Supplementary appendix to "Organization Capital and the Cross-Section of Expected Returns"

1 Alternative Explanations

1.1 Organization capital exposed to separate technology shock

One alternative explanation for our findings is that organization capital is exposed to a separate productivity shock. For instance, suppose that firm output was given by:

$$y_{i,t} = \theta_{1t}\, e^{u_{it}}\, K_{it} + \theta_{1t}\, \theta_{Ot}\, e^{\varepsilon_{i,t}}\, O_{it}, \tag{1}$$

where now θ_{1t} and θ_{Ot} are two separate aggregate productivity shocks that are uncorrelated with each other.

Under this alternative, firms with more organization capital to physical capital would have higher θ_O-risk exposure than firms with low organization capital. If this shock was priced such that $\gamma_{\theta O} > 0$, then firms with high organization capital would earn higher risk premia. Furthermore, returns to the portfolio of high- minus low-O/K firms would be positively correlated with innovations in θ_{Ot} and thus would price the cross-section of portfolios sorted on O/K.

However, this alternative model would produce at least two counterfactual predictions. First, note that given equation (1), the marginal product of organization capital is increasing in θ_O, and therefore so is aggregate investment in organization capital i_O. Hence, under this alternative, we would expect to find a negative coefficient of i_{Ot} on R^x_t in our investment regressions in Section **??**. By contrast, we estimate the coefficient of i_{Ot} on R^x_t to be positive and statistically significant. Second, payments to the owners of organization capital would increase in in θ_O, implying a positive correlation between the change in the growth rate of executive compensation and the stock returns of the OMK portfolio. However, in the data this correlation is negative, as we document in Section **??**.

2 Proofs and Derivations

Proof of Proposition 2

Consider the risk-neutral probability measure $\mathcal{Q}$, implicitly defined given our specification for the SDF. Under this measure, the value of organization capital deployed in firm i equals:

$$\begin{aligned} V^O &= E^{\mathcal{Q}}_t \int_t^\tau e^{-r\,(s-t)} \theta_s\, O_{i,s}\, e^{\varepsilon_{i,s}}\, ds + E^{\mathcal{Q}}_t e^{-r(\tau-t)}\, \overline{V}^{O,\tau} \\ &= \theta_t\, O_{it}\, E^{\mathcal{Q}}_t \int_t^\tau e^{-\int_t^s \rho(\varepsilon_{iu},x)\, du} e^{\varepsilon_{i,s}}\, ds + E^{\mathcal{Q}}_t e^{-r(\tau-t)}\, \overline{V}^{O,\tau} \end{aligned}$$

where

$$\rho(\varepsilon, x) = r_f + \gamma_\theta \sigma_\theta - \mu_\theta + \delta_O - i_O(\varepsilon, x).$$

The first equality holds by the law of iterated expectations. We guess that the value of organization capital can be written as:

$$V^O = \theta_t O_{i,t} v(\varepsilon_{i,t}, x_t).$$

At time t, organization capital's outside option is given by the total value of the organization capital in the new firm, where it will operate at the frontier efficiency, less the adjustment cost necessary to retool the old organization capital. This outside option can be written as:

$$\theta_t O_{i,t} v(x_t, x_t) - C_R(\theta_t, O_{i,t}).$$

Thus, comparing the inside and outside option, we see that organization capital will only be reallocated to a new firm if

$$v(\varepsilon_{i,t}, x_t) < v(x_t, x_t) - C_R.$$

In the continuation region, the value of organization capital including current cashflow has a drift equal to r_f under $\mathcal{Q}$. Thus, $v(\varepsilon, x)$ is the solution to:

$$\begin{aligned} 0 = \max_{i_O} \Big\{ & e^{\varepsilon} - \frac{c_o}{\lambda_o} i_O^{\lambda_o} - (\bar{r} + \delta_O - i_O)\, v(\varepsilon, x) - \kappa_\varepsilon\, \varepsilon\, v_\varepsilon(\varepsilon, x) + \frac{1}{2}\sigma_\varepsilon^2 v_{\varepsilon\varepsilon}(\varepsilon, x) \\ & - \kappa_x\,(x - \overline{x}) v_x(\varepsilon, x) + \frac{1}{2}\sigma_x^2\, v_{xx}(\varepsilon, x) \Big\}, \qquad \text{if} \quad \varepsilon \geq \varepsilon^*(x), \end{aligned}$$

Because $v(\varepsilon_{i,t}, x_t)$ is monotonically increasing in ε, continuation will be efficient as long as $\varepsilon_{i,t} \geq \varepsilon^*(x_t)$. At the boundary $\varepsilon = \varepsilon^*(x)$, the value of organization capital inside the firm equals exactly its value in a new firm minus installation costs:

$$v(\varepsilon^*(x), x) = \max[v(x, x) - c_R, 0].$$

The first order conditions from this HJB equation yield the level of investment in organization capital in the continuation region. Similar arguments about the value of physical capital V^K yield

$$0 = \max_{i_K} \left\{ e^u - \frac{c_k\, c_q}{\lambda_k} i_K^{\lambda_K} - (\bar{r} + \delta_K - i_K)\, q(u) - \kappa_u\, u\, q'(u) + \frac{1}{2}\,\sigma_u^2\, q''(u) \right\},$$

and the first order condition for investment determines the optimal level of i_K.

Proof of Lemma 1

Lack of commitment on both sides implies that $W_t = \overline{V}^O = \theta_t\, O_{i,t}\, \overline{v}(x_t)$ must always hold. An application of Ito's Lemma implies that organization capital's outside option for $t < \tau$ evolves according to:

$$\begin{aligned} d\overline{V}^O \;\; = \;\; & (\mu_\theta + i_O(\varepsilon_{i,t}, x_t) - \delta_O)\overline{V}^O\, dt + \sigma_\theta\, \overline{V}^O\, dZ_t - \kappa_x\, x_t\, \overline{V}^O\, \frac{\overline{v}_x}{\overline{v}}\, dt + \\ & + \overline{V}^O\, \frac{\overline{v}_x}{\overline{v}} \sigma_x\, dZ_t^x + \frac{1}{2}\sigma_x^2 \frac{\overline{v}_{xx}}{\overline{v}}\, \overline{V}^O\, dt. \end{aligned}$$

In the event where separation or restructuring occurs, organization capital has exercised its option to leave. At this point, labor can extract no more rents from the old firm and thus receives no more payments. The martingale representation theorem and our specification for the SDF imply that under $\mathcal{Q}$, and $t < \tau$, the present value of payments to key talent W_t can be represented as:

$$dW_t = (r\, W_t - w_t)\, dt + b_x\, d\tilde{Z}_t^x + b_i\, dZ_t^i + b_\theta\, d\tilde{Z}_t.$$

Switching to the physical measure $\mathcal{P}$, it follows that:

$$dW_t = (r\, W_t - w_t)\, dt + b_x\, (dZ_t^x + \gamma_x\, dt) + b_i\, dZ_t^i + b_\theta\, (dZ_t^\theta + \gamma_\theta\, dt).$$

The shareholders will choose a flow payment $w_t\,dt$ and sensitivities b_x, b_i and b_θ, to compensate organization capital to make sure that $W_t = \overline{V}^O$ holds in every state of the world. This boils down to ensuring that $d\,W_t = d\,\overline{V}^O$ for all t and realizations of the Brownian shocks $d\,Z_t^\theta$, $d\,Z_t^x$ and $d\,Z_t^i$. Matching coefficients yields:

$$\begin{aligned}
b_\theta &= \sigma_\theta\, W_t \\
b_i &= 0 \\
b_x &= \sigma_x\, \frac{\overline{v}_x}{\overline{v}}\, \overline{V}^O \\
r\,W_t - w_t + b_x\,\gamma_x + b_\theta\gamma_\theta &= (\mu_\theta + i_O(\varepsilon_{i,t}, x_t) - \delta)\,\overline{V}^O - \kappa_x\, x_t\, \frac{\overline{v}_x}{\overline{v}}\,\overline{V}^O + \frac{1}{2}\sigma_x^2\,\frac{\overline{v}_{xx}}{\overline{v}}\,\overline{V}^O.
\end{aligned}$$

Finally, combining these four equations Lemma 1. ■

3 Numerical procedure

We solve the HJB Equation characterizing the solution using standard techniques. In the continuation region, the function $v(\varepsilon, x)$ satisfies the equation

$$0 = \max_i \left[\exp(\varepsilon) - c_o\lambda^{-1} i^\lambda - (r + \delta - \mu_Q - i)\,v - \kappa_\varepsilon\,\varepsilon\, v_\varepsilon + \frac{1}{2}\sigma_\varepsilon^2 v_{\varepsilon\varepsilon} - \kappa_x\,(x - \overline{x}) v_x + \frac{1}{2}\sigma_x^2\, v_{xx}\right]$$

solving for the optimal investment policy yields the following PDE

$$0 = \exp(\varepsilon) - c_o\lambda^{-1} i^\lambda - (r + \delta - \mu_Q - i)\,v - \kappa_\varepsilon\,\varepsilon\, v_\varepsilon + \frac{1}{2}\sigma_\varepsilon^2 v_{\varepsilon\varepsilon} - \kappa_x\,(x - \overline{x}) v_x + \frac{1}{2}\sigma_x^2\, v_{xx}$$

where

$$i = \left(\frac{v}{c_0}\right)^{\frac{1}{\lambda - 1}}$$

The continuation region is defined by $\varepsilon_{i,t} \geq \varepsilon^*(x_t)$, where $\varepsilon^*(x)$ solves

$$v(\varepsilon^*(x), x) = v(x, x) - c \equiv \overline{v}(x)$$

We discretize the state space, creating a 100×100 point grid for (ε, x) and v with $h_\varepsilon = \Delta\varepsilon, h_x = \Delta\, x$. Then the following approximations can be used

$$\begin{aligned}
v_\varepsilon(\varepsilon_n, x_m) &\approx \frac{v_{n+1,m} - v_{n-1,m}}{2h_\varepsilon} \\
v_{\varepsilon\varepsilon}(\varepsilon_n, x_m) &\approx \frac{v_{n+1,m} + v_{n-1,m} - v_{n,m}}{h^2} \\
v_x(\varepsilon_n, x_m) &\approx \frac{v_{n,m+1} - v_{n,m-1}}{2h_x} \\
v_{xx}(\varepsilon_n, x_m) &\approx \frac{v_{n,m+1} + v_{n,m-1} - v_{n,m}}{h^2}
\end{aligned}$$

We then approximate the PDE as

$$v_{n,m} = p^d_{n,m} v_{n-1,m} + p^u_{n,m} v_{n+1,m} + q^d_{n,m} v_{n,m-1} + q^u_{n,m} v_{n,m+1} + \left(\exp(\varepsilon_n) - c_o\,\lambda^{-1} i^\lambda_{n,m}\right) \Delta t_{n,m}$$

where

$$\begin{aligned}
p^d_{n,m} &= \frac{\kappa_\varepsilon h_\varepsilon\, e_n + {\sigma_\varepsilon}^2}{2{h_\varepsilon}^2}\,\Delta t_{n,m} \\
p^u_{n,m} &= -\frac{\kappa_\varepsilon h_\varepsilon\, e_n - {\sigma_\varepsilon}^2}{2{h_\varepsilon}^2}\,\Delta t_{n,m} \\
q^d_{n,m} &= \frac{\kappa_x h_x (x - \overline{x}) + {\sigma_x}^2}{2{h_x}^2} \\
q^u_{n,m} &= -\frac{\kappa_x h_x (x - \overline{x}) - {\sigma_x}^2}{2{h_x}^2} \\
\Delta t_{n,m} &= \frac{{h_\varepsilon}^2 {h_x}^2}{{\sigma_\varepsilon}^2 {h_x}^2 + {\sigma_x}^2 {h_\varepsilon}^2 + (r + \delta - \mu_Q - i_{n,m})\, {h_\varepsilon}^2 {h_x}^2}
\end{aligned}$$

Note that care must be taken when choosing (h_ε, h_x) to ensure that the probabilities are non-negative at all points in the grid. Alternative differencing schemes that produce positive probabilities can also be used.

Using an initial guess for v, say v^j, we compute the optimal policy, and then we recursively iterate on v and the policy until convergence:

$$\begin{aligned}
i^j_{n,m} &= \left(\frac{v^j_{n,m}}{c_o}\right)^{\frac{1}{\lambda-1}} \\
\Delta t^j_{n,m} &= \frac{{h_\varepsilon}^2 {h_x}^2}{{\sigma_\varepsilon}^2 {h_x}^2 + {\sigma_x}^2 {h_\varepsilon}^2 + (r + \delta - \mu_Q - i^j_{n,m})\, {h_\varepsilon}^2 {h_x}^2} \\
v^{j+1}_{n,m} &= \max\Big[v^j(\varepsilon = x_m, x_m) - c, \quad p^d_{n,m} v^j_{n-1,m} + p^u_{n,m} v^j_{n+1,m} + q^d_{n,m} v^j_{n,m-1} + q^u_{n,m} v^j_{n,m+1} \\
&\qquad + (\exp(\varepsilon_n) - c_o\,\lambda^{-1} {i^j_{n,m}}^\lambda) \Delta t^j_{n,m} \Big]
\end{aligned}$$

We impose reflecting barriers on (ε, x) at the boundaries of the grid. This reduces to $v_{0,m} = v_{1,m}$, $v_{N,m} = v_{N-1,m}$, $v_{n,0} = v_{n,1}$, $v_{n,M} = v_{n,M-1}$ since there is no discounting at the boundary.

4 Information on SG&A Expenditures from company 10K filings

We analyze the discussion of SG&A expenses for all firms in the S&P 500. For each of the firms in the S&P500 in 2005, we chose a random year between 2000 and 2005 and searched that firm year's 10-K for a discussion of the SG&A expense. Of the 500 firms, roughly 350 firms had a specific discussion of the SG&A expense.

These firms do not mention a specific dollar breakdown of the SG&A expenses, but enumerate the main types of expenses that led to a change in SG&A expenses from previous years. Out of the 505 companies we considered, 350 had a section in their 10Ks describing their SG&A expenses. Out of these companies:

- 163 companies reported non-specific labor costs.
  (Examples: wages; salaries; compensation; labor costs)

- 139 companies reported executive or incentive-based compensation.
(Examples: performance-based compensation; bonuses; management salaries; commissions to sales force)

- 42 companies reported expenses related to recruiting, employee training or travel.
(Examples: recruiting, training; employee relations; travel)

- 114 companies reported costs related to employee benefits.
(Examples: pension; severance costs; health care; employee benefits)

- 64 companies reported expenses related to technology infrastructure.
(Examples: information systems; investments to improve our processes and systems; infrastructure investments; centralization of our merchandising organization)

- 50 companies reported other administrative expenses.
(Examples: outsourcing; corporate governance; trust and safety programs; expenses of executive and administrative staff, corporate functions, support personnel; human resource; incremental costs related to our assessment of internal control

- 21 companies reported accounting expenses.
(Examples accounting fees; compliance costs; costs to implementing Sarbanes-Oxley)

- 66 companies reported consultant and professional advisories fees.
(Examples: consulting expenses; professional fees)

- 106 companies reported labor-related expenses for sales and distribution.
(Examples: investment in the salesforce; expansion of distribution channels; customer service; sales-and-service investments

- 24 companies reported non-labor-related expenses for sales and distribution.
(Examples: store remodeling; store closing costs; warehousing; store supplies; store operating expenses)

- 94 companies reported advertising, brand enhancement and promotion expenses.
(Examples: direct advertising; branding; public relations; trade shows; promotion costs)

- 71 companies reported marketing costs, but gave no other information.
(Examples: marketing costs)

- 34 companies reported costs related to product or business development.
(Examples: product launches; start-up costs; product design and development; business expansion; fund growth opportunities)

- 78 companies reported expenses related to legal costs or settlements.
(Examples: lawsuit settlement; litigation expenses)

- 66 companies reported costs related to bad debt expense.
(Examples: doubtful accounts; bad debt expense)

- 53 companies reported exchange-rate or transaction-related expenses.
(Examples: exchange rate fluctuations; credit card fees)

- 85 companies reported costs related to acquisitions or joint business ventures. (Examples: acquisition; joint venture; collaboration agreement)
- 74 companies reported costs related to amortization or depreciation of intangibles.
  (Examples: amortization; amortization of goodwill; depreciation)
- 82 companies reported costs related to rent or insurance.
  (Examples: rent; insurance; occupancy costs)
- 86 companies reported costs related to restructuring or reorganization.
  (Examples: restructuring charges; integration costs; cost savings initiatives; integration; process improvement)
- 14 companies reported related tax-related costs.
  (Examples: non-income taxes; payroll taxes)
- 36 companies reported non-recurring or other expenses.
  (Examples: catastrophe losses; impairment; cost of materials and supplies; fuel)
- 4 companies reported expenses for investor communication.
- 10 companies reported charity contributions.

Out of the 155 that did not have any information, 27 did not report SG&A expenses at all. Out of the remaining 128 companies, 56 were financial firms.

5 Additional empirical results

Figure 1: Response of consumption to (minus) returns to the OMK portfolio

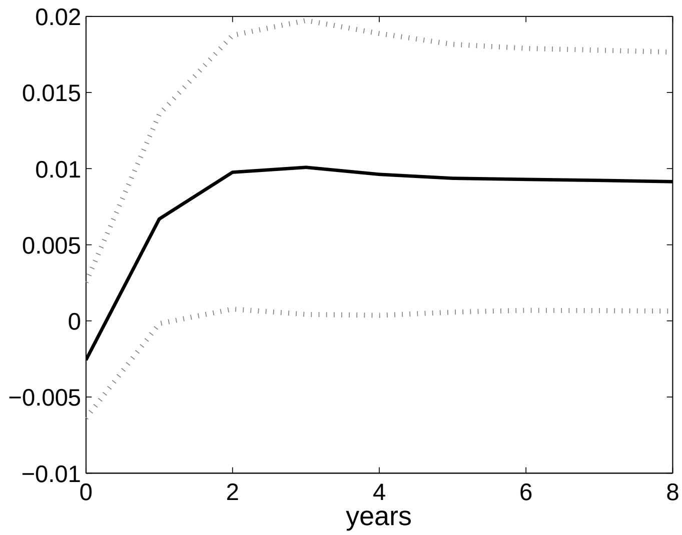

Figure 1 plots the impulse response of log personal consumption expenditures (non-durables and services) on minus the returns to the OMK portfolio $-R_t^{omk}$. We estimate a bivariate VAR, using annual data and 2 lags. We order the OMK portfolio first and plot the impulse response of consumption to the OMK portfolio.

Table 1: 5 portfolios sorted on ASALES/A (within industry, value-weighted)

	Data						Model					
Portfolio	1	2	3	4	5	5m1	1	2	3	4	5	5m1
	1: Portfolio moments						1: Portfolio moments					
$E[R]-r_f$ (%)	4.30	5.77	7.15	7.93	8.71	4.42	4.40	5.15	5.93	6.82	8.17	3.61
	(1.32)	(1.94)	(2.67)	(3.08)	(3.33)	(1.85)	(2.11)	(2.51)	(2.75)	(2.96)	(3.13)	(2.14)
σ (%)	18.95	17.39	15.60	15.03	15.26	13.98	13.09	12.93	13.49	14.40	16.35	10.92
	2: CAPM						2: CAPM					
α(%)	-2.90	-0.99	1.04	2.07	3.51	6.41	-0.55	0.32	0.93	1.69	2.81	3.36
	(-2.34)	(-1.13)	(1.42)	(2.58)	(2.40)	(2.67)	(-1.41)	(0.64)	(1.45)	(1.88)	(2.07)	(2.04)
β_{mkt}	1.14	1.07	0.96	0.92	0.82	-0.31	0.99	0.97	0.99	1.02	1.06	0.07
	(33.41)	(45.49)	(59.37)	(44.52)	(23.24)	(-4.99)	(32.32)	(24.57)	(20.13)	(14.86)	(10.14)	(0.55)
R^2(%)	87.57	91.54	92.79	92.12	70.59	12.35	96.25	93.64	90.83	84.25	71.42	2.91
	3: Two-factor model						3: Two-factor model					
α(%)	-0.29	0.23	0.90	1.23	0.42	0.71	-0.05	0.00	0.07	0.13	0.13	0.16
	(-0.27)	(0.28)	(1.17)	(1.64)	(0.32)	(0.35)	(-0.18)	(0.00)	(0.15)	(0.29)	(0.33)	(0.31)
β_{mkt}	1.04	1.02	0.97	0.96	0.94	-0.10	1.01	0.96	0.97	0.98	0.99	-0.02
	(39.81)	(46.63)	(53.70)	(54.40)	(28.35)	(-1.90)	(48.47)	(25.41)	(26.90)	(27.90)	(33.71)	(-0.54)
β_{omk}	-0.42	-0.20	0.02	0.14	0.50	0.92	-0.14	0.08	0.23	0.41	0.71	0.86
	(-9.62)	(-5.11)	(0.77)	(5.73)	(7.91)	(10.82)	(-5.73)	(1.78)	(5.15)	(9.13)	(17.16)	(16.81)
R^2(%)	91.28	92.50	92.81	92.74	78.61	44.90	98.26	94.44	95.25	96.02	97.76	91.13

Table 1 shows asset pricing tests for 5 portfolios sorted on accumulated sales over assets relative to their industry peers. We use a depreciation rate of 15% and rebalance portfolios in June every year. In panel 1, we report average excess returns over the risk-free rate $E[R]-r_f$, and standard deviations σ across portfolios. In panel 2 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio. In panel 3 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio and the 5-1 portfolio. Panel A reports results using monthly data, where the sample period is June 1970 to December 2008. Panel B shows results using simulated monthly data from the model, where we report the median coefficient across simulations. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. All portfolio returns correspond to value-weighted returns by firm market capitalization.

Table 2: Asset Pricing: 5 portfolios sorted on O/K, additional results

	Data						Model					
Portfolio	1	2	3	4	5	5m1	1	2	3	4	5	5m1
	1: Fama-French three-factor model						4: Fama-French three-factor model					
$\alpha(\%)$	-1.44	-0.47	0.51	1.92	4.48	5.93	0.02	-0.00	0.01	0.02	0.07	0.03
	(-1.60)	(-0.54)	(0.62)	(2.17)	(3.62)	(3.61)	(0.19)	(-0.01)	(0.05)	(0.09)	(0.21)	(0.09)
β_{mkt}	1.07	1.05	0.97	0.91	0.89	-0.18	1.01	0.96	0.97	0.97	0.98	-0.03
	(50.93)	(49.62)	(43.69)	(42.02)	(25.53)	(-3.99)	(110.97)	(36.48)	(42.19)	(43.26)	(33.05)	(-0.91)
β_{smb}	-0.05	-0.03	0.01	-0.23	-0.14	-0.09	-0.25	0.23	0.48	0.77	1.25	1.50
	(-1.67)	(-0.80)	(0.16)	(-8.52)	(-3.74)	(-1.53)	(-12.82)	(4.97)	(11.59)	(19.02)	(21.05)	(25.82)
β_{hml}	0.05	-0.06	0.01	-0.03	0.01	-0.04	-0.08	0.27	0.20	0.08	-0.15	-0.07
	(1.31)	(-1.80)	(0.15)	(-0.51)	(0.22)	(-0.51)	(-2.31)	(2.74)	(2.37)	(1.02)	(-1.46)	(-0.65)
$R^2(\%)$	90.28	91.02	89.44	86.33	78.59	9.15	99.68	97.46	98.25	98.57	98.04	95.58
	2: Carhart four-factor model						2: Carhart four-factor model					
$\alpha(\%)$	-0.85	0.54	-0.09	1.58	3.33	4.18	-0.02	0.12	0.12	0.10	0.09	0.08
	(-0.92)	(0.61)	(-0.10)	(1.76)	(2.63)	(2.55)	(0.33)	(0.37)	(0.33)	(0.23)	(0.21)	
β_{mkt}	1.06	1.04	0.98	0.92	0.91	-0.15	1.01	0.96	0.97	0.97	0.98	-0.03
	(49.20)	(49.34)	(46.85)	(41.18)	(27.37)	(-3.63)	(36.86)	(42.52)	(43.36)	(32.96)	(-0.89)	
β_{smb}	-0.05	-0.03	0.01	-0.23	-0.14	-0.08	-0.25	0.23	0.48	0.77	1.25	1.50
	(-1.78)	(-1.02)	(0.22)	(-8.22)	(-3.80)	(-1.51)	(4.98)	(11.56)	(18.97)	(21.38)	(26.04)	
β_{hml}	0.04	-0.09	0.02	-0.02	0.04	0.00	-0.08	0.28	0.21	0.09	-0.15	-0.06
	(0.98)	(-2.56)	(0.45)	(-0.36)	(0.78)	(0.01)	(-2.54)	(2.57)	(2.36)	(1.27)	(-0.99)	(-0.00)
β_{mom}	-0.05	-0.08	0.05	0.03	0.09	0.14	-0.02	0.04	0.03	0.02	0.01	0.03
	(-2.06)	(-3.40)	(1.64)	(0.89)	(2.75)	(3.10)	(-0.60)	(0.36)	(0.39)	(0.30)	(0.15)	(0.33)
$R^2(\%)$	90.43	91.43	89.62	86.39	79.29	12.92	99.70	97.56	98.32	98.63	98.11	95.76

Table 2 shows asset pricing tests for 5 portfolios sorted on organization capital over assets relative to their industry peers (see main paper for details). In panel 1 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio and the Fama and French (1993) SMB and HML factors. In panel 2 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio, the Fama and French (1993) SMB and HML factors and the Carhart (1997) MOM factor. Panel A reports results using monthly data, where the sample period is June 1970 to December 2008. Data on SMB, HML and MOM are from Kenneth French's website. Panel B shows results using simulated monthly data from the model, where we report the median coefficient across simulations. We construct the equivalent of the SMB, HML and MOM in simulated data. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. All portfolio returns correspond to value-weighted returns by firm market capitalization

Table 3: 5 portfolios sorted on other accumulated accounting variables (within industry)

1: SALES Sort	1	2	3	4	5	5m1
$E[R] - r_f$ (%)	3.38	4.46	5.88	6.74	7.78	4.42
	(1.32)	(1.94)	(2.67)	(3.08)	(3.33)	(1.85)
CAPM α(%)	-2.90	-0.99	1.04	2.07	3.51	6.41
	(-2.34)	(-1.13)	(1.42)	(2.58)	(2.40)	(2.67)
FF3 α(%)	-0.77	0.03	0.98	1.94	2.34	3.12
	(-0.76)	(0.04)	(1.47)	(2.82)	(1.74)	(1.51)
FF4 α(%)	0.01	0.81	1.00	1.67	1.22	1.21
	(0.01)	(0.91)	(1.43)	(2.33)	(0.96)	(0.63)
CAPM-O α(%)	-0.29	0.23	0.90	1.23	0.42	0.71
	(-0.27)	(0.28)	(1.17)	(1.64)	(0.32)	(0.35)
2: COGS Sort	**1**	**2**	**3**	**4**	**5**	**5m1**
$E[R] - r_f$ (%)	3.74	5.14	5.86	6.28	7.92	4.17
	(1.29)	(1.99)	(2.22)	(2.46)	(3.14)	(2.08)
CAPM α(%)	-1.74	0.13	0.72	1.34	3.49	5.23
	(-1.67)	(0.18)	(1.15)	(1.85)	(2.79)	(2.60)
FF3 α(%)	0.36	0.23	0.58	0.92	2.39	2.03
	(0.38)	(0.31)	(0.91)	(1.29)	(1.86)	(1.06)
FF4 α(%)	0.91	0.70	0.66	0.66	1.41	0.50
	(1.01)	(0.83)	(1.02)	(0.89)	(1.13)	(0.27)
CAPM-O α(%)	-0.06	0.02	0.87	1.04	1.07	1.12
	(-0.06)	(0.03)	(1.39)	(1.44)	(0.93)	(0.63)
3: INVT Sort	**1**	**2**	**3**	**4**	**5**	**5m1**
$E[R] - r_f$ (%)	4.56	5.27	5.37	6.96	7.71	3.14
	(1.58)	(1.99)	(2.22)	(2.80)	(3.05)	(1.61)
CAPM α(%)	-0.90	0.17	0.72	2.22	3.25	4.15
	(-0.90)	(0.22)	(0.98)	(2.76)	(2.61)	(2.12)
FF3 α(%)	0.47	0.35	0.51	1.77	1.52	1.05
	(0.50)	(0.48)	(0.72)	(2.26)	(1.19)	(0.56)
FF4 α(%)	1.40	0.62	0.50	1.44	0.80	-0.60
	(1.47)	(0.77)	(0.67)	(1.88)	(0.64)	(-0.33)
CAPM-O α(%)	1.17	0.20	0.17	1.17	0.58	-0.58
	(1.36)	(0.26)	(0.23)	(1.56)	(0.54)	(-0.36)

Table 3 shows asset pricing tests for 5 portfolios sorted on accumulated sales (panel 1) costs of goods sold (panel 2) and inventories (panel 3) over book assets relative to their industry peers. We use a depreciation rate of 15% in all specifications. We rebalance portfolios in June every year. We report average excess portfolio returns $E[R] - r_f$ and alphas with respect to the CAPM, the Fama and French (1993) three factor model (FF3), the Carhart (1997) four-factor model (FF4) and the two-factor model that includes the market and the OMK portfolio (CAPM-O). Data on SMB, HML and MOM are from Kenneth French's website. Sample period is January 1971 to December 2008. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. All portfolio returns correspond to value-weighted returns by firm market capitalization

Table 4: 5 portfolios sorted on other accumulated accounting variables (within industry)

DP Sort	1	2	3	4	5	5m1
$E[R] - r_f$ (%)	3.35	5.42	6.13	6.53	5.26	1.91
	(0.99)	(1.95)	(2.46)	(2.64)	(2.13)	(1.04)
CAPM α(%)	-2.97	0.03	1.28	1.74	0.55	3.53
	(-2.42)	(0.04)	(2.05)	(2.45)	(0.72)	(2.12)
FF3 α(%)	-1.65	0.78	0.98	2.10	0.32	1.97
	(-1.64)	(1.08)	(1.64)	(2.78)	(0.42)	(1.43)
FF4 α(%)	-0.67	1.05	0.23	1.81	0.87	1.54
	(-0.65)	(1.53)	(0.37)	(2.42)	(1.11)	(1.10)
CAPM-O α(%)	-1.37	0.69	0.24	1.05	0.73	2.09
	(-1.19)	(0.93)	(0.42)	(1.57)	(0.92)	(1.29)
XRD Sort	**1**	**2**	**3**	**4**	**5**	**5m1**
$E[R] - r_f$ (%)	4.98	5.39	6.45	6.54	6.76	1.78
	(1.90)	(1.88)	(2.31)	(2.30)	(2.44)	(1.08)
CAPM α(%)	0.07	-0.07	1.17	1.25	1.66	1.60
	(0.07)	(-0.08)	(1.17)	(1.19)	(1.46)	(0.98)
FF3 α(%)	-0.14	1.22	2.89	2.41	2.48	2.62
	(-0.15)	(1.39)	(3.18)	(2.20)	(2.08)	(1.63)
FF4 α(%)	-0.11	1.58	2.83	1.74	2.31	2.43
	(-0.12)	(1.64)	(2.85)	(1.71)	(1.87)	(1.46)
CAPM-O α(%)	0.22	0.60	1.19	0.75	1.59	1.37
	(0.22)	(0.64)	(1.17)	(0.68)	(1.41)	(0.81)
XAD Sort	**1**	**2**	**3**	**4**	**5**	**5m1**
$E[R] - r_f$ (%)	5.19	5.77	5.47	6.24	6.98	1.79
	(1.77)	(1.98)	(1.94)	(2.33)	(2.46)	(1.18)
CAPM α(%)	-0.31	0.24	0.27	1.23	1.74	2.05
	(-0.27)	(0.26)	(0.23)	(1.19)	(1.55)	(1.36)
FF3 α(%)	0.65	1.32	1.12	1.58	2.68	2.03
	(0.59)	(1.48)	(0.96)	(1.52)	(2.40)	(1.30)
FF4 α(%)	1.33	1.42	1.95	2.08	2.92	1.59
	(1.15)	(1.56)	(1.59)	(1.92)	(2.60)	(1.03)
CAPM-O α(%)	0.76	0.82	0.57	1.02	1.60	0.84
	(0.69)	(0.86)	(0.47)	(0.96)	(1.43)	(0.56)

Table 4 shows asset pricing tests for 5 portfolios sorted on accumulated depreciation (panel 1) R&D expenditures (panel 2) and advertising expenses (panel 3) over book assets relative to their industry peers. We use a depreciation rate of 15% in all specifications. We rebalance portfolios in June every year. We report average excess portfolio returns $E[R] - r_f$ and alphas with respect to the CAPM, the Fama and French (1993) three factor model (FF3), the Carhart (1997) four-factor model (FF4) and the two-factor model that includes the market and the OMK portfolio (CAPM-O). Data on SMB, HML and MOM are from Kenneth French's website. Sample period is June 1970 to December 2008. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. All portfolio returns correspond to value-weighted returns by firm market capitalization

Table 5: 5 portfolios sorted on O/K (within industry, value-weighted)

O/K Sort	1	2	3	4	5	5m1
1: MKT + 5m1 Sales $\alpha(\%)$	-0.79	-0.25	1.15	0.88	2.57	3.36
	(-1.05)	(-0.30)	(1.54)	(1.29)	(2.75)	(2.75)
2: MKT + 5m1 Cogs $\alpha(\%)$	-1.08	-0.26	1.33	1.21	2.77	3.85
	(-1.38)	(-0.32)	(1.80)	(1.67)	(2.85)	(2.91)
3: MKT + 5m1 Invt $\alpha(\%)$	-0.99	-0.43	1.23	1.26	2.92	3.91
	(-1.30)	(-0.53)	(1.66)	(1.77)	(3.26)	(3.26)
4: MKT + 5m1 DP $\alpha(\%)$	-1.33	-0.65	1.10	1.20	3.82	5.15
	(-1.68)	(-0.78)	(1.51)	(1.65)	(3.59)	(3.61)
5: MKT + 5m1 XRD $\alpha(\%)$	-1.60	-1.47	1.03	1.76	4.13	5.73
	(-1.96)	(-1.74)	(1.46)	(2.32)	(4.07)	(4.06)
6: MKT + 5m1 XAD $\alpha(\%)$	-1.49	-1.21	1.17	1.70	3.92	5.41
	(-1.84)	(-1.36)	(1.61)	(2.21)	(3.82)	(3.83)

Table 5 shows asset pricing tests for 5 portfolios sorted on organization capital over assets relative to their industry peers. We report the alphas of a regression of excess portfolio returns on the market portfolio plus returns to a high-minus-low portfolio of accumulated sales (panel 1) costs of goods sold (panel 2) inventories (panel 3) depreciation (dp) research and development expenses (xrd) and advertising (xad). Sample period is June 1970 to December 2008. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. All portfolio returns correspond to value-weighted returns by firm market capitalization.

Table 6: Firm age and organization capital

Portfolio	Lo	2	3	4	Hi
Firm age (from CRSP listing date)	7.37	8.64	9.17	9.79	9.68
Firm age (from IPO)	14.52	13.92	11.69	13.08	12.89

Table 7: 5 portfolios sorted on firm age
(within industry)

Sort on Age (CRSP listing date)	1	2	3	4	5	5m1
$E[R] - r_f$ (%)	5.55	4.35	5.03	6.41	5.57	0.02
	(1.51)	(1.29)	(1.55)	(2.22)	(2.35)	(0.01)
CAPM α(%)	-1.00	-1.81	-1.06	0.88	0.93	1.92
	(-0.55)	(-1.25)	(-0.87)	(1.09)	(1.67)	(0.88)
FF3 α(%)	0.33	-0.10	0.18	1.79	0.93	0.60
	(0.23)	(-0.09)	(0.17)	(2.25)	(1.90)	(0.35)
FF4 α(%)	-0.92	0.29	0.15	2.12	1.00	1.92
	(-0.62)	(0.23)	(0.15)	(2.56)	(1.94)	(1.10)
CAPM-O α(%)	-0.15	-0.41	0.17	2.23	0.33	0.48
	(-0.09)	(-0.28)	(0.14)	(2.82)	(0.63)	(0.23)

Table 7 shows asset pricing tests for 5 portfolios sorted on firm age relative to their industry peers. We define age relative to the CRSP listing date. We rebalance portfolios in June every year. We report average excess portfolio returns $E[R] - r_f$ and alphas with respect to the CAPM, the Fama and French (1993) three factor model (FF3), the Carhart (1997) four-factor model (FF4) and the two-factor model that includes the market and the OMK portfolio (CAPM-O). Data on SMB, HML and MOM are from Kenneth French's website. Sample period is June 1970 to December 2008. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. All portfolio returns correspond to value-weighted returns by firm market capitalization

Table 8: The conditional CAPM and organization capital portfolios

A: Estimating the conditional market premium							B: $corr(\hat{\gamma}_t, \beta_t^5 - \beta_t^1)$
$R_{mktt} - R_{ft}$	$term_{t-1}$	dp_{t-1}	r_{ft-1}	def_{t-1}	cay_{t-1}	R^2	
I	3.185	3.048	0.342	-2.712		7.0%	- 7.1%
	(1.41)	(1.62)	(0.03)	(-0.74)			(-0.45)
II					5.007	16.4%	- 37.5%
					(3.26)		(-2.66)
III	-3.035	4.294	-40.80	14.74	5.023	32.0%	-11.4%
	(-1.25)	(1.94)	(-2.73)	(1.90)	(3.26)		(-0.74)

Table 8 presents tests of the conditional CAPM. Panel A presents results from predictive regressions using annual data of excess market returns $R_{mktt} - R_{ft}$ on lagged values of the term premium $term_{t-1}$, dividend yield dp_{t-1}, risk-free rate r_{ft-1}, default spread def_{t-1} and the consumption-to-wealth ratio cay_{t-1}. The first four variables are from Petkova and Zhang (2005) and cay is from Lettau and Ludvigson (2001). Panel B shows correlations of the estimated conditional equity premium $\hat{\gamma}_t \equiv E_t[R_{mktt+1} - R_{ft+1}]$ with the beta of the OMK portfolio with the market $\beta_t^{omk} \equiv \beta_t^5 - \beta_t^1$. We compute betas using non-overlapping window of 1 year using weekly data. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns.

Table 9: 5 portfolios sorted on O/K (within industry, equally-weighted)

Sort	1	2	3	4	5	5m1
	1: Portfolio moments					
$E[R] - r_f$ (%)	4.69	7.07	9.58	10.90	13.47	8.78
	(1.31)	(1.96)	(2.65)	(3.08)	(3.49)	(6.50)
σ (%)	22.16	22.35	22.48	21.97	23.97	8.40
	2: CAPM					
β_{mkt}	1.20	1.20	1.20	1.14	1.16	-0.05
	(26.99)	(28.46)	(28.37)	(25.52)	(21.65)	(-2.00)
α(%)	-1.49	0.89	3.42	5.05	7.54	9.03
	(-0.80)	(0.47)	(1.77)	(2.46)	(2.98)	(6.29)
R^2(%)	74.24	72.89	71.93	67.87	58.55	0.82
	3: Fama-French three-factor model					
β_{mkt}	1.11	1.08	1.07	1.01	0.99	-0.12
	(32.94)	(35.19)	(36.63)	(32.40)	(26.01)	(-4.70)
β_{smb}	0.86	0.91	0.95	0.98	1.13	0.27
	(10.17)	(11.96)	(14.50)	(14.24)	(14.58)	(5.03)
β_{hml}	0.27	0.19	0.20	0.21	0.20	-0.08
	(4.45)	(3.13)	(3.52)	(3.52)	(2.31)	(-1.21)
α(%)	-4.37	-1.53	0.90	2.46	4.81	9.18
	(-3.94)	(-1.44)	(0.92)	(2.36)	(3.07)	(6.50)
R^2(%)	91.47	91.41	91.98	89.98	83.57	14.44
	4: Carhart four-factor model					
β_{mkt}	1.07	1.04	1.04	0.98	0.96	-0.11
	(39.92)	(37.76)	(37.90)	(31.68)	(23.40)	(-3.83)
β_{smb}	0.86	0.90	0.94	0.97	1.12	0.27
	(13.01)	(15.69)	(18.66)	(17.25)	(17.12)	(5.27)
β_{hml}	0.21	0.13	0.15	0.16	0.14	-0.07
	(4.69)	(2.57)	(2.79)	(2.82)	(1.58)	(-0.90)
β_{mom}	-0.22	-0.22	-0.19	-0.17	-0.19	0.04
	(-6.00)	(-4.41)	(-3.82)	(-3.13)	(-2.08)	(0.53)
α(%)	-1.53	1.33	3.37	4.64	7.18	8.71
	(-1.45)	(1.02)	(2.58)	(3.25)	(3.19)	(4.90)
R^2(%)	93.53	93.46	93.50	91.21	84.80	14.83

Table 9 shows asset pricing tests for 5 portfolios sorted on organization capital over assets relative to their industry peers, where we rebalance portfolios in June every year. In panel 1, we report average excess returns over the risk-free rate $E[R] - r_f$, and standard deviations σ across portfolios. In panel 2 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio. In panel 3 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio and the Fama and French (1993) SMB and HML factors. In panel 4 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio, the Fama and French (1993) SMB and HML factors and the Carhart (1997) MOM factor. Data on SMB, HML and MOM are from Kenneth French's website. Sample period is June 1970 to December 2008. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. All portfolio returns correspond to equally-weighted returns.

Table 10: Firm characteristics and organization capital: 5 portfolios, unconditional sort

Data					
Portfolio	Lo	2	3	4	Hi
Organization capital to book assets	0.20	0.57	1.01	1.57	2.86
Market capitalization (log)	5.02	4.70	4.38	4.00	3.28
Tobin's Q	1.04	1.10	1.17	1.23	1.32
Tobin's Q (scaled by ppe)	1.51	2.39	3.28	3.55	3.61
Sales to book assets (%)	58.3	96.07	113.08	125.81	150.61
Earnings to book assets (%)	7.71	8.39	8.53	8.19	5.02
Investment to capital (organization, %)	27.69	27.03	25.71	23.55	20.27
Investment to capital (physical, %)	12.52	12.10	11.90	11.70	10.72
Executive compensation to book assets (%)	0.50	0.81	0.88	1.05	1.51
Physical capital to book assets	77.43	54.83	44.01	41.11	41.40
R&D expenditures to book assets	0.56	1.71	3.11	4.48	6.55
Advertising expenditures to book assets	0.76	1.31	1.62	2.23	4.07
Debt to book assets	31.39	24.55	20.29	16.69	13.53
Capital to labor (log)	3.66	3.28	3.01	2.83	2.56
Firm Solow Residual	-11.36	-1.21	2.18	4.13	6.24
Firm age (CRSP)	8.03	8.43	9.36	9.57	9.03
Firm age (from IPO)	16.02	13.70	13.21	16.80	12.81

Table 10 compares characteristics of the 5 portfolios sorted on organization to physical capital. We group firms into portfolios based on the ratio of organization capital to book assets (Compustat item at). We rebalance portfolios every June. In simulated data, we sort firms into 5 portfolios based on the ratio of organization O_{it} to physical capital K_{it}, and rebalance every year. We report time-series averages of portfolio medians. See Appendix A for variable definitions. The sample period is January 1970 to December 2008.

Table 11: Asset pricing: 5 portfolios sorted on O/K
(unconditional sort, value-weighted)

Sort	1	2	3	4	5	5m1
			1: Portfolio moments			
$E[R] - r_f$ (%)	3.76	6.20	5.77	4.64	7.64	3.88
	(1.36)	(2.27)	(2.05)	(1.83)	(2.86)	(1.75)
σ (%)	17.13	16.99	17.47	15.70	16.62	13.74
			2: CAPM			
β_{mkt}	0.99	1.00	1.04	0.89	0.86	-0.14
	(41.24)	(46.23)	(50.83)	(30.08)	(20.02)	(-2.46)
$\alpha(\%)$	-1.33	1.07	0.43	0.07	3.25	4.58
	(-1.17)	(1.08)	(0.46)	(0.06)	(2.07)	(2.00)
$R^2(\%)$	84.56	87.14	89.21	80.87	66.77	2.49
			3: Fama-French three-factor model			
β_{mkt}	1.05	1.01	1.01	0.90	0.87	-0.18
	(44.25)	(43.36)	(41.62)	(32.62)	(23.08)	(-3.50)
β_{smb}	-0.08	-0.09	0.02	-0.11	-0.22	-0.13
	(-2.73)	(-2.90)	(0.58)	(-3.14)	(-3.87)	(-1.86)
β_{hml}	0.14	-0.01	-0.08	-0.04	-0.10	-0.24
	(3.44)	(-0.27)	(-2.29)	(-0.74)	(-1.35)	(-2.52)
$\alpha(\%)$	-2.12	1.26	0.93	0.49	4.21	6.32
	(-1.97)	(1.28)	(0.97)	(0.45)	(2.69)	(2.80)
$R^2(\%)$	85.58	87.45	89.45	81.43	68.81	5.80
			4: Carhart four-factor model			
β_{mkt}	1.05	1.01	1.01	0.90	0.87	-0.18
	(43.49)	(41.55)	(39.95)	(32.15)	(21.94)	(-3.35)
β_{smb}	-0.08	-0.09	0.02	-0.11	-0.22	-0.13
	(-2.65)	(-2.95)	(0.53)	(-3.19)	(-3.86)	(-1.88)
β_{hml}	0.15	-0.02	-0.09	-0.05	-0.10	-0.25
	(3.72)	(-0.43)	(-2.49)	(-0.79)	(-1.30)	(-2.59)
β_{mom}	0.02	-0.03	-0.03	-0.02	0.01	-0.01
	(0.77)	(-0.86)	(-1.22)	(-0.45)	(0.18)	(-0.16)
$\alpha(\%)$	-2.40	1.58	1.32	0.70	4.07	6.48
	(-2.19)	(1.55)	(1.30)	(0.62)	(2.38)	(2.72)
$R^2(\%)$	85.62	87.50	89.52	81.46	68.82	5.81

Table 11 shows asset pricing tests for 5 portfolios sorted on organization capital over assets, where we rebalance portfolios in June every year. In panel 1, we report average excess returns over the risk-free rate $E[R] - r_f$, and standard deviations σ across portfolios. In panel 2 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio. In panel 3 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio and the Fama and French (1993) SMB and HML factors. In panel 4 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio, the Fama and French (1993) SMB and HML factors and the Carhart (1997) MOM factor. Data on SMB, HML and MOM are from Kenneth French's website. Sample period is June 1970 to December 2008. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. We construct portfolio returns by value-weighting firm returns using lagged market capitalization.

Table 12: Asset pricing: 5 portfolios sorted on O/K
(within industry, value-weighted, exclude advertising expenses)

Sort	1	2	3	4	5	5m1
	1: Portfolio moments					
$E[R]-r_f$ (%)	4.42	4.88	7.14	7.61	8.95	4.52
	(1.42)	(1.63)	(2.30)	(2.65)	(3.20)	(2.69)
σ (%)	17.82	17.03	17.74	16.41	15.98	9.60
	2: CAPM					
β_{mkt}	1.10	1.04	1.06	1.00	0.92	-0.17
	(51.13)	(40.26)	(36.29)	(45.00)	(31.29)	(-4.42)
α(%)	-1.60	-0.86	1.31	2.13	3.87	5.47
	(-1.68)	(-0.89)	(1.03)	(2.08)	(3.03)	(3.48)
R^2(%)	90.14	89.46	85.29	87.93	79.57	7.72
	3: Fama-French three-factor model					
β_{mkt}	1.05	1.02	0.99	0.96	0.93	-0.12
	(46.68)	(37.29)	(33.92)	(42.86)	(30.28)	(-3.23)
β_{smb}	-0.05	-0.07	-0.06	-0.05	-0.04	0.01
	(-1.46)	(-2.15)	(-1.42)	(-1.28)	(-0.85)	(0.12)
β_{hml}	-0.19	-0.12	-0.27	-0.15	-0.02	0.17
	(-4.35)	(-2.75)	(-5.58)	(-3.68)	(-0.29)	(2.44)
α(%)	-0.35	0.06	3.08	3.14	4.06	4.41
	(-0.37)	(0.07)	(2.59)	(2.92)	(2.98)	(2.70)
R^2(%)	91.00	89.95	87.05	88.57	79.65	10.34
	4: Carhart four-factor model					
β_{mkt}	1.04	1.02	0.98	0.96	0.93	-0.10
	(44.76)	(36.72)	(34.08)	(41.50)	(32.23)	(-2.85)
β_{smb}	-0.04	-0.07	-0.05	-0.05	-0.05	-0.01
	(-1.19)	(-2.07)	(-1.28)	(-1.25)	(-1.04)	(-0.26)
β_{hml}	-0.21	-0.13	-0.28	-0.15	0.00	0.21
	(-5.22)	(-2.74)	(-6.01)	(-3.86)	(0.05)	(3.22)
β_{mom}	-0.10	-0.01	-0.07	-0.01	0.07	0.17
	(-3.97)	(-0.36)	(-2.26)	(-0.36)	(1.79)	(3.48)
α(%)	0.87	0.22	3.88	3.26	3.16	2.78
	(0.93)	(0.19)	(3.26)	(2.96)	(2.37)	(1.74)
R^2(%)	91.63	89.96	87.32	88.58	80.08	16.96

Table 12 shows asset pricing tests for 5 portfolios sorted on organization capital over assets relative to their industry peers, where we rebalance portfolios in June every year. We subtract advertising expenses (xad) from SGA (xsga) to compute investment in organization capital. We restrict the sample to firms that report advertising expenses separately. In panel 1, we report average excess returns over the risk-free rate $E[R]-r_f$, and standard deviations σ across portfolios. In panel 2 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio. In panel 3 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio and the Fama and French (1993) SMB and HML factors. In panel 4 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio, the Fama and French (1993) SMB and HML factors and the Carhart (1997) MOM factor. Data on SMB, HML and MOM are from Kenneth French's website. Sample period is June 1975 to December 2008. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. We construct portfolio returns by value-weighting firm returns using lagged market capitalization.

Table 13: Asset pricing: 5 portfolios sorted on O/K
(within industry, value-weighted, sample 1965-2008)

Sort	1	2	3	4	5	5m1
	1: Portfolio moments					
$E[R]-r_f$ (%)	3.42	3.51	4.16	4.90	8.55	5.13
	(1.31)	(1.33)	(1.69)	(2.14)	(3.62)	(3.33)
σ (%)	17.18	17.49	16.22	15.15	15.57	10.17
	2: CAPM					
β_{mkt}	1.03	1.06	0.98	0.89	0.87	-0.16
	(51.38)	(55.07)	(52.27)	(34.56)	(29.66)	(-4.11)
$\alpha(\%)$	-0.90	-0.92	0.07	1.20	4.91	5.81
	(-1.03)	(-1.16)	(0.09)	(1.37)	(4.35)	(3.81)
$R^2(\%)$	89.32	90.85	89.72	84.44	77.37	6.25
	3: Fama-French three-factor model					
β_{mkt}	1.06	1.06	0.98	0.93	0.89	-0.17
	(52.23)	(53.08)	(46.28)	(45.97)	(28.32)	(-4.05)
β_{smb}	-0.05	-0.04	0.00	-0.21	-0.11	-0.06
	(-1.63)	(-1.28)	(0.06)	(-8.07)	(-3.20)	(-1.23)
β_{hml}	0.06	-0.06	0.01	-0.02	-0.01	-0.07
	(1.66)	(-1.70)	(0.26)	(-0.35)	(-0.19)	(-1.00)
$\alpha(\%)$	-1.16	-0.50	-0.00	1.73	5.20	6.36
	(-1.38)	(-0.62)	(-0.01)	(2.09)	(4.43)	(4.13)
$R^2(\%)$	89.55	90.97	89.72	86.59	77.95	6.97
	4: Carhart four-factor model					
β_{mkt}	1.05	1.04	0.99	0.93	0.91	-0.14
	(50.95)	(52.98)	(49.46)	(45.97)	(30.87)	(-3.69)
β_{smb}	-0.05	-0.04	0.00	-0.21	-0.11	-0.07
	(-1.65)	(-1.38)	(0.05)	(-7.86)	(-3.26)	(-1.31)
β_{hml}	0.05	-0.08	0.02	-0.01	0.02	-0.03
	(1.34)	(-2.44)	(0.55)	(-0.12)	(0.42)	(-0.44)
β_{mom}	-0.05	-0.08	0.04	0.04	0.11	0.15
	(-2.13)	(-3.42)	(1.63)	(1.46)	(3.39)	(3.63)
$\alpha(\%)$	-0.60	0.44	-0.55	1.23	3.87	4.47
	(-0.69)	(0.53)	(-0.69)	(1.50)	(3.30)	(2.95)
$R^2(\%)$	89.69	91.34	89.87	86.72	78.87	11.35

Table 12 shows asset pricing tests for 5 portfolios sorted on organization capital over assets relative to their industry peers, where we rebalance portfolios in June every year. We restrict the sample to firms that report advertising expenses separately. In panel 1, we report average excess returns over the risk-free rate $E[R]-r_f$, and standard deviations σ across portfolios. In panel 2 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio. In panel 3 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio and the Fama and French (1993) SMB and HML factors. In panel 4 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio, the Fama and French (1993) SMB and HML factors and the Carhart (1997) MOM factor. Data on SMB, HML and MOM are from Kenneth French's website. Sample period is June 1965 to December 2008. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. We construct portfolio returns by value-weighting firm returns using lagged market capitalization.

Table 14: Asset pricing: 5 portfolios sorted on O/K
(within industry, value-weighted, PPE as measure of physical capital)

Sort	1	2	3	4	5	5m1
	1: Portfolio moments					
$E[R]-r_f$ (%)	4.01	5.84	5.21	5.88	8.76	4.75
	(1.50)	(2.25)	(1.95)	(2.18)	(3.26)	(2.61)
σ (%)	16.56	16.15	16.56	16.78	16.66	11.33
	2: CAPM					
β_{mkt}	0.99	0.95	1.00	0.98	0.90	-0.09
	(52.11)	(38.67)	(50.94)	(44.96)	(29.45)	(-2.26)
α(%)	-1.06	0.96	0.07	0.85	4.16	5.22
	(-1.22)	(1.04)	(0.09)	(0.82)	(3.10)	(2.99)
R^2(%)	89.43	87.21	92.30	86.07	72.79	1.61
	3: Fama-French three-factor model					
β_{mkt}	1.02	0.97	1.00	0.98	0.88	-0.14
	(54.02)	(41.39)	(58.82)	(43.37)	(24.96)	(-3.26)
β_{smb}	-0.11	-0.11	-0.07	-0.04	-0.02	0.08
	(-3.61)	(-4.10)	(-3.30)	(-0.99)	(-0.54)	(1.32)
β_{hml}	0.05	-0.02	-0.05	-0.05	-0.07	-0.12
	(1.31)	(-0.46)	(-1.61)	(-1.06)	(-1.12)	(-1.50)
α(%)	-1.23	1.25	0.49	1.20	4.63	5.86
	(-1.42)	(1.39)	(0.68)	(1.08)	(3.25)	(3.20)
R^2(%)	90.09	87.72	92.56	86.17	72.95	3.53
	4: Carhart four-factor model					
β_{mkt}	1.01	0.97	1.00	0.99	0.91	-0.10
	(53.63)	(39.76)	(54.90)	(44.41)	(26.86)	(-2.49)
β_{smb}	-0.11	-0.11	-0.07	-0.03	-0.02	0.09
	(-3.98)	(-4.01)	(-3.35)	(-1.03)	(-0.43)	(1.56)
β_{hml}	0.02	-0.02	-0.06	-0.02	-0.03	-0.05
	(0.61)	(-0.39)	(-1.79)	(-0.61)	(-0.55)	(-0.75)
β_{mom}	-0.09	0.01	-0.02	0.08	0.13	0.23
	(-3.89)	(0.27)	(-0.94)	(2.77)	(3.97)	(4.97)
α(%)	-0.03	1.13	0.79	0.15	2.93	2.97
	(-0.04)	(1.12)	(0.95)	(0.13)	(2.13)	(1.86)
R^2(%)	90.74	87.73	92.61	86.67	74.25	11.72

Table 14 shows asset pricing tests for 5 portfolios sorted on organization capital over property, plant and equipment (ppegt) relative to their industry peers, where we rebalance portfolios in June every year. In panel 1, we report average excess returns over the risk-free rate $E[R]-r_f$, and standard deviations σ across portfolios. In panel 2 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio. In panel 3 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio and the Fama and French (1993) SMB and HML factors. In panel 4 we report portfolio alphas and betas of a regression of excess portfolio returns on excess returns of the market portfolio, the Fama and French (1993) SMB and HML factors and the Carhart (1997) MOM factor. Data on SMB, HML and MOM are from Kenneth French's website. Sample period is June 1970 to December 2008. We include t-statistics in parenthesis are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. We annualize numbers by multiplying by 12. We construct portfolio returns by value-weighting firm returns using lagged market capitalization.

Table 15: Sensitivity to the depreciation rate

	$\delta = 0.1$	$\delta = 0.2$	$\delta = 0.3$	$\delta = 0.4$	$\delta = 0.5$
$E(R_{Hi} - R_{Lo})$ (%)	5.01	4.66	3.84	4.07	4.35
	(1.49)	(1.37)	(1.27)	(1.25)	(1.27)
$\alpha_{Hi}^{capm} - \alpha_{Lo}^{capm}$ (%)	6.29	5.50	4.42	4.50	4.69
	(1.45)	(1.37)	(1.26)	(1.24)	(1.26)
$\alpha_{Hi}^{ff3} - \alpha_{Lo}^{ff3}$ (%)	6.44	5.82	5.27	5.60	5.85
	(1.14)	(1.10)	(1.04)	(1.01)	(1.01)

Table 15 shows differences in expected returns and alphas for the long high organizational capital and short long organizational capital strategy under different assumptions about the depreciation rate. We classify firms into 17 industries, according to FF1997. The portfolios SMB and HML refer to a portfolio long small and short large stocks and a portfolio long value (high BE/ME) and short growth (low BE/ME) stocks, as defined in FF1993. Organization capital is defined as $O_{i,t} = (1-\delta)\, O_{i,t-1} + SGA_{i,t}$, where SGA is Selling, General and Administrative Expenses (Compustat item 189), following L200x. We vary the depreciation rate between $\delta = [0.1, 0.5]$. In the portfolio sorts, we only include firms where $O_{i,t} > 0$. The sample period is January 1970 to December 2008. Standard errors (reported in parenthesis) are computed using the Newey-West estimator allowing for 1 lag of serial correlation in returns. All numbers are annualized by multiplying by 12.

Table 16: Asset pricing tests, additional results

Sort	1	2	3	4	5	6	7	8	9	10	10m1
	10 portfolios portfolios sorted on investment/last year asset										
$E[R]-r_f$ (%)	11.13	8.20	8.93	7.69	7.44	6.92	5.64	6.75	5.42	2.70	-8.43
	(3.37)	(2.77)	(3.05)	(2.80)	(2.99)	(2.73)	(2.00)	(2.21)	(1.60)	(0.76)	(-4.40)
σ (%)	19.27	17.31	17.09	16.06	14.53	14.79	16.43	17.87	19.75	20.73	11.19
β_{mkt}	1.12	1.04	0.99	0.97	0.87	0.90	0.98	1.05	1.16	1.23	0.11
	(27.76)	(31.33)	(27.17)	(48.58)	(41.10)	(51.64)	(54.91)	(40.28)	(51.07)	(36.41)	(2.44)
β_{omk}	0.03	0.07	0.07	0.00	0.01	-0.02	-0.09	-0.07	-0.16	0.08	0.05
	(0.41)	(1.20)	(0.94)	(0.04)	(0.34)	(-0.42)	(-2.00)	(-1.30)	(-3.17)	(1.44)	(0.72)
α(%)	3.91	1.28	2.34	1.53	1.84	1.32	-0.13	0.44	-1.14	-5.48	-9.39
	(2.33)	(0.99)	(1.56)	(1.58)	(2.19)	(1.56)	(-0.14)	(0.39)	(-1.01)	(-3.48)	(-4.33)
R^2(%)	81.34	85.13	78.38	88.93	87.04	90.20	90.53	87.21	89.57	83.56	2.10
	10 portfolios sorted on asset growth										
$E[R]-r_f$ (%)	10.05	7.60	8.74	6.83	5.89	5.49	5.18	3.95	4.01	-0.25	-10.30
	(2.91)	(2.63)	(3.27)	(2.87)	(2.45)	(2.15)	(1.96)	(1.32)	(1.20)	(-0.07)	(-4.74)
σ (%)	20.98	17.58	16.25	14.45	14.66	15.49	16.06	18.25	20.26	22.56	13.21
β_{mkt}	1.12	1.01	0.93	0.87	0.88	0.94	0.98	1.09	1.17	1.31	0.20
	(22.09)	(34.55)	(29.39)	(43.27)	(40.97)	(46.66)	(48.29)	(55.81)	(48.81)	(51.73)	(3.37)
β_{omk}	-0.09	0.03	0.05	0.13	0.06	0.13	0.09	-0.06	-0.17	-0.11	-0.01
	(-1.11)	(0.49)	(0.67)	(3.75)	(1.37)	(3.28)	(2.82)	(-1.58)	(-3.01)	(-2.03)	(-0.11)
α(%)	5.41	2.88	4.29	2.28	1.63	0.58	0.30	-0.70	-0.50	-5.72	-11.13
	(2.73)	(2.24)	(3.46)	(2.60)	(1.94)	(0.69)	(0.39)	(-0.74)	(-0.46)	(-4.29)	(-4.79)
R^2(%)	74.09	82.66	80.71	87.21	88.93	89.04	91.73	91.54	89.41	88.37	5.68
	10 portfolios sorted on abnormal capital investment										
$E[R]-r_f$ (%)	6.44	6.48	7.11	6.77	5.05	4.87	3.82	4.44	5.04	3.75	-2.68
	(1.82)	(1.96)	(2.38)	(2.34)	(1.96)	(1.99)	(1.43)	(1.63)	(1.71)	(1.11)	(-1.44)
σ (%)	21.57	20.09	18.14	17.63	15.65	14.86	16.26	16.53	17.93	20.59	11.34
β_{mkt}	1.19	1.13	1.02	1.05	0.94	0.89	0.99	0.99	1.04	1.14	-0.05
	(28.49)	(40.19)	(43.37)	(58.09)	(52.57)	(53.09)	(44.19)	(40.99)	(43.74)	(44.00)	(-1.21)
β_{omk}	0.02	-0.13	-0.15	-0.03	0.01	0.03	0.13	0.06	-0.10	-0.24	-0.26
	(0.24)	(-1.70)	(-2.12)	(-0.50)	(0.45)	(0.80)	(3.08)	(1.23)	(-2.24)	(-4.57)	(-3.18)
α(%)	0.96	1.97	3.18	2.15	0.70	0.69	-1.26	-0.33	0.78	-0.28	-1.24
	(0.55)	(1.32)	(2.59)	(2.29)	(0.88)	(0.79)	(-1.31)	(-0.37)	(0.77)	(-0.20)	(-0.68)
R^2(%)	76.21	83.55	85.24	89.90	90.92	89.01	88.42	88.55	88.38	84.65	4.01

See Li, Livdan and Zhang (2009), Chen, Novy-Marx and Zhang (2010), Campbell, Hilscher and Szilagyi (2008) and Hirshleifer, Hou, Teoh and Zhang (2004) for variable definitions.

Table 17: Asset pricing tests, additional results

Sort	1	2	3	4	5	6	7	8	9	10	10m1
	10 portfolios sorted on quarterly earnings/last quarter assets										
$E[R] - r_f$ (%)	-5.64	-2.01	1.93	4.31	4.71	4.29	4.32	6.10	5.29	6.59	12.23
	(-1.22)	(-0.47)	(0.54)	(1.40)	(1.70)	(1.66)	(1.59)	(2.28)	(1.88)	(2.20)	(3.73)
σ (%)	28.09	25.88	21.64	18.73	16.84	15.69	16.50	16.30	17.11	18.26	19.95
β_{mkt}	1.29	1.23	1.15	1.03	0.92	0.92	1.00	0.99	1.05	1.08	-0.21
	(19.39)	(23.54)	(32.02)	(23.11)	(23.44)	(32.71)	(39.93)	(39.56)	(41.11)	(48.41)	(-3.01)
β_{omk}	-0.48	-0.59	-0.32	-0.12	-0.01	0.04	0.11	0.11	0.13	0.10	0.58
	(-3.87)	(-5.79)	(-4.12)	(-1.65)	(-0.18)	(0.79)	(3.22)	(3.01)	(3.12)	(2.25)	(4.34)
α(%)	-9.28	-4.84	-1.80	0.16	0.60	-0.07	-0.73	1.10	-0.04	1.23	10.50
	(-3.16)	(-1.99)	(-1.04)	(0.12)	(0.44)	(-0.06)	(-0.80)	(1.25)	(-0.05)	(1.01)	(3.25)
R^2(%)	63.75	72.32	81.07	80.49	75.28	86.14	88.97	89.22	90.31	84.66	13.48
	10 portfolios sorted on standardized unexpected earnings										
$E[R] - r_f$ (%)	5.48	4.16	5.70	4.63	5.42	6.63	7.42	9.80	8.17	9.60	4.13
	(1.82)	(1.41)	(1.90)	(1.63)	(1.95)	(2.47)	(2.77)	(3.48)	(3.08)	(3.64)	(2.51)
σ (%)	17.62	17.22	17.53	16.55	16.21	15.68	15.63	16.45	15.51	15.39	9.58
β_{mkt}	1.05	1.05	1.05	0.96	0.99	0.96	0.96	1.02	0.95	0.94	-0.11
	(38.15)	(41.85)	(45.52)	(40.68)	(52.73)	(45.92)	(54.39)	(55.42)	(41.28)	(40.70)	(-2.59)
β_{omk}	0.06	0.02	-0.09	-0.14	-0.01	0.02	0.07	0.09	0.06	0.09	0.03
	(1.07)	(0.49)	(-2.33)	(-3.01)	(-0.17)	(0.67)	(1.81)	(1.96)	(1.43)	(2.04)	(0.37)
α(%)	-1.49	-2.59	-0.51	-0.80	-0.81	0.42	1.01	2.88	1.85	3.22	4.71
	(-1.19)	(-2.59)	(-0.54)	(-0.81)	(-0.87)	(0.46)	(1.10)	(3.34)	(1.99)	(3.29)	(2.82)
R^2(%)	84.98	89.81	90.88	88.03	90.46	90.38	89.57	90.65	89.40	87.78	3.70
	10 portfolios sorted on six month momentum										
$E[R] - r_f$ (%)	-6.93	-0.54	2.77	4.96	5.48	6.32	7.06	8.28	10.19	13.34	20.27
	(-1.45)	(-0.15)	(0.91)	(1.82)	(2.17)	(2.54)	(2.81)	(3.09)	(3.31)	(3.29)	(5.45)
σ (%)	27.87	21.21	17.80	15.94	14.72	14.53	14.66	15.63	17.95	23.65	21.69
β_{mkt}	1.27	1.10	0.99	0.94	0.91	0.92	0.94	1.00	1.11	1.30	0.03
	(22.31)	(24.24)	(26.59)	(34.01)	(49.99)	(54.78)	(52.12)	(54.69)	(36.76)	(26.25)	(0.40)
β_{omk}	-0.67	-0.33	-0.18	-0.04	0.03	0.08	0.13	0.15	0.14	-0.02	0.65
	(-4.44)	(-3.25)	(-2.32)	(-0.63)	(0.78)	(2.74)	(4.50)	(4.42)	(2.51)	(-0.16)	(3.08)
α(%)	-11.84	-5.99	-2.68	-0.82	-0.45	0.10	0.50	1.24	2.52	5.15	16.99
	(-4.10)	(-3.06)	(-1.83)	(-0.72)	(-0.60)	(0.17)	(0.81)	(1.66)	(2.11)	(2.28)	(4.33)
R^2(%)	68.29	77.53	82.63	86.44	92.22	93.94	94.54	93.49	87.23	74.46	7.54

See Li et al. (2009), Chen et al. (2010), Campbell et al. (2008) and Hirshleifer et al. (2004) for variable definitions.

Table 18: Asset pricing tests, additional results

Sort	1	2	3	4	5	6	7	8	9	10	10m1
	10 portfolios sorted on composite equity issuance										
$E[R] - r_f$ (%)	7.18	7.71	6.37	5.79	4.29	5.74	4.09	4.91	2.47	2.20	-4.99
	(3.12)	(3.18)	(2.61)	(2.25)	(1.51)	(1.84)	(1.34)	(1.57)	(0.78)	(0.68)	(-2.47)
σ (%)	14.02	14.76	14.83	15.67	17.30	19.01	18.54	19.03	19.26	19.66	12.26
β_{mkt}	0.79	0.89	0.89	0.94	0.98	1.05	1.10	1.12	1.14	1.14	0.35
	(26.00)	(42.47)	(42.72)	(41.86)	(46.77)	(27.86)	(48.24)	(48.58)	(51.28)	(44.98)	(9.26)
β_{omk}	0.17	0.26	0.20	0.07	-0.15	-0.13	-0.02	-0.11	-0.04	-0.04	-0.21
	(3.24)	(6.08)	(4.34)	(1.76)	(-3.00)	(-1.86)	(-0.58)	(-2.91)	(-1.10)	(-0.75)	(-2.90)
α(%)	2.80	2.46	1.39	1.17	0.53	1.55	-0.82	0.31	-2.55	-2.79	-5.60
	(2.25)	(2.40)	(1.38)	(1.32)	(0.51)	(1.14)	(-0.82)	(0.35)	(-2.41)	(-2.19)	(-3.18)
R^2(%)	73.77	83.65	85.01	88.75	86.59	82.01	90.27	92.04	90.59	85.64	28.31
	10 portfolios sorted on net issues										
$E[R] - r_f$ (%)	9.40	8.36	7.34	5.57	8.04	6.02	7.65	4.31	3.63	2.80	-6.60
	(3.70)	(3.27)	(2.82)	(2.06)	(2.90)	(1.97)	(2.32)	(1.36)	(1.17)	(0.88)	(-4.37)
σ (%)	14.85	14.90	15.22	15.81	16.16	17.83	19.26	18.51	18.14	18.55	8.82
β_{mkt}	0.96	0.88	0.94	0.97	0.98	1.06	1.12	1.05	1.03	1.10	0.15
	(62.90)	(25.05)	(44.42)	(53.04)	(42.64)	(48.48)	(38.99)	(37.81)	(38.30)	(50.90)	(5.59)
β_{omk}	0.18	0.22	0.15	-0.00	-0.01	-0.14	-0.21	-0.20	-0.24	-0.05	-0.23
	(7.38)	(3.92)	(3.11)	(-0.08)	(-0.19)	(-3.59)	(-4.29)	(-4.61)	(-5.11)	(-0.92)	(-4.16)
α(%)	2.49	1.76	0.70	-0.56	1.88	-0.05	1.52	-1.39	-1.75	-3.97	-6.46
	(3.35)	(1.26)	(0.73)	(-0.76)	(2.08)	(-0.06)	(1.42)	(-1.15)	(-1.49)	(-3.37)	(-4.50)
R^2(%)	92.99	76.25	86.21	91.66	89.54	91.56	90.98	86.69	88.01	87.79	17.75
	10 portfolios sorted on the failure measure Campbell et al. (2008)										
$E[R] - r_f$ (%)	10.23	6.94	5.39	5.91	6.68	4.59	6.26	4.05	-0.02	-3.45	-13.69
	(3.62)	(2.58)	(1.93)	(2.09)	(2.32)	(1.46)	(1.76)	(1.03)	(-0.01)	(-0.61)	(-3.03)
σ (%)	16.52	15.68	16.27	16.50	16.81	18.34	20.78	22.92	26.78	33.05	26.40
β_{mkt}	0.98	0.98	1.00	1.01	1.02	1.03	1.10	1.17	1.31	1.43	0.45
	(31.11)	(36.39)	(44.31)	(44.38)	(35.38)	(29.30)	(22.13)	(20.77)	(20.63)	(19.80)	(5.18)
β_{omk}	0.16	0.18	0.10	0.06	0.04	-0.14	-0.21	-0.37	-0.43	-0.88	-1.04
	(2.30)	(3.64)	(2.24)	(1.55)	(0.79)	(-2.05)	(-2.19)	(-3.02)	(-3.16)	(-5.57)	(-5.13)
α(%)	3.32	-0.09	-1.41	-0.76	0.04	-1.26	0.27	-1.61	-6.28	-8.33	-11.65
	(2.33)	(-0.10)	(-1.58)	(-0.74)	(0.04)	(-0.90)	(0.14)	(-0.75)	(-2.33)	(-2.24)	(-2.73)
R^2(%)	79.23	87.47	88.64	88.32	88.18	81.58	75.76	75.09	69.32	64.95	28.57

See Li et al. (2009), Chen et al. (2010), Campbell et al. (2008) and Hirshleifer et al. (2004) for variable definitions.

Table 19: Asset pricing tests, additional results

Sort	1	2	3	4	5	6	7	8	9	10	10m1
	10 portfolios sorted on O Score										
$E[R]-r_f$ (%)	6.72	7.33	6.88	6.98	6.91	4.84	5.12	5.40	3.39	-0.17	-6.88
	(2.32)	(2.72)	(2.49)	(2.53)	(2.46)	(1.76)	(1.89)	(1.69)	(0.87)	(-0.04)	(-2.31)
σ (%)	16.88	15.75	16.14	16.09	16.43	16.08	15.84	18.64	22.71	26.94	17.38
β_{mkt}	1.03	0.97	1.01	1.02	0.99	0.96	0.90	1.05	1.22	1.34	0.32
	(48.90)	(57.42)	(69.40)	(53.37)	(26.72)	(33.58)	(29.85)	(32.26)	(26.65)	(22.39)	(4.73)
β_{omk}	-0.02	0.01	0.07	0.15	0.09	0.04	-0.05	-0.06	-0.24	-0.34	-0.32
	(-0.50)	(0.29)	(2.36)	(3.74)	(2.09)	(0.83)	(-1.10)	(-1.12)	(-3.25)	(-3.29)	(-2.92)
α(%)	0.32	1.13	0.13	-0.15	0.20	-1.43	-0.37	-0.99	-3.21	-7.08	-7.40
	(0.34)	(1.57)	(0.17)	(-0.17)	(0.18)	(-1.32)	(-0.30)	(-0.63)	(-1.63)	(-2.62)	(-2.54)
R^2(%)	90.89	92.49	92.70	91.28	85.05	85.56	80.86	80.20	77.53	69.41	15.08
	10 portfolios sorted on total accruals										
$E[R]-r_f$ (%)	10.00	8.38	8.32	7.88	6.11	5.54	7.31	6.12	6.46	2.74	-7.27
	(2.65)	(2.65)	(3.11)	(3.18)	(2.36)	(2.12)	(2.64)	(2.03)	(1.85)	(0.63)	(-3.09)
σ (%)	22.04	18.46	15.61	14.46	15.10	15.23	16.16	17.63	20.45	25.54	13.74
β_{mkt}	1.18	1.02	0.95	0.89	0.94	0.96	0.96	1.03	1.13	1.41	0.22
	(30.75)	(27.18)	(54.19)	(56.70)	(44.59)	(48.89)	(38.71)	(40.05)	(39.55)	(33.96)	(4.78)
β_{omk}	-0.29	-0.21	0.02	0.03	0.11	0.16	-0.01	-0.09	-0.23	-0.25	0.04
	(-3.31)	(-3.10)	(0.47)	(1.22)	(2.27)	(4.80)	(-0.24)	(-1.98)	(-4.38)	(-3.33)	(0.38)
α(%)	3.86	2.90	2.19	2.08	-0.36	-1.33	1.32	-0.03	0.38	-5.00	-8.87
	(2.08)	(2.17)	(2.37)	(2.85)	(-0.37)	(-1.62)	(1.22)	(-0.03)	(0.26)	(-2.50)	(-3.58)
R^2(%)	79.58	82.14	90.28	90.46	88.79	90.77	85.66	87.24	82.49	80.64	5.94
	10 portfolios sorted on accruals according to Hirshleifer et al. (2004)										
$E[R]-r_f$ (%)	9.17	8.47	7.03	7.61	6.99	8.02	6.06	5.54	5.39	2.19	-6.98
	(2.79)	(2.71)	(2.41)	(2.65)	(2.65)	(2.98)	(2.26)	(1.96)	(1.91)	(0.65)	(-3.44)
σ (%)	19.21	18.22	17.03	16.73	15.39	15.70	15.64	16.51	16.50	19.69	11.86
β_{mkt}	1.08	1.05	1.03	1.03	0.96	0.96	0.93	0.94	0.99	1.16	0.08
	(31.05)	(32.87)	(36.55)	(47.97)	(44.74)	(47.61)	(40.30)	(40.05)	(45.46)	(40.84)	(1.65)
β_{omk}	-0.15	-0.05	0.10	0.07	0.11	-0.01	-0.05	-0.21	-0.02	-0.07	0.08
	(-2.30)	(-0.83)	(2.04)	(1.50)	(2.76)	(-0.35)	(-1.12)	(-4.41)	(-0.45)	(-1.32)	(0.89)
α(%)	3.04	2.05	0.03	0.75	0.42	2.03	0.36	0.58	-0.77	-4.83	-7.88
	(2.00)	(1.58)	(0.03)	(0.77)	(0.46)	(2.46)	(0.41)	(0.58)	(-0.75)	(-3.57)	(-3.52)
R^2(%)	82.20	83.31	85.03	89.35	89.63	90.75	88.67	88.01	87.76	86.84	1.01

See Li et al. (2009), Chen et al. (2010), Campbell et al. (2008) and Hirshleifer et al. (2004) for variable definitions.

Table 20: OMK portfolio returns and executive compensation

Compensation to key talent $\Delta \log \bar{w}_t$	$-R_t^{omk}$	$-R_{t-1}^{omk}$	R_t^{mkt}	R_{t-1}^{mkt}	$\Delta \log \bar{w}_{t-1}$	R^2
Compensation of top 3 officers, average	-0.329	1.017	0.002	0.002	0.002	0.428
	(-1.29)	(3.98)	(1.53)	(1.55)	(0.02)	
Compensation of top 3 officers, median	0.182	0.316	-0.000	0.001	0.230	0.341
	(1.18)	(2.12)	(-0.50)	(1.95)	(1.78)	
Compensation of CEO only, average	-0.551	1.105	0.001	0.003	-0.072	0.341
	(-1.56)	(3.11)	(0.85)	(1.61)	(-0.53)	
Compensation of CEO only, median	0.017	0.565	-0.001	0.001	0.284	0.359
	(0.11)	(3.85)	(-1.29)	(0.91)	(2.29)	

Table 20 reports estimates of a time-series regression of the aggregate level of executive compensation on minus the returns of the OMK portfolio, controlling for the returns to the market portfolio. See notes to Table 8 in the paper for more details.

Table 21: OMK portfolio returns and reallocation

Reallocation X_t	$-R_t^{omk}$	$-R_{t-1}^{omk}$	R_t^{mkt}	R_{t-1}^{mkt}	X_{t-1}	R^2
Capital reallocation rate,	0.006	0.002	0.000	0.000	0.947	0.908
sale of property, plant and equipment	(1.83)	(0.52)	(0.19)	(1.93)	(18.73)	
Capital reallocation rate,	-0.007	0.032	0.000	0.000	0.942	0.856
mergers and acquisitions	(-0.39)	(1.85)	(0.93)	(2.30)	(13.94)	
CEO Turnover	0.004	0.140	0.001	-0.001	0.470	0.545
	(0.12)	(3.35)	(0.87)	(-1.37)	(2.02)	
Number of new initial public offerings,	0.911	1.180	0.012	0.012	0.002	
(poisson regression)	(0.78)	(1.02)	(1.53)	(1.62)	(3.61)	
Number of new management buyouts,	1.365	0.793	0.001	-0.009	0.025	
(poisson regression)	(2.43)	(1.38)	(0.25)	(-2.68)	(1.66)	

Table 21 reports estimates of a time-series regression of measures of capital reallocation on the returns of the OMK portfolio, controlling for returns to the market portfolio. See notes to Table 8 in the paper for more details.

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