06	-0.06	-0.07	-0.05	0.00
DEPR	0.02	0.01	0.01	0.05	0.03	0.03	-0.02	0.03	-0.03	0.10	0.08	-0.08	-0.08	-0.12	-0.11	-0.08	-0.13	-0.11	-0.07	0.06
DOLVOL	-0.03	-0.03	-0.02	-0.09	-0.02	-0.05	-0.01	-0.02	-0.10	0.04	0.07	-0.10	-0.04	0.01	0.00	-0.05	-0.05	-0.02	0.02	0.00
DROAQ	0.05	0.00	0.08	0.10	-0.07	-0.04	0.03	-0.03	0.07	-0.03	-0.05	0.08	0.08	0.03	0.01	0.03	0.07	0.06	0.00	-0.02
DROEQ	0.03	0.02	0.03	0.09	-0.01	0.00	0.07	-0.01	0.08	-0.03	-0.06	0.11	0.11	0.10	0.02	0.06	0.09	0.08	0.06	0.02
EAR	-0.03	0.02	-0.07	0.05	0.01	0.00	-0.02	0.06	0.01	-0.04	-0.04	0.00	-0.04	-0.04	0.02	-0.02	-0.04	-0.03	0.00	0.03
EGR	-0.07	0.04	-0.09	-0.08	0.03	0.02	0.04	0.02	0.01	-0.09	0.01	0.07	0.05	0.09	0.02	0.02	0.04	0.05	0.05	-0.05
EP	0.04	-0.01	0.06	0.02	-0.05	-0.04	-0.02	-0.05	-0.01	-0.10	-0.11	0.08	0.06	0.14	0.03	0.08	0.15	0.07	0.10	-0.01
FERR	0.01	0.14	0.19	0.08	0.00	-0.07	0.18	0.01	0.06	-0.02	-0.11	-0.06	0.02	-0.03	-0.12	-0.02	-0.03	-0.06	-0.05	0.03
FP	-0.04	-0.01	-0.01	0.01	-0.01	-0.03	0.12	-0.02	0.05	-0.13	-0.05	0.08	0.02	0.09	0.00	0.07	0.09	0.04	0.06	-0.02
GPA	-0.08	-0.06	0.06	-0.09	0.03	0.01	0.03	-0.02	0.04	-0.13	-0.05	0.09	0.04	0.10	-0.03	0.04	0.08	0.06	0.07	0.11
GRLTD	-0.11	0.02	-0.08	-0.09	-0.02	0.02	0.09	-0.03	-0.04	-0.03	0.00	0.08	0.02	0.07	0.09	0.04	0.05	0.05	0.03	-0.03
GRLTNOA	-0.03	0.06	-0.04	-0.02	0.01	0.02	0.01	0.02	0.04	-0.08	-0.07	0.06	0.01	0.05	0.02	0.01	0.05	0.05	0.07	0.03
HERF	-0.07	-0.01	0.00	-0.07	-0.01	0.02	0.02	0.06	0.12	-0.14	-0.17	0.13	0.17	0.13	0.16	0.19	0.16	0.17	0.12	0.02
HIRE	-0.08	0.05	-0.04	-0.05	0.00	0.01	0.02	0.01	-0.02	-0.06	0.02	0.07	0.02	0.06	0.01	-0.01	0.01	0.01	0.04	-0.04
IDIOVOL	-0.04	-0.02	0.00	-0.05	-0.02	-0.05	0.05	-0.03	0.00	-0.13	-0.10	0.12	0.09	0.14	0.05	0.09	0.13	0.10	0.09	-0.02
ILLIQ	-0.03	0.00	-0.05	-0.06	-0.01	-0.03	-0.09	0.03	-0.13	0.08	0.16	-0.14	-0.09	-0.07	-0.01	-0.09	-0.10	-0.07	-0.04	-0.02
INDMOM12M	0.04	0.07	0.00	0.06	0.03	0.04	-0.04	-0.01	0.07	-0.06	0.00	0.06	0.05	0.03	-0.03	0.03	0.00	0.02	-0.02	-0.08
INDMOM1M	-0.06	0.03	-0.01	-0.02	0.02	0.04	-0.03	-0.02	0.07	-0.12	-0.05	0.16	0.10	0.14	0.10	0.12	0.14	0.09	0.12	0.01
MAXRET	-0.03	0.00	0.02	-0.03	-0.01	-0.03	0.10	0.00	-0.03	-0.07	-0.06	0.06	0.04	0.10	0.01	0.04	0.10	0.04	0.06	-0.01
MOM12M	0.01	0.03	0.04	0.05	-0.01	-0.01	0.03	0.00	0.06	-0.04	0.00	0.04	0.03	-0.02	-0.05	0.03	-0.01	0.00	-0.03	-0.07
MOM1M	0.04	-0.04	-0.01	0.04	-0.07	-0.05	0.02	0.05	-0.11	0.15	0.10	-0.15	-0.11	-0.10	-0.08	-0.12	-0.13	-0.10	-0.13	0.03
MOM36M	-0.07	0.10	-0.06	-0.07	0.00	0.01	0.00	0.01	0.01	-0.05	0.04	0.04	0.04	0.05	0.03	0.02	-0.01	0.02	0.01	-0.04
MOM6M	0.01	0.05	-0.02	0.04	-0.01	0.00	-0.01	0.02	0.01	0.01	0.03	0.01	0.02	-0.04	-0.03	0.03	-0.01	-0.01	-0.01	-0.05
MS	-0.09	-0.02	0.02	-0.05	0.05	0.01	0.09	0.00	0.04	-0.09	-0.03	0.09	0.03	0.01	-0.01	0.02	0.00	-0.01	0.02	0.09

Table IA.III (continued)

(1) Anomaly	(2) PCHCU-RRAT	(3) PCH-DEPR	(4) PCHG-MSALE	(5) PCHQ-UICK	(6) PCHSA-LEINV	(7) PCHSAL-EINVT	(8) PCHSA-LEREC	(9) PCHSA-LESGA	(10) PS	(11) QUICK	(12) RD	(13) RET-VOL	(14) ROA	(15) ROAQ	(16) ROA-VOL	(17) ROE	(18) ROEQ	(19) ROIC	(20) ROM	(21) RSUP
MVE	-0.03	-0.05	0.00	-0.07	0.02	-0.01	-0.04	0.00	-0.13	0.15	0.16	-0.20	-0.12	-0.07	-0.05	-0.14	-0.11	-0.11	-0.03	0.00
NINCR	0.09	-0.02	0.07	0.14	0.01	-0.01	-0.02	-0.07	0.05	-0.09	-0.09	0.13	0.06	0.13	0.05	0.05	0.12	0.07	0.08	0.05
NOA	-0.02	0.02	-0.04	-0.01	-0.03	-0.01	0.03	-0.05	0.03	-0.04	0.00	0.08	0.03	0.06	0.07	0.07	0.09	0.03	0.08	0.01
NSIANN	-0.04	-0.02	0.06	-0.06	0.04	0.04	0.06	-0.02	-0.02	-0.08	-0.08	0.07	0.07	0.13	-0.04	0.09	0.10	0.05	0.07	-0.05
NSIFY	-0.03	0.00	0.03	-0.05	0.04	0.04	0.04	-0.05	-0.04	-0.05	-0.03	0.03	0.04	0.09	-0.07	0.04	0.04	0.02	0.03	-0.07
NSIMO	-0.03	-0.01	0.07	-0.04	0.03	0.03	0.07	-0.04	0.00	-0.09	-0.11	0.06	0.08	0.13	-0.02	0.10	0.11	0.07	0.06	-0.04
OL	-0.07	-0.10	0.05	-0.08	0.04	0.01	0.07	-0.08	0.03	-0.06	0.03	0.01	-0.01	-0.01	-0.09	-0.02	-0.03	-0.02	-0.03	0.09
OPERPROF	-0.01	-0.06	0.10	-0.02	0.00	-0.03	0.07	-0.05	0.03	-0.11	-0.13	0.09	0.06	0.11	0.02	0.09	0.12	0.08	0.10	0.07
ORGCAP	-0.08	-0.09	-0.08	-0.10	-0.03	-0.04	0.03	-0.05	-0.02	-0.10	-0.07	0.05	-0.01	0.00	0.02	0.01	0.00	0.03	0.03	0.08
OSCORE	0.00	0.01	0.12	-0.01	0.02	0.01	0.12	0.01	0.01	-0.09	-0.13	0.08	0.02	0.02	-0.02	0.02	0.05	0.01	0.04	0.10
PCHCURRAT	0.02	-0.03	-0.02	0.02	-0.03	0.00	-0.07	-0.04	-0.09	0.01	-0.01	0.00	-0.04	-0.02	0.08	-0.04	-0.03	-0.02	-0.05	-0.07
PCHDEPR	-0.10	0.03	0.01	-0.07	0.08	0.02	0.06	-0.01	-0.03	0.03	0.05	0.01	0.00	-0.05	-0.04	0.02	-0.06	-0.02	-0.06	0.01
PCHGMSALE	-0.04	-0.03	0.07	-0.06	-0.01	-0.01	-0.07	0.01	0.01	-0.01	-0.02	0.02	0.01	0.02	-0.02	0.03	0.04	0.01	-0.03	0.02
PCHQUICK	0.04	-0.02	0.02	0.03	-0.03	0.00	-0.11	-0.01	-0.06	0.09	0.00	0.00	0.01	0.03	0.03	-0.01	0.04	-0.02	-0.06	-0.04
PCHSALEINV	-0.04	0.03	0.09	-0.01	0.06	0.07	0.04	0.06	0.01	-0.03	-0.05	0.07	0.05	0.05	-0.03	0.05	0.05	0.06	-0.04	0.06
PCHSALEINVT	-0.08	0.01	0.05	-0.05	0.03	0.03	0.02	0.06	0.03	-0.07	-0.04	0.07	0.08	0.09	-0.02	0.09	0.09	0.07	0.00	0.03
PCHSALEREC	-0.10	-0.01	0.01	-0.08	0.10	0.09	0.06	0.02	-0.07	0.06	0.04	-0.06	-0.13	-0.10	-0.06	-0.12	-0.08	-0.12	-0.05	0.06
PCHSALESGA	0.02	0.08	0.00	0.00	-0.04	0.01	-0.04	0.05	-0.01	-0.03	-0.04	-0.06	-0.07	-0.12	-0.04	-0.03	-0.08	-0.05	-0.05	0.05
PS	-0.05	0.01	0.05	-0.05	-0.03	-0.06	0.03	-0.03	0.07	-0.11	-0.09	0.06	0.03	0.06	-0.01	0.05	0.07	0.04	0.04	0.04
QUICK	0.06	0.02	-0.02	0.06	-0.01	0.01	-0.01	0.03	-0.03	0.12	0.09	-0.09	-0.07	-0.07	-0.04	-0.07	-0.07	-0.07	-0.04	-0.01
RD	-0.04	0.10	-0.05	-0.04	0.11	0.12	0.01	0.04	0.03	0.04	0.05	0.01	0.05	-0.02	0.01	0.02	-0.05	0.00	-0.01	-0.05
RETVOL	-0.05	0.01	0.01	-0.04	-0.01	-0.03	0.09	0.00	-0.02	-0.08	-0.06	0.08	0.06	0.12	0.02	0.07	0.12	0.06	0.07	0.00
ROA	0.04	-0.02	0.03	0.01	-0.02	-0.04	0.10	-0.03	-0.02	-0.11	-0.09	0.07	0.04	0.10	0.04	0.06	0.10	0.06	0.05	0.03
ROAQ	0.01	0.01	0.05	-0.01	-0.04	-0.05	0.09	-0.05	-0.02	-0.12	-0.09	0.11	0.07	0.15	0.03	0.09	0.14	0.09	0.12	0.06
ROAVOL	0.03	0.06	-0.03	0.02	-0.07	-0.07	0.07	-0.05	-0.06	-0.06	-0.01	0.01	0.02	0.06	0.04	0.04	0.06	0.03	0.04	-0.07
ROE	0.00	-0.07	0.02	-0.02	-0.04	-0.06	0.07	-0.05	0.01	-0.12	-0.14	0.08	0.05	0.10	0.08	0.10	0.13	0.09	0.07	0.01
ROEQ	0.00	-0.03	0.06	0.04	-0.02	-0.03	0.08	-0.08	0.04	-0.14	-0.14	0.13	0.10	0.19	0.06	0.12	0.19	0.12	0.13	0.03
ROIC	-0.01	-0.06	0.02	-0.02	-0.05	-0.07	0.05	-0.06	-0.01	-0.11	-0.10	0.11	0.05	0.11	0.08	0.08	0.11	0.08	0.09	0.01
ROM	0.03	-0.01	0.09	0.02	-0.06	-0.05	0.01	-0.09	0.04	-0.09	-0.14	0.09	0.11	0.17	0.05	0.12	0.19	0.12	0.14	0.02
RSUP	0.02	-0.02	0.04	0.04	0.01	0.03	-0.02	-0.03	0.01	-0.06	-0.06	0.06	0.02	0.06	0.02	-0.01	0.07	0.03	0.03	0.01
SALECASH	0.09	0.01	-0.02	0.12	-0.01	0.03	-0.05	0.09	0.01	0.11	0.03	-0.05	-0.04	-0.10	0.00	-0.04	-0.05	-0.06	-0.04	0.01
SALEINV	-0.09	-0.02	-0.05	-0.08	0.02	-0.02	0.06	-0.03	0.04	-0.14	-0.02	0.13	0.09	0.07	0.04	0.07	0.04	0.08	0.04	-0.02
SALEREC	-0.10	-0.04	0.09	-0.09	0.00	0.01	0.05	-0.03	0.06	-0.02	0.02	-0.01	-0.02	-0.08	-0.14	-0.04	-0.07	-0.05	-0.07	0.10
SGR	-0.04	0.06	-0.06	-0.03	-0.04	-0.02	0.09	-0.02	0.01	-0.02	0.03	0.06	0.03	0.06	0.03	0.00	0.02	0.05	0.04	-0.04
SHR1	-0.06	-0.04	0.02	-0.07	0.04	0.03	0.06	-0.04	-0.01	-0.09	-0.06	0.05	0.06	0.12	-0.03	0.09	0.08	0.06	0.07	-0.06
SHR5ANN	-0.01	-0.07	0.04	-0.01	0.02	0.03	0.03	-0.02	-0.08	0.02	-0.05	0.02	0.02	0.02	-0.03	0.04	0.03	0.02	0.03	-0.07
SHR5MO	0.00	-0.05	0.03	0.00	0.02	0.02	0.02	-0.01	-0.09	0.02	-0.06	0.02	0.01	0.02	-0.04	0.03	0.02	0.01	0.03	-0.06
SP	-0.01	0.04	-0.04	-0.04	0.02	0.02	0.00	-0.03	-0.04	0.00	0.00	-0.03	0.02	0.04	-0.03	-0.01	-0.01	0.02	0.00	-0.08
SPI	0.05	-0.02	-0.05	0.07	-0.02	-0.01	-0.03	0.05	0.01	0.04	0.00	0.01	0.04	-0.06	0.01	-0.01	-0.04	0.00	0.01	-0.01
STDACC	0.00	-0.03	0.03	-0.05	-0.04	-0.05	0.03	-0.06	-0.01	-0.09	-0.08	0.08	0.06	0.16	0.01	0.06	0.15	0.06	0.07	0.05
STDCF	0.04	-0.05	0.05	0.00	-0.06	-0.07	-0.01	-0.07	0.00	-0.09	-0.09	0.10	0.08	0.18	0.01	0.07	0.19	0.07	0.08	0.02
STDTURN	0.06	0.01	-0.03	0.03	0.03	0.04	-0.08	0.01	0.02	0.08	0.05	-0.07	-0.04	-0.11	-0.03	-0.04	-0.10	-0.05	-0.07	-0.02
SUE	-0.04	0.00	0.05	0.05	0.00	0.03	0.05	-0.06	0.04	-0.07	-0.05	0.08	0.05	0.10	0.02	0.04	0.07	0.06	0.05	0.02
TANG	0.03	-0.04	0.02	0.05	0.01	0.06	-0.10	-0.01	0.05	0.03	0.05	0.04	-0.03	-0.05	0.00	-0.03	-0.03	-0.01	-0.02	0.05
TIBI	-0.05	-0.04	0.13	0.02	0.04	-0.01	0.05	-0.05	-0.07	0.07	0.11	-0.03	-0.05	-0.06	-0.08	-0.03	-0.07	-0.06	-0.07	-0.07
TURN	-0.03	0.01	0.03	-0.02	-0.03	-0.05	0.07	0.00	-0.06	-0.02	-0.03	0.00	0.01	0.07	0.00	0.01	0.06	0.02	0.07	-0.01
TURN3	-0.04	-0.01	0.03	-0.03	-0.02	-0.04	0.06	-0.02	-0.04	-0.05	-0.02	0.02	0.01	0.08	0.00	0.02	0.08	0.03	0.09	0.01
TURNL	-0.03	0.01	0.03	-0.02	-0.01	-0.03	0.07	0.01	-0.05	-0.03	-0.04	0.01	0.02	0.07	0.00	0.02	0.05	0.03	0.05	-0.03
ZEROAVG	-0.06	-0.01	0.03	-0.07	-0.01	-0.04	0.05	-0.01	-0.06	-0.05	-0.03	0.01	0.02	0.09	0.01	0.02	0.06	0.02	0.08	0.01
ZEROTOT	-0.06	-0.01	0.03	-0.07	-0.01	-0.04	0.05	-0.01	-0.06	-0.05	-0.03	0.01	0.02	0.09	0.01	0.02	0.06	0.02	0.08	0.01

Table IA.III (continued)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Anonaly	SALE-CASH	SALE-INV	SALE-REC	SGR	SHR1 SHR1	SHR-5ANN	SHR-5MO	SP	SPI	STD-ACC	STDCF	STD-TURN	SUE	TANG	TIBI	TURN	TURN3	TURNL	ZERO-AVG	ZERO-TOT
ABSACC	-0.07	0.07	0.02	0.02	0.08	0.12	0.13	0.11	0.00	0.05	0.09	-0.08	0.06	-0.02	0.09	0.08	0.07	0.06	0.06	0.06
ACC	0.05	0.01	0.00	-0.02	-0.03	0.02	0.02	-0.11	0.00	-0.02	-0.04	-0.01	-0.06	0.02	0.02	0.03	0.04	0.03	0.01	0.01
AGE	-0.14	0.12	0.04	0.03	0.12	0.11	0.12	0.12	-0.02	0.12	0.13	-0.14	0.08	-0.07	0.16	0.15	0.15	0.14	0.14	0.14
AGR	-0.04	-0.03	-0.03	0.10	0.09	0.15	0.13	0.13	-0.09	0.09	0.08	-0.11	0.09	-0.07	0.07	0.13	0.13	0.11	0.11	0.11
BETA1	-0.09	0.08	0.00	0.00	0.14	0.16	0.17	0.07	0.03	0.05	0.07	-0.08	0.04	-0.02	0.11	0.11	0.12	0.09	0.09	0.09
BETA1LAG	-0.09	0.10	0.04	0.02	0.15	0.17	0.19	0.03	0.01	0.09	0.11	-0.13	0.02	-0.02	0.16	0.16	0.17	0.15	0.15	0.15
BETA3	-0.11	0.08	0.04	0.01	0.14	0.16	0.17	0.07	0.01	0.08	0.08	-0.10	0.09	-0.02	0.15	0.12	0.13	0.10	0.10	0.10
BETA3LAG	-0.11	0.09	0.03	0.02	0.15	0.17	0.18	0.07	0.02	0.10	0.12	-0.13	0.10	-0.03	0.14	0.14	0.15	0.13	0.13	0.13
BM	0.08	-0.07	-0.12	0.11	0.07	0.08	0.08	0.16	-0.01	-0.04	-0.05	0.06	0.01	-0.01	-0.05	-0.04	-0.05	-0.05	-0.03	-0.03
CASH	0.04	0.00	-0.01	0.01	-0.10	-0.03	-0.05	-0.11	0.03	-0.05	-0.03	-0.02	-0.02	-0.01	-0.02	0.01	0.00	0.01	0.00	0.00
CASHDEBT	-0.11	0.03	0.11	-0.01	0.15	0.08	0.07	0.02	0.01	0.10	0.10	-0.07	0.05	-0.02	0.08	0.06	0.08	0.08	0.10	0.10
CASHPR	0.00	0.03	-0.05	0.10	0.10	0.10	0.11	0.07	0.02	0.01	0.02	-0.03	0.06	-0.02	0.03	0.05	0.04	0.03	0.02	0.02
CEIANN	-0.11	0.06	0.05	0.05	0.17	0.18	0.18	0.07	-0.01	0.08	0.05	-0.11	0.06	-0.03	0.11	0.12	0.13	0.11	0.11	0.11
CEIFY	-0.05	0.02	0.03	0.02	0.06	0.12	0.12	0.04	-0.02	-0.06	-0.07	-0.02	0.07	-0.03	0.06	0.03	0.01	0.00	0.01	0.01
CEIMO	-0.09	0.05	0.06	0.04	0.13	0.18	0.17	0.05	0.00	0.08	0.05	-0.10	0.13	-0.01	0.11	0.10	0.11	0.09	0.08	0.08
CFPIA	-0.02	0.00	-0.04	0.00	0.01	-0.03	-0.01	0.01	0.03	0.02	0.03	-0.02	-0.04	-0.06	-0.09	0.06	0.03	0.07	0.07	0.07
CFPJUN	-0.10	0.07	0.00	0.06	0.12	0.12	0.13	0.04	-0.02	0.00	0.03	-0.10	0.13	-0.02	0.05	0.10	0.10	0.09	0.08	0.08
CHATOIA	-0.05	-0.01	-0.01	0.01	0.03	0.02	0.02	0.08	-0.04	0.03	0.03	-0.03	0.08	-0.04	0.00	0.00	-0.01	0.00	0.04	0.04
CHEMPIA	-0.04	0.01	0.03	-0.05	0.02	0.09	0.09	0.07	-0.04	0.04	0.03	0.00	0.04	-0.01	0.01	0.08	0.09	0.07	0.06	0.06
CHFEPS	0.08	-0.01	0.06	-0.10	-0.08	-0.07	-0.09	-0.09	0.10	-0.12	-0.11	0.09	-0.04	0.07	0.08	-0.09	-0.07	-0.11	-0.10	-0.10
CHINV	0.00	0.00	-0.01	0.06	0.06	0.10	0.10	0.03	0.03	0.02	-0.01	-0.05	0.05	-0.04	0.02	0.04	0.01	0.02	0.02	0.02
CHPMIA	0.09	-0.02	-0.02	0.04	-0.01	0.01	0.01	-0.04	0.08	-0.10	-0.08	0.03	0.02	0.06	-0.04	-0.03	-0.05	-0.02	-0.03	-0.03
CHTAX	-0.03	-0.01	0.03	-0.03	-0.02	-0.01	-0.02	0.01	0.02	-0.01	-0.02	-0.01	0.03	-0.06	-0.01	-0.02	-0.04	-0.01	0.01	0.01
CINVEST	0.00	-0.05	-0.02	0.00	0.05	-0.03	-0.04	0.02	0.06	0.04	0.04	-0.01	0.04	0.01	0.03	0.01	0.00	0.00	-0.01	-0.01
CSUE	-0.07	0.02	-0.02	0.00	0.03	0.06	0.05	0.02	-0.01	0.11	0.07	-0.08	0.01	-0.06	0.06	0.08	0.08	0.08	0.08	0.08
CURRAT	0.07	-0.12	0.00	-0.05	-0.11	-0.09	-0.09	-0.05	-0.02	-0.10	-0.10	0.10	-0.06	-0.01	-0.15	-0.13	-0.14	-0.11	-0.09	-0.09
DEPR	0.08	-0.10	0.01	-0.07	-0.11	-0.12	-0.12	-0.08	0.01	-0.07	-0.09	0.12	-0.09	0.03	-0.10	-0.13	-0.14	-0.11	-0.10	-0.10
DOLVOL	0.08	-0.09	-0.07	-0.02	0.01	0.00	0.01	0.15	-0.04	-0.05	-0.03	0.08	-0.02	-0.02	-0.07	-0.07	-0.08	-0.08	-0.09	-0.08
DROAQ	-0.05	0.03	0.03	0.01	0.02	0.00	0.00	0.01	-0.03	0.10	0.03	-0.07	0.02	-0.04	0.08	0.05	0.04	0.05	0.06	0.06
DROEQ	-0.09	0.06	0.04	0.00	0.05	0.08	0.07	0.01	-0.06	0.09	0.04	-0.10	0.02	-0.02	0.10	0.10	0.10	0.11	0.10	0.10
EAR	0.00	-0.02	0.00	-0.01	-0.03	0.04	0.03	0.04	-0.07	0.04	0.03	-0.01	-0.04	-0.06	0.03	0.03	0.04	0.01	0.02	0.02
EGR	-0.04	0.03	-0.01	0.09	0.05	0.15	0.14	0.11	-0.06	0.03	0.04	-0.06	0.05	-0.08	0.07	0.11	0.11	0.08	0.09	0.09
EP	-0.08	0.05	0.01	0.02	0.07	0.08	0.08	0.03	0.00	0.01	0.05	-0.10	0.10	-0.03	0.10	0.08	0.07	0.07	0.06	0.06
FERR	0.03	-0.05	0.17	-0.07	-0.05	-0.02	-0.02	-0.20	0.02	-0.05	-0.05	0.07	0.02	0.11	0.01	-0.08	-0.05	-0.07	-0.10	-0.10
FP	-0.09	0.00	0.07	-0.06	0.02	0.07	0.07	-0.02	-0.07	0.09	0.09	-0.12	0.07	-0.08	0.14	0.11	0.13	0.10	0.12	0.12
GPA	-0.13	0.02	0.12	-0.06	0.04	0.03	0.02	0.02	-0.05	0.12	0.10	-0.12	0.08	-0.03	0.14	0.09	0.11	0.09	0.12	0.12
GRLTD	-0.03	-0.05	-0.05	0.06	0.06	0.09	0.07	0.12	-0.04	0.06	0.04	-0.09	0.06	-0.08	0.03	0.07	0.07	0.06	0.06	0.06
GRLTNOA	-0.04	0.04	0.03	-0.01	0.05	0.10	0.11	0.03	-0.01	0.05	0.04	-0.07	0.10	-0.05	-0.05	0.07	0.07	0.04	0.10	0.10
HERF	-0.11	0.07	-0.01	0.00	0.05	0.09	0.10	0.01	-0.08	0.09	0.09	-0.16	0.06	-0.09	0.13	0.17	0.17	0.15	0.10	0.10
HIRE	-0.03	0.00	-0.02	0.09	0.11	0.13	0.13	0.13	-0.08	0.08	0.06	-0.06	0.07	-0.05	0.06	0.11	0.11	0.10	0.10	0.10
IDIOVOL	-0.14	0.11	0.04	0.06	0.16	0.17	0.17	0.08	-0.01	0.08	0.10	-0.14	0.11	-0.04	0.16	0.15	0.17	0.15	0.15	0.15
ILLIQ	0.12	-0.14	-0.12	0.01	-0.03	-0.03	-0.02	0.11	0.00	-0.15	-0.13	0.14	-0.05	0.01	-0.12	-0.13	-0.14	-0.15	-0.14	-0.14
INDMOM12M	-0.06	0.00	0.05	0.03	0.04	0.04	0.03	0.04	-0.07	-0.01	-0.03	-0.05	-0.02	-0.04	0.04	0.05	0.06	0.05	0.08	0.08
INDMOM1M	-0.08	0.04	0.01	0.05	0.11	0.05	0.04	0.06	0.06	0.15	0.11	-0.13	0.04	-0.12	0.05	0.14	0.11	0.12	0.14	0.14
MAXRET	-0.09	0.06	0.05	-0.01	0.12	0.13	0.14	0.05	0.02	0.03	0.04	-0.09	0.11	-0.01	0.12	0.10	0.11	0.09	0.09	0.09
MOM12M	0.00	-0.01	0.04	-0.03	-0.02	0.03	0.03	-0.07	-0.03	-0.03	-0.06	-0.07	-0.03	-0.02	0.01	0.06	0.07	0.06	0.09	0.09
MOM1M	0.12	-0.04	-0.04	-0.08	-0.15	-0.15	-0.14	-0.06	0.00	-0.17	-0.08	0.13	-0.09	0.10	-0.06	-0.14	-0.11	-0.11	-0.13	-0.13
MOM36M	-0.03	-0.02	-0.04	0.09	0.01	0.00	0.01	0.11	-0.04	0.01	0.03	-0.02	0.02	-0.10	0.07	0.04	0.02	0.02	0.02	0.02
MOM6M	0.04	0.00	0.00	-0.03	-0.03	-0.02	0.00	-0.09	-0.03	-0.05	-0.07	-0.05	-0.04	-0.01	-0.01	0.04	0.05	0.03	0.05	0.05
MS	-0.07	0.06	0.11	-0.05	-0.01	0.02	0.01	-0.09	0.03	0.09	0.06	-0.10	0.02	-0.02	0.10	0.09	0.09	0.09	0.08	0.08

Table IA.III (continued)

(1) Anonaly	(2) SALE-CASH	(3) SALE-INV	(4) SALE-REC	(5) SGR	(6) SHR1 SHR1	(7) SHR-5ANN	(8) SHR-5MO	(9) SP	(10) SPI	(11) STD-ACC	(12) STDCF	(13) STD-TURN	(14) SUE	(15) TANG	(16) TIBI	(17) TURN	(18) TURN3	(19) TURNL	(20) ZERO-AVG	(21) ZERO-TOT
MVE	0.09	-0.18	-0.07	-0.07	-0.07	-0.07	-0.07	0.15	-0.06	-0.11	-0.12	0.20	-0.02	0.01	-0.13	-0.18	-0.19	-0.20	-0.17	-0.17
NINCR	-0.08	-0.02	0.04	-0.03	0.02	0.04	0.02	0.01	-0.08	0.09	0.08	-0.11	0.06	-0.07	0.10	0.11	0.12	0.10	0.13	0.13
NOA	0.00	0.03	-0.03	0.03	0.02	0.05	0.06	0.02	-0.01	0.02	0.03	-0.06	0.08	-0.04	0.06	0.06	0.05	0.08	0.05	0.05
NSIANN	-0.11	0.00	0.04	0.02	0.16	0.19	0.19	0.04	-0.03	0.06	0.07	-0.11	0.05	-0.09	0.07	0.11	0.11	0.11	0.13	0.13
NSIFY	-0.04	0.02	0.04	0.03	0.07	0.15	0.14	0.05	-0.04	0.00	-0.02	-0.04	0.06	-0.06	0.10	0.05	0.06	0.04	0.07	0.07
NSIMO	-0.10	0.02	0.03	0.03	0.11	0.18	0.17	0.04	-0.02	0.07	0.07	-0.10	0.07	-0.08	0.12	0.10	0.11	0.10	0.10	0.10
OL	-0.07	0.05	0.09	-0.02	0.00	0.00	-0.01	-0.01	-0.03	0.03	0.01	0.00	0.02	-0.01	0.03	-0.02	0.01	-0.02	0.03	0.03
OPERPROF	-0.16	0.07	0.08	-0.09	0.10	0.09	0.10	0.02	-0.08	0.09	0.11	-0.13	0.08	-0.04	0.16	0.12	0.13	0.13	0.13	0.13
ORGCAP	-0.10	0.03	0.10	-0.02	0.01	0.02	0.02	0.11	-0.05	0.12	0.10	-0.04	-0.01	-0.08	0.08	0.04	0.06	0.04	0.07	0.07
OSCORE	-0.10	0.06	0.12	0.00	0.11	0.04	0.03	0.00	0.05	0.10	0.08	-0.06	0.07	0.02	0.14	0.09	0.09	0.09	0.08	0.07
PCHCURRAT	0.07	-0.04	-0.07	0.05	-0.04	-0.11	-0.12	0.01	-0.01	0.06	0.02	-0.03	-0.11	-0.03	-0.09	-0.02	-0.02	-0.03	0.01	0.01
PCHDEPR	0.08	-0.01	-0.06	-0.04	-0.02	-0.02	-0.02	-0.08	-0.01	-0.03	-0.03	-0.01	-0.03	0.04	-0.05	0.03	0.04	0.02	-0.02	-0.01
PCHGMSALE	-0.06	0.02	0.00	-0.04	0.00	0.00	-0.01	-0.03	-0.04	0.05	0.00	-0.04	-0.03	-0.01	-0.05	0.04	0.05	0.05	0.06	0.06
PCHQUICK	0.06	-0.06	-0.03	0.02	0.03	-0.03	-0.04	-0.04	0.02	-0.02	-0.06	-0.02	-0.05	0.00	-0.15	0.00	-0.03	-0.03	0.01	0.01
PCHSALEINV	-0.01	0.01	0.02	-0.02	0.01	0.04	0.04	-0.07	0.00	0.00	-0.01	-0.07	0.04	0.02	0.01	0.01	0.00	0.00	-0.03	-0.03
PCHSALEINVT	-0.06	0.04	0.01	0.00	0.03	0.07	0.07	-0.06	-0.02	0.03	0.01	-0.09	0.07	-0.03	0.02	0.03	0.02	0.03	0.01	0.01
PCHSALEREC	0.07	-0.01	-0.08	0.02	-0.04	-0.01	-0.03	-0.04	0.09	-0.15	-0.10	0.04	0.06	0.04	-0.07	-0.02	-0.05	-0.02	-0.04	-0.04
PCHSALESGA	0.01	0.08	0.00	0.01	0.02	-0.05	-0.05	0.04	0.08	-0.06	-0.05	0.08	-0.03	0.04	-0.07	-0.08	-0.07	-0.07	-0.07	-0.07
PS	-0.09	0.07	0.11	-0.05	0.04	0.00	0.00	-0.04	-0.01	0.08	0.10	-0.09	0.08	0.00	0.10	0.05	0.07	0.06	0.05	0.05
QUICK	0.10	-0.14	-0.03	-0.07	-0.13	-0.10	-0.10	-0.06	-0.02	-0.06	-0.08	0.07	-0.07	-0.02	-0.14	-0.10	-0.11	-0.08	-0.07	-0.07
RD	0.02	-0.04	-0.05	0.02	0.01	0.04	0.02	0.01	-0.04	-0.04	-0.08	0.03	-0.03	-0.04	-0.01	0.00	0.00	0.00	-0.02	-0.02
RETVOL	-0.10	0.08	0.04	0.01	0.11	0.14	0.15	0.05	0.01	0.04	0.04	-0.10	0.13	-0.02	0.12	0.11	0.13	0.11	0.10	0.10
ROA	-0.12	0.04	0.10	-0.06	0.11	0.05	0.05	0.03	-0.03	0.10	0.08	-0.11	0.05	-0.03	0.08	0.08	0.10	0.10	0.11	0.11
ROAQ	-0.15	0.06	0.08	-0.01	0.13	0.09	0.08	0.06	-0.05	0.12	0.09	-0.13	0.10	-0.06	0.14	0.12	0.12	0.12	0.13	0.13
ROAVOL	-0.05	0.05	0.02	0.00	0.07	0.05	0.06	0.07	-0.03	0.01	0.06	-0.03	0.04	-0.01	0.09	0.02	0.02	0.03	0.05	0.05
ROE	-0.13	0.07	0.06	-0.05	0.08	0.06	0.07	0.00	-0.04	0.10	0.11	-0.14	0.08	-0.03	0.13	0.10	0.12	0.12	0.11	0.11
ROEQ	-0.14	0.03	0.07	-0.03	0.10	0.11	0.10	0.03	-0.06	0.15	0.13	-0.15	0.10	-0.05	0.15	0.14	0.15	0.15	0.15	0.15
ROIC	-0.15	0.06	0.05	-0.02	0.15	0.09	0.10	0.08	-0.03	0.11	0.13	-0.14	0.04	-0.08	0.11	0.13	0.14	0.15	0.14	0.14
ROM	-0.10	0.02	-0.01	-0.01	0.09	0.10	0.10	0.04	-0.04	0.06	0.09	-0.11	0.10	-0.05	0.07	0.10	0.10	0.09	0.08	0.08
RSUP	-0.03	0.01	-0.01	-0.02	0.01	0.09	0.09	0.06	0.04	0.01	0.03	-0.05	-0.01	-0.07	-0.02	0.05	0.02	0.03	0.04	0.04
SALECASH	0.07	-0.03	-0.05	-0.02	-0.11	-0.09	-0.09	-0.08	0.02	-0.09	-0.07	0.05	-0.05	0.03	-0.07	-0.04	-0.07	-0.03	-0.08	-0.08
SALEINV	-0.09	0.05	0.03	0.07	0.09	0.16	0.15	0.05	0.01	0.12	0.13	-0.13	0.05	-0.07	0.14	0.13	0.14	0.11	0.12	0.12
SALEREC	-0.05	0.03	0.14	-0.04	0.02	-0.05	-0.06	-0.09	0.02	-0.02	-0.04	0.02	0.04	0.07	0.05	-0.03	0.00	-0.03	-0.01	0.00
SGR	-0.01	-0.05	0.00	0.08	0.08	0.10	0.10	0.11	-0.05	0.11	0.07	-0.05	0.05	-0.05	0.09	0.07	0.08	0.06	0.07	0.07
SHR1	-0.10	0.02	0.03	-0.02	0.11	0.16	0.16	0.06	-0.06	0.04	0.05	-0.07	0.06	-0.08	0.11	0.08	0.10	0.08	0.08	0.08
SHR5ANN	0.00	-0.02	-0.01	0.04	0.08	0.15	0.14	0.03	0.01	0.02	0.00	-0.04	0.02	0.00	0.03	0.04	0.06	0.04	0.06	0.06
SHR5MO	-0.01	-0.01	0.00	0.05	0.10	0.15	0.15	0.04	0.02	0.02	0.00	-0.04	0.02	-0.01	0.02	0.05	0.07	0.05	0.07	0.07
SP	0.00	-0.04	-0.02	0.07	0.07	0.08	0.08	0.16	-0.02	-0.02	-0.01	0.06	0.02	-0.03	-0.01	-0.05	-0.04	-0.06	-0.03	-0.03
SPI	0.04	-0.01	-0.02	0.05	-0.03	0.02	0.02	-0.04	-0.11	-0.01	-0.03	-0.02	-0.02	-0.02	0.00	0.02	0.03	0.02	0.01	0.01
STDACC	-0.14	0.05	-0.01	0.01	0.09	0.14	0.14	0.07	-0.02	-0.03	0.04	-0.12	0.12	-0.07	0.14	0.12	0.12	0.11	0.12	0.12
STDCF	-0.14	0.07	-0.01	0.04	0.09	0.17	0.18	0.07	0.01	-0.07	0.01	-0.12	0.15	-0.07	0.10	0.13	0.13	0.12	0.12	0.12
STDTURN	0.10	-0.06	-0.03	-0.01	-0.10	-0.11	-0.12	-0.08	0.01	-0.05	-0.07	0.10	-0.11	0.03	-0.13	-0.13	-0.14	-0.12	-0.12	-0.12
SUE	-0.07	0.02	-0.01	-0.01	0.03	0.06	0.05	0.02	0.00	0.10	0.07	-0.08	0.01	-0.06	0.06	0.08	0.08	0.08	0.08	0.08
TANG	0.02	0.01	0.01	0.01	-0.09	-0.10	-0.12	-0.08	-0.01	0.05	0.03	-0.04	-0.05	0.00	-0.01	0.02	0.02	0.03	0.00	0.00
TIBI	0.03	-0.01	0.03	-0.03	0.05	0.02	0.03	-0.05	0.02	0.01	0.00	-0.03	-0.05	0.08	0.03	0.03	0.02	0.03	0.00	0.01
TURN	0.00	0.02	0.03	-0.01	0.10	0.12	0.13	0.06	0.03	0.00	0.03	-0.03	0.08	0.02	0.10	0.05	0.06	0.04	0.03	0.03
TURN3	-0.02	0.04	0.02	0.00	0.12	0.14	0.16	0.09	0.03	0.01	0.05	-0.05	0.09	0.00	0.12	0.07	0.08	0.06	0.05	0.05
TURNL	-0.01	0.03	0.06	-0.02	0.10	0.11	0.13	0.06	0.02	0.01	0.03	-0.03	0.06	0.03	0.10	0.06	0.07	0.05	0.04	0.04
ZEROAVG	-0.04	0.01	0.02	-0.02	0.09	0.10	0.12	0.12	-0.01	0.01	0.04	-0.02	0.09	-0.03	0.07	0.06	0.06	0.04	0.04	0.04
ZEROTOT	-0.04	0.01	0.02	-0.02	0.09	0.10	0.12	0.12	-0.01	0.01	0.04	-0.02	0.09	-0.03	0.07	0.06	0.06	0.04	0.04	0.04

Table IA.IV
Sharpe Ratios

The table reports annualized Sharpe ratios for a mean-variance investor with a relative risk aversion coefficient of three who allocates between the market portfolio and risk-free bills using the monthly market excess return forecast in the column heading. The market excess return forecasts in the second through eighth columns are based on 100 long-short anomaly portfolio returns. The out-of-sample period is 1985:01 to 2017:12. The OLS (ENet) forecast is based on ordinary least squares (elastic net) estimation of a multiple predictive regression that includes all 100 of the long-short anomaly portfolio returns. Combine is the arithmetic mean of univariate predictive regression forecasts based on the 100 individual long-short anomaly portfolio returns (in turn). C-ENet is the arithmetic mean of the univariate predictive regression forecasts selected by the elastic net in a Granger and Ramanathan (1984) regression. Avg is a univariate predictive regression forecast based on the cross-sectional average of the 100 long-short anomaly portfolio returns. PC (PLS) is a univariate predictive regression forecast based on the first principal component (target-relevant factor) extracted from the 100 long-short anomaly portfolio returns..

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Prevailing mean	OLS	ENet	Combine	C-ENet	Avg	PC	PLS
0.45	0.23	0.81	0.59	0.79	0.65	0.62	0.80

Table IA.V
Subsample Results

The table reports Campbell and Thompson (2008) out-of-sample R^2 (R^2_{OS}) statistics in percent and annualized average utility gains in percent for market excess return forecasts based on 100 long-short anomaly portfolio returns. Panel A (B) reports results for the 1985:01 to 2001:12 (2002:01 to 2017:12) out-of-sample period. The OLS (ENet) forecast is based on ordinary least squares (elastic net) estimation of a multiple predictive regression that includes all 100 of the long-short anomaly portfolio returns. Combine is the arithmetic mean of univariate predictive regression forecasts based on the 100 individual long-short anomaly portfolio returns (in turn). C-ENet is the arithmetic mean of the univariate predictive regression forecasts selected by the elastic net in a Granger and Ramanathan (1984) regression. Avg is a univariate predictive regression forecast based on the cross-sectional average of the 100 long-short anomaly portfolio returns. PC (PLS) is a univariate predictive regression forecast based on the first principal component (target-relevant factor) extracted from the 100 long-short anomaly portfolio returns. Based on the Clark and West (2007) test, *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively, for the positive R^2_{OS} statistics. The annualized average utility gain is for a mean-variance investor with a relative risk aversion coefficient of three who allocates between the market portfolio and risk-free bills using the monthly market excess return forecast in the column heading in lieu of the prevailing mean benchmark forecast.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Statistic	OLS	ENet	Combine	C-ENet	Avg	PC	PLS
Panel A: 1985:01 to 2001:12 Subsample							
R^2_{OS}	−4,380.68	0.96	0.86**	2.07**	1.16*	1.03*	1.63**
Ann. utility gain	−9.37	6.83	1.87	5.80	2.44	2.46	6.95
Panel B: 2002:01 to 2017:12 Subsample							
R^2_{OS}	−28.38	3.46**	0.92*	3.80*	2.86*	1.54	2.64*
Ann. utility gain	−0.32	5.65	3.36	6.32	5.10	4.15	5.79

Table IA.VI
R^2_{OS} Statistics for Popular Predictors

The table reports Campbell and Thompson (2008) out-of-sample R^2 (R^2_{OS}) statistics in percent for monthly market excess return forecasts based on 16 popular predictors. The out-of-sample period is 1985:01 to 2017:12. Panel A reports results for univariate predictive regression forecasts based on the 16 individual predictors (in turn). Panel B reports results for forecasts based on the group of 16 predictors. The ordinary least squares (elastic net) forecast is based on ordinary least squares (elastic net) estimation of a multiple predictive regression that includes all 16 of the predictors. Simple combination is the arithmetic mean of univariate predictive regression forecasts based on the 16 individual predictors (in turn). Combination elastic net is the arithmetic mean of the univariate predictive regression forecasts selected by the elastic net in a Granger and Ramanathan (1984) regression. Predictor average is a univariate predictive regression forecast based on the cross-sectional average of the 16 predictors. Principal components (partial least squares) is a predictive regression forecast based on the first principal component (target-relevant factor) extracted from the 16 predictors. Based on the Clark and West (2007) test, *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively, for the positive R^2_{OS} statistics.

(1) Predictor	(2) R^2_{OS}	(3) Predictor	(4) R^2_{OS}
Panel A: Individual Predictors			
Log dividend-price ratio	−1.65	Corporate bond return minus long-term government bond return	−0.12
Log earnings-price ratio	−0.92	Net equity expansion	−0.84
Volatility	−0.97	Inflation	−0.28
Three-month Treasury bill yield, deviation from 12-month moving avg.	−1.16	Industrial production growth	−2.12
Ten-year Treasury bond yield, deviation from 12-month moving avg.	0.54*	MA(1,12)	0.45
Five-year Treasury bond yield minus three-month Treasury bill yield	−0.78	MA(3,12)	−0.14
Baa-rated corporate bond yield minus Aaa-rated corporate bond yield	−2.44	MOM(6)	−0.03
Long-term government bond return	−0.78	MOM(12)	0.19
Panel B: All Predictors			
Ordinary least squares	−7.81	Predictor average	−0.27
Elastic net	−3.82	Principal component	−0.06
Simple combination	0.14	Partial least squares	−2.55
Combination elastic net	−0.32		

Table IA.VII
Annualized Utility Gains for Popular Predictors

The table reports annualized average utility gains in percent for a mean-variance investor with a relative risk aversion coefficient of three who allocates between the market portfolio and risk-free bills using the monthly market excess return forecast in the column heading based on 16 popular predictors in Table IA.VI in lieu of the prevailing mean benchmark forecast. The out-of-sample period is 1985:01 to 2017:12. The OLS (ENet) forecast is based on ordinary least squares (elastic net) estimation of a multiple predictive regression that includes all 16 of the predictors. Simple combination is the arithmetic mean of univariate predictive regression forecasts based on the 16 individual predictors (considered in turn). C-ENet is the arithmetic mean of the univariate predictive regression forecasts selected by the elastic net in a Granger and Ramanathan (1984) regression. Avg is a univariate predictive regression forecast based on the cross-sectional average of the 16 predictors. PC (PLS) is a predictive regression forecast based on the first principal component (target-relevant factor) extracted from the 16 predictors.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
OLS	ENet	Combine	C-ENet	Avg	PC	PLS
−2.96	−0.52	0.29	−0.79	−0.43	1.16	−2.30

Table IA.VIII
Forecast Encompassing Tests

The table reports Harvey, Leybourne, and Newbold (1998) forecast encompassing tests for comparing market excess return forecasts in the column heading based on two different sets of predictors: (i) 100 long-short anomaly portfolio returns and (ii) 16 popular predictors in Table IA.VI. The out-of-sample period is 1985:01 to 2017:12. The ENet forecast is based on elastic net estimation of a multiple predictive regression that includes all of the predictors in the set. Combine is the arithmetic mean of univariate predictive regression forecasts based on the individual predictors in the set (in turn). C-ENet is the arithmetic mean of the univariate predictive regression forecasts selected by the elastic net in a Granger and Ramanathan (1984) regression. Avg is a univariate predictive regression forecast based on the cross-sectional average of the predictors in the set. PC (PLS) is a univariate predictive regression forecast based on the first principal component (target-relevant factor) extracted from the predictors in the set. The table reports the estimated weight attached to the forecast based on the long-short anomaly portfolio returns in a composite forecast that is a convex combination of the forecasts based on the two different sets of predictors; *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. A significant weight indicates rejection of the null hypothesis that the forecast based on the set of popular predictors encompasses the forecast based on the long-short anomaly portfolio returns.

(1)	(2)	(3)	(4)	(5)	(6)
ENet	Combine	C-ENet	Avg	PC	PLS
0.99***	0.99***	0.98***	0.99***	0.98***	0.97***

Table IA.IX
Forecast Relationships

The table reports R^2 statistics in percent for univariate regressions of market excess return forecasts based on 100 long-short anomaly portfolio returns on forecasts based on the 16 individual popular predictors (in turn) in Table IA.VI. The sample period is 1985:01 to 2017:12. The ENet forecast is based on elastic net estimation of a multiple predictive regression that includes all 100 of the long-short anomaly portfolio returns. Combine is the arithmetic mean of univariate predictive regression forecasts based on the 100 individual long-short anomaly portfolio returns (in turn). C-ENet is the arithmetic mean of the univariate predictive regression forecasts selected by the elastic net in a Granger and Ramanathan (1984) regression. Avg is a univariate predictive regression forecast based on the cross-sectional average of the 100 long-short anomaly portfolio returns. PC (PLS) is a univariate predictive regression forecast based on the first principal component (target-relevant factor) extracted from the 100 long-short anomaly portfolio returns. 0.00 indicates less than 0.005. The forecasts corresponding to the popular predictors are univariate predictive regression forecasts based on the 16 individual popular predictors (in turn).

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Popular Predictor	ENet	Combine	C-ENet	Avg	PC	PLS
Log dividend-price ratio	0.55	5.84	0.06	0.77	0.98	0.31
Log earnings-price ratio	0.00	6.33	0.10	0.19	0.33	0.01
Volatility	0.01	0.54	0.18	0.73	0.56	0.01
Three-month Treasury bill yield, deviation from 12-month moving avg.	0.24	0.32	0.22	0.13	0.03	0.00
Ten-year Treasury bond yield, deviation from 12-month moving avg.	0.29	0.75	0.06	0.05	0.05	0.02
Five-year Treasury bond yield minus three-month Treasury bill yield	0.02	1.57	0.00	0.01	0.05	0.40
Baa-rated corporate bond yield minus Aaa-rated corporate bond yield	0.11	0.21	0.07	0.04	0.06	0.05
Long-term government bond return	1.01	2.18	0.76	1.95	2.49	1.28
Corporate bond return minus long-term government bond return	4.88	14.93	3.21	12.16	10.33	8.07
Net equity expansion	0.26	2.62	0.29	0.16	0.30	0.30
Inflation	1.45	2.56	0.83	0.26	0.57	0.03
Industrial production growth	0.08	1.00	0.06	0.02	0.33	0.51
MA(1,12)	1.79	9.34	1.55	5.11	5.73	3.36
MA(3,12)	0.32	5.88	0.28	0.99	1.19	0.19
MOM(6)	1.14	9.40	0.43	2.20	2.66	1.00
MOM(12)	0.47	8.27	0.52	2.35	2.93	0.99

Table IA.X
R^2_{OS} Statistics for Multi-Period Returns

The table reports Campbell and Thompson (2008) out-of-sample R^2 (R^2_{OS}) statistics in percent for multi-period market excess return forecasts based on 100 long-short anomaly portfolio returns. The out-of-sample period is 1985:01 to 2017:12. The OLS (ENet) forecast is based on ordinary least squares (elastic net) estimation of a multiple predictive regression that includes all 100 of the long-short anomaly portfolio returns. Combine is the arithmetic mean of univariate predictive regression forecasts based on the 100 individual long-short anomaly portfolio returns (in turn). C-ENet is the arithmetic mean of the univariate predictive regression forecasts selected by the elastic net in a Granger and Ramanathan (1984) regression. Avg is a univariate predictive regression forecast based on the cross-sectional average of the 100 long-short anomaly portfolio returns. PC (PLS) is a univariate predictive regression forecast based on the first principal component (target-relevant factor) extracted from the 100 long-short anomaly portfolio returns. Based on the Clark and West (2007) test, *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively, for the positive R^2_{OS} statistics.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Horizon	OLS	ENet	Combine	C-ENet	Avg	PC	PLS
Two months	−30,168.49	2.47***	0.54**	0.08**	1.01**	0.60*	0.17**
Three months	−83,398.47	0.55***	0.57***	0.85**	1.44**	0.36	−0.16
Six months	−188,308.44	−0.47	0.61***	0.77	1.36**	0.66*	1.32***
Twelve months	−142,801.34	−2.11	0.09	−0.51	−0.35	−0.78	−5.94

Table IA.XI
R^2_{OS} Statistics for Industry Excess Returns

The table reports Campbell and Thompson (2008) out-of-sample R^2 (R^2_{OS}) statistics in percent for industry excess return forecasts based on 100 long-short anomaly portfolio returns. The out-of-sample period is 1985:01 to 2017:12. The industry returns are from Kenneth French's Data Library. Industries are defined using Compustat Standard Industry Classification codes. The OLS (ENet) forecast is based on ordinary least squares (elastic net) estimation of a multiple predictive regression that includes all 100 of the long-short anomaly portfolio returns. Combine is the arithmetic mean of univariate predictive regression forecasts based on the 100 individual long-short anomaly portfolio returns (in turn). C-ENet is the arithmetic mean of the univariate predictive regression forecasts selected by the elastic net in a Granger and Ramanathan (1984) regression. Avg is a univariate predictive regression forecast based on the cross-sectional average of the 100 long-short anomaly portfolio returns. PC (PLS) is a univariate predictive regression forecast based on the first principal component (target-relevant factor) extracted from the 100 long-short anomaly portfolio returns. Based on the Clark and West (2007) test, *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively, for the positive R^2_{OS} statistics.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Industry	OLS	ENet	Combine	C-ENet	Avg	PC	PLS
Consumer	−4,228.50	1.75***	1.08***	3.49***	2.09***	1.55**	1.86***
Manufacturing	−1,003.87	3.45***	0.51**	3.83***	0.99*	0.21	0.29**
Hi-Tech	−2,200.59	−0.72	0.55*	1.30*	0.86	0.76	1.10**
Health	−2,339.85	−0.59	0.32**	−0.06	−0.08	−0.37	−2.77
Other	−2,337.22	3.67***	1.09***	4.70***	2.15***	1.82**	2.34***

Table IA.XII
Standardized Slope Coefficient Estimates

The table reports ordinary least squares estimates of standardized slope coefficients for univariate predictive regressions. The dependent variable for each predictive regression is the market excess return; the explanatory variable is the lagged long-short anomaly portfolio return in the first, third, fifth, or seventh column; 0.00 indicates less than 0.005 in absolute value; *, **, and *** indicate significance at the 10%, 5%, and 1% level. The sample period is 1970:01 to 2017:12.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Anomaly	Slope	Anomaly	Slope	Anomaly	Slope	Anomaly	Slope
ABSACC	−0.17	CURRAT	0.43**	MVE	0.01	ROE	−0.19
ACC	−0.32*	DEPR	−0.01	NINCR	−0.23	ROEQ	−0.55***
AGE	−0.31	DOLVOL	−0.09	NOA	0.17	ROIC	−0.20
AGR	−0.35*	DROAQ	−0.07	NSIANN	−0.81***	ROM	−0.46**
BETA1	−0.29	DROEQ	−0.33*	NSIFY	−0.51***	RSUP	−0.04
BETA1LAG	−0.44**	EAR	−0.37*	NSIMO	−0.88***	SALECASH	0.44**
BETA3	−0.37**	EGR	−0.27	OL	−0.09	SALEINV	−0.15
BETA3LAG	−0.41**	EP	−0.18	OPERPROF	−0.29	SALEREC	−0.10
BM	−0.17	FERR	−0.90***	ORGCAP	−0.27	SGR	0.00
CASH	0.43**	FP	−0.08	OSCORE	−0.42**	SHR1	−0.52***
CASHDEBT	−0.39**	GPA	−0.39**	PCHCURRAT	0.23	SHR5ANN	−0.46**
CASHPR	−0.11	GRLTD	0.01	PCHDEPR	0.12	SHR5MO	−0.50***
CEIANN	−0.75***	GRLTNOA	0.07	PCHGMSALE	−0.33*	SP	−0.18
CEIFY	−0.19	HERF	0.10	PCHQUICK	0.20	SPI	0.03
CEIMO	−0.69***	HIRE	−0.31*	PCHSALEINV	−0.16	STDACC	−0.41**
CFPIA	0.02	IDIOVOL	−0.32*	PCHSALEINVT	−0.10	STDCF	−0.27
CFPJUN	−0.47**	ILLIQ	0.05	PCHSALEREC	−0.15	STDTURN	0.46**
CHATOIA	−0.51***	INDMOM12M	−0.25	PCHSALESGA	0.13	SUE	−0.57***
CHEMPIA	−0.43**	INDMOM1M	−0.13	PS	−0.07	TANG	0.14
CHFEPS	−0.50**	MAXRET	−0.31*	QUICK	0.35*	TIBI	−0.46**
CHINV	−0.30	MOM12M	−0.11	RD	0.19	TURN	−0.40**
CHPMIA	0.08	MOM1M	0.11	RETVOL	−0.28	TURN3	−0.39**
CHTAX	−0.20	MOM36M	−0.16	ROA	−0.30	TURNL	−0.30
CINVEST	−0.22	MOM6M	−0.16	ROAQ	−0.39**	ZEROAVG	−0.28
CSUE	−0.57***	MS	−0.10	ROAVOL	−0.07	ZEROTOT	−0.27

Table IA.XIII
Anomaly Subgroups

The table reports anomalies for subgroups based on three proxies: bid-ask spread (BA), idiosyncratic volatility (IDIO), and market capitalization (SIZE). Idiosyncratic volatility is the standard deviation of the residuals for a regression of the daily excess return on the three Fama and French (1993) factors for the previous month. For a given month and anomaly characteristic, we sort stocks into deciles. We compute the average values for a given proxy for the stocks in the long and short legs, respectively. We then compute the long-leg average value for the proxy minus the short-leg average value; we compute this difference for each month for 1970:01 to 1984:12 and take the time-series average. An anomaly with a negative (positive) time-series average is placed in the BA-NEG, IDIO-NEG, or SIZE-NEG (BA-POS, IDIO-POS, or SIZE-POS) subgroup.

(1)	(2)
Subgroup	Anomalies
BA-NEG	AGE, BETA1LAG, BETA3LAG, BM, CASH, CASHDEBT, CASHPR, CEIANN, CEIFY, CEIMO, CFPIA, CFPJUN, CHATOIA, CHINV, CHTAX, CINVEST, CSUE, DEPR, DROAQ, DROEQ, EAR, EP, FERR, FP, HERF, IDIOVOL, INDMOM12M, INDMOM1M, MAXRET, MOM12M, MOM6M, NINCR, NOA, NSIANN, NSIFY, NSIMO, OPERPROF, OSCORE, PCHCURRAT, PCHGMSALE, PCHQUICK, PCHSALEINV, PCHSALEINVT, RETVOL, ROA, ROAQ, ROAVOL, ROE, ROEQ, ROIC, ROM, RSUP, SALECASH, SALEINV, SPI, STDTURN, SUE, TANG
BA-POS	ABSACC, ACC, AGR, BETA1, BETA3, CHEMPIA, CHPMIA, CINVEST, CURRAT, DOLVOL, EGR, GPA, GRLTD, GRLTNOA, HIRE, ILLIQ, MOM1M, MOM36M, MS, MVE, OL, ORGCAP, PCHDEPR, PCHSALEREC, PCHSALESGA, PS, QUICK, RD, SALEREC, SGR, SHR1, SHR5ANN, SHR5MO, SP, STDACC, STDCF, TIBI, TURN, TURN3, TURNL, ZEROAVG, ZEROTOT
IDIO-NEG	ABSACC, ACC, AGE, AGR, BETA1, BETA1LAG, BETA3, BETA3LAG, CASHDEBT, CASHPR, CEIANN, CEIFY, CEIMO, CFPJUN, CHATOIA, CHEMPIA, CHINV, CHTAX, CINVEST, CSUE, DROAQ, DROEQ, EAR, EGR, EP, FP, GPA, HIRE, IDIOVOL, INDMOM12M, MAXRET, MOM12M, MOM1M, MOM6M, MS, NINCR, NOA, NSIANN, NSIFY, NSIMO, OPERPROF, OSCORE, PCHQUICK, PCHSALEINV, PCHSALEINVT, PCHSALEREC, PCHSALESGA, PS, RD, RETVOL, ROA, ROAQ, ROAVOL, ROE, ROEQ, ROIC, ROM, SALECASH, SALEINV, SGR, SHR1, SPI, STDACC, STDCF, SUE, TANG, TIBI, TURN, TURN3, TURNL, ZEROAVG, ZEROTOT
IDIO-POS	BM, CASH, CFPIA, CHPMIA, CURRAT, DEPR, DOLVOL, FERR, GRLTD, GRLTNOA, HERF, ILLIQ, INDMOM1M, MOM36M, MVE, OL, ORGCAP, PCHCURRAT, PCHDEPR, PCHGMSALE, QUICK, RSUP, SALEREC, SHR5ANN, SHR5MO, SP, STDTURN

Table IA.XIII (continued)

(1)	(2)
Subgroup	Anomalies
SIZE-NEG	ABSACC, AGR, BM, CASHPR, CHPMIA, CURRAT, CHINV, CHEMPIA, CHTAX, CINVEST, CSUE, CURRAT, DOLVOL, EP, FERR, GRLTD, GRLTNOA, HERF, ILLIQ, INDMOM1M, MOM6M, MVE, NOA, OL, PCHCURRAT, PCHDEPR, PCHGMSALE, PCHQUICK, PCHSALEINV, PCHSALEINVT, QUICK, ROM, RSUP, SALEREC, SP, STDTURN, SUE, ZEROAVG, ZEROTOT
SIZE-POS	ACC, AGE, BETA1, BETA1LAG, BETA3, BETA3LAG, CASH, CASHDEBT, CEIANN, CEIFY, CEIMO, CFPIA, CFPJUN, CHATOIA, DEPR, DROAQ, DROEQ, EAR, EGR, FP, GPA, HIRE, IDIOVOL, INDMOM12M, MAXRET, MOM12M, MOM1M, MOM36M, MS, NINCR, NSIANN, NSIFY, NSIMO, OPERPROF, ORGCAP, OSCORE, PCHSALEREC, PCHSALESGA, PS, RD, RETVOL, ROA, ROAQ, ROAVOL, ROE, ROEQ, ROIC, SALECASH, SALEINV, SGR, SHR1, SHR5ANN, SHR5MO, SPI, STDACC, STDCF, TANG, TIBI, TURN, TURN3, TURNL,

Table IA.XIV
R^2_{OS} Statistics for Subgroups Based on Double Sorts

The table reports Campbell and Thompson (2008) out-of-sample R^2 (R^2_{OS}) statistics in percent for market excess return forecasts based on long-short anomaly portfolio returns for the subgroup in the first column. The out-of-sample period is 1985:01 to 2017:12. The ENet forecast is based on elastic net estimation of a multiple predictive regression that includes all of the long-short anomaly portfolio returns in the subgroup. Combine is the arithmetic mean of univariate predictive regression forecasts based on the individual long-sort anomaly portfolio returns in the subgroup (in turn). C-ENet is the arithmetic mean of the univariate predictive regression forecasts selected by the elastic net in a Granger and Ramanathan (1984) regression. Avg is a univariate predictive regression forecast based on the cross-sectional average of the long-short anomaly portfolio returns in the subgroup. PC (PLS) is a univariate predictive regression forecast based on the first principal component (target-relevant factor) extracted from the long-short anomaly portfolio returns in the subgroup. Based on the Clark and West (2007) test, *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively, for the positive R^2_{OS} statistics.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Subgroup	ENet	Combine	C-ENet	Avg	PC	PLS
Panel A: Bid-Ask Spread						
BA-HIGH-NEG	4.14**	1.16***	4.02***	1.74**	1.28**	3.24***
BA-REST	0.02	0.59**	0.72*	1.22**	0.94**	0.61**
Panel B: Idiosyncratic Volatility						
IDIO-HIGH-NEG	1.94***	0.98***	2.64***	1.55**	1.25**	2.27***
IDIO-REST	−2.18	0.51**	−0.70	−0.14	0.37	−1.52
Panel C: Market Capitalization						
SIZE-LOW-POS	2.40**	1.37***	2.86***	2.62***	1.98***	2.13***
SIZE-REST	−0.26	0.47**	−1.67	1.22**	0.64*	0.22*

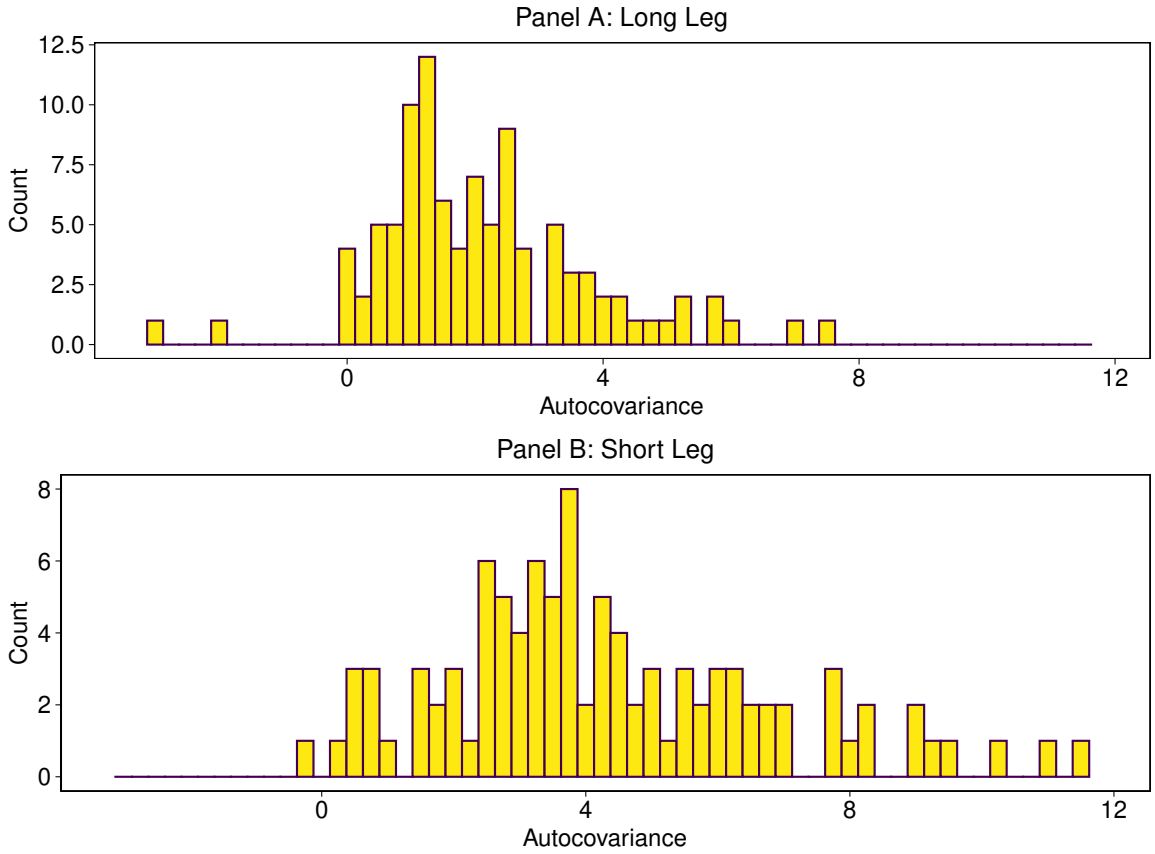

Figure IA.1. Histograms for sample autocovariances. The figure depicts histograms for the sample autocovariances for long- and short-leg excess returns for 100 anomaly portfolios.

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