Momentum: Alternative Explanations

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Table I

Cross-Sectional Regression Estimates

Model: $\tilde{R}_{it} - \bar{R}_{it} = a_{0t} + \sum_{j=1}^{12} a_{jt} R_{it-j} + a_{13t} R_{it-24} + a_{14t} R_{it-36} + \tilde{u}_{it}$, where R_{it} is the return on security i in month t and $\bar{R}_{it}$ is the average monthly return on security i in the sample period $t+1$ to $t+60$. The above cross-sectional regression is fitted each month across the full sample of securities and also within size-based subsamples. The securities in the quintile of small firms ($Q1$), medium sized firms ($Q3$), and large firms ($Q5$) make up the three subsamples. The sample period is 1929–1982.

Sample	Period	$\hat{a}_0$	$\hat{a}_1$	$\hat{a}_2$	$\hat{a}_3$	$\hat{a}_4$	$\hat{a}_5$	$\hat{a}_6$	$\hat{a}_7$	$\hat{a}_8$	$\hat{a}_9$	$\hat{a}_{10}$	$\hat{a}_{11}$	$\hat{a}_{12}$	$\hat{a}_{13}$	$\hat{a}_{14}$	R^2_{adj}
All	Jan–Dec	−0.0033	−0.0923	−0.0073	0.0208	0.0154	0.0148	0.0205	0.0087	0.0065	0.0178	0.0151	0.0224	0.0339	0.0171	0.0187	0.108
		(−1.78)	(−18.58)	(−1.73)	(4.77)	(3.75)	(3.18)	(4.75)	(2.14)	(1.65)	(5.15)	(4.38)	(6.62)	(9.09)	(4.76)	(6.57)	
	Jan	0.0126	−0.2261	−0.0912	−0.0645	−0.0523	−0.0398	−0.0042	−0.0533	−0.0279	−0.0351	−0.0272	−0.0117	0.0802	0.0292	0.0337	0.178
		(2.06)	(−9.42)	(−5.38)	(−3.05)	(−2.81)	(−2.22)	(−0.29)	(−3.20)	(−1.68)	(−2.60)	(−1.87)	(−0.89)	(4.81)	(2.76)	(2.64)	
	Feb–Dec	−0.0047	−0.0801	0.0004	0.0286	0.0215	0.0198	0.0228	0.0144	0.0096	0.0226	0.0190	0.0255	0.0297	0.0160	0.0174	0.102
		(−2.45)	(−17.20)	(0.09)	(6.78)	(5.32)	(4.15)	(5.03)	(3.50)	(2.41)	(6.47)	(5.44)	(7.35)	(7.96)	(4.21)	(6.02)	

Jegadeesh (JF, 1990)

Price Momentum: 1965 to 1989

		Panel A				Panel B			
J		*K* = 3	6	9	12	*K* = 3	6	9	12
3	Buy-sell	0.0032	0.0058	0.0061	0.0069	0.0073	0.0078	0.0074	0.0077
		(1.10)	(2.29)	(2.69)	(3.53)	(2.61)	(3.16)	(3.36)	(4.00)
6	Buy-sell	0.0084	0.0095	0.0102	0.0086	0.0114	0.0110	0.0108	0.0090
		(2.44)	(3.07)	(3.76)	(3.36)	(3.37)	(3.61)	(4.01)	(3.54)
9	Buy-sell	0.0109	0.0121	0.0105	0.0082	0.0135	0.0130	0.0109	0.0085
		(3.03)	(3.78)	(3.47)	(2.89)	(3.85)	(4.09)	(3.67)	(3.04)
12	Buy-sell	0.0131	0.0114	0.0093	0.0068	0.0149	0.0121	0.0096	0.0069
		(3.74)	(3.40)	(2.95)	(2.25)	(4.28)	(3.65)	(3.09)	(2.31)

- *J*: Ranking period
- *K:* Holding period
- *Panel A*: Holding and ranking periods are adjacent
- *Panel B*: Skip a week

Jegadeesh and Titman (JF, 1993)

Potential Explanations

- Data Mining
- Risk:
- Behavioral Explanations

Data Mining?

- Researchers collectively evaluate numerous signals. Was momentum significant by chance in that sample period?

- How does Price momentum perform post-1989?

	US	International		
		All Ex-US	Developed	Emerging
Annualized Return (%)	10.87	10.67	10.22	9.02
t-stat	(2.48)	(3.02)	(2.57)	(2.70)

- Samples exclude microcap and low-priced stocks
- US: Sample period 1990-2021 (6 month ranking period)
- International: Sample period 1993-2020 (2-12 ranking period)
  (source: Goyal, Jegadeesh, Subrahmanyam, 2022)

Risk?

- Hypothesis: Winners are riskier than losers during the holding period, and momentum profit is compensation for bigger risk.

- Empirical Evidence:
  Conventional measures of risk during the holding period are bigger for losers than winners
  - Market Beta
  - Market Cap
  - FF HML beta
  - Volatility

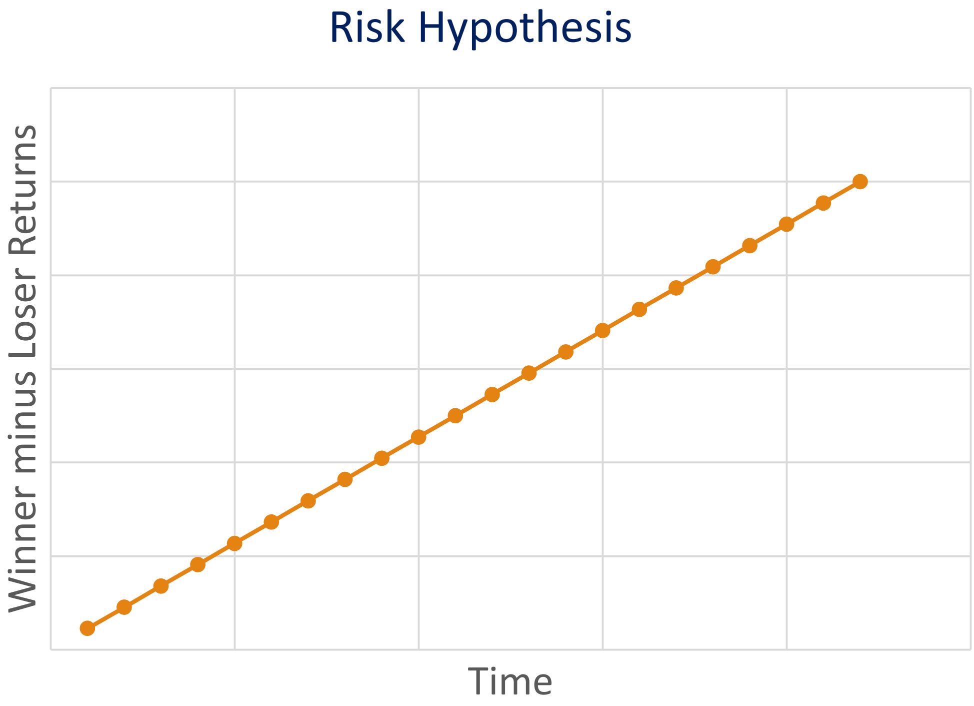
Conditional risk with respect to other sources of risk?

- Time-varying growth options
- Time-varying risk with respect to unobservable factors

Time-Varying Risk or Biased Expectations?

Risk: Premium accrues uniformly over the holding period

Biased Expectations: Bigger returns when earnings announced, and bias corrected



Returns around Earnings Announcements (1990 to 2021)

	Months after Portfolio Formation: Winners – Losers returns											
	1	2	3	4	5	6	7	8	9	10	11	12
Ret. (%)	0.91	1.22	1.03	1.07	1.01	0.87	0.72	0.27	0.28	-0.04	-0.19	-0.48
t-stat	2.48	3.62	3.42	3.81	3.84	3.52	3.09	1.19	1.33	-0.21	-0.88	-2.35

	Three-day Earnings Announcement Returns for Winners – Losers											
	1	2	3	4	5	6	7	8	9	10	11	12
Ret. (%)	0.80	0.57	0.60	0.78	0.64	0.73	0.66	0.67	0.60	0.33	0.23	0.13
t-stat	4.56	3.69	4.01	5.30	4.11	5.30	4.49	4.63	4.03	2.21	1.56	0.90

Observations

- Momentum gradually declines after portfolio formation
- Earnings Announcement window returns are positive, and declines after portfolio formation

$\Longrightarrow$ Biased expectations, behavioral models

Behavioral Explanations

- Underreaction to information
- Overreaction and that is subsequently corrected
- More from Sheridan!