

Security Analysis: An Investment Perspective

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The investment theory, in which the expected return varies cross-sectionally, is a good start to understanding Graham and Dodd's (1934) *Security Analysis*

- 1 Introduction
- 2 Explaining Security Analysis Strategies
- 3 An Economic Perspective

1 Introduction

2 Explaining Security Analysis Strategies

3 An Economic Perspective

The NPV rule as an asset pricing theory:

$$R_{t+1} \approx \frac{X_{t+1} + (1 - \delta) [1 + a(I_{t+1}/A_{t+1})]}{1 + a(I_t/A_t)}$$

Cross-sectionally varying expected returns, depending on investment, expected profitability, and expected growth

The q -factor model and the q^5 model:

$$E[R_i - R_f] = \beta_{\text{MKT}}^i E[\text{MKT}] + \beta_{\text{Me}}^i E[R_{\text{Me}}] \\ + \beta_{I/A}^i E[R_{I/A}] + \beta_{\text{Roe}}^i E[R_{\text{Roe}}] + \beta_{\text{Eg}}^i E[R_{\text{Eg}}]$$

Expected growth formed via cross-sectional forecasting regressions on Tobin's q , operating cash flows, and change in Roe

Introduction

Spanning tests: $p_{GRS} = 0$ for the R_{Me} , $R_{I/A}$, and R_{Roe} alphas = 0, with and without the R_{Eg} alpha, in the Fama-French (2018) 6-factor models

	\bar{R}	α	MKT	SMB	HML	RMW	CMA	UMD	RMWc
$R_{I/A}$	0.38	0.10	0.01	-0.04	0.04	0.06	0.81	0.01	
	4.59	2.82	0.84	-2.75	2.16	2.09	33.60	0.83	
		0.10	0.01	-0.04	0.05		0.80	0.01	0.06
		2.57	0.91	-2.68	2.26		31.45	0.82	1.49
R_{Roe}	0.55	0.27	0.00	-0.12	-0.10	0.66	-0.00	0.24	
	5.44	4.32	0.07	-3.71	-2.02	15.43	-0.01	9.58	
		0.23	0.03	-0.10	-0.04		-0.16	0.24	0.71
		2.94	1.37	-2.53	-0.55		-1.88	6.92	8.55
R_{Eg}	0.84	0.71	-0.09	-0.14	-0.01	0.23	0.21	0.12	
	10.27	11.39	-5.44	-6.34	-0.51	5.65	4.50	6.04	
		0.64	-0.06	-0.09	-0.00		0.16	0.11	0.40
		9.87	-3.47	-3.90	-0.04		3.31	5.47	7.02

Introduction

$\rho_{GRS} = 0.09$ (0.11) for the nonmarket 6-factor alphas = 0 in q^5 with RMW (RMWc)

	\bar{R}	α	R_{Mkt}	R_{Me}	$R_{I/A}$	R_{Roe}	R_{Eg}
UMD	0.64	0.14	-0.08	0.23	-0.03	0.90	
	3.73	0.61	-1.31	1.74	-0.17	5.85	
		-0.16	-0.03	0.27	-0.12	0.77	0.44
		-0.77	-0.53	2.03	-0.69	4.39	2.81
CMA	0.30	0.00	-0.04	0.03	0.96	-0.09	
	3.29	0.08	-3.66	1.72	35.11	-3.41	
		-0.04	-0.04	0.04	0.94	-0.11	0.06
		-0.94	-2.96	1.96	38.15	-3.73	2.16
RMW	0.28	0.03	-0.03	-0.12	0.02	0.54	
	2.76	0.32	-1.23	-1.73	0.20	8.72	
		-0.01	-0.03	-0.11	0.00	0.52	0.06
		-0.17	-1.05	-1.57	0.04	8.04	0.85
RMWc	0.33	0.24	-0.10	-0.18	0.09	0.29	
	4.18	3.75	-5.90	-5.36	2.06	9.97	
		0.11	-0.08	-0.16	0.05	0.23	0.19
		1.80	-4.90	-4.58	1.08	6.85	5.02

1 Introduction

2 Explaining Security Analysis Strategies

3 An Economic Perspective

The q^5 model goes a long way toward explaining security analysis:

- Frankel and Lee (1998): Intrinsic-to-market value
- Piotroski (1998): Fundamental score
- Greenblatt (2005): “Magic formula”
- Asness, Frazzini, and Pedersen (2019): Quality minus junk
- Warren Buffett’s Berkshire Hathaway
- Bartram and Grinblatt (2018): Agnostic fundamental analysis
- Penman and Zhu (2018): Fundamental strategies
- Lewellen (2015): Expected-return strategies

Security Analysis Strategies

Frankel and Lee (1998): Intrinsic-to-market value

	L	2	3	4	H	H-L		L	2	3	4	H	H-L
	\bar{R}							$t_{\bar{R}}$					
All	0.44	0.54	0.51	0.68	0.86	0.43	2.00	3.16	2.92	3.86	4.45	2.79	
Micro	0.72	0.89	0.86	0.88	1.00	0.27	2.34	3.26	3.34	3.46	3.66	2.01	
Small	0.59	0.80	0.86	0.82	0.94	0.35	2.11	3.30	3.89	3.77	3.79	2.25	
Big	0.44	0.53	0.49	0.66	0.80	0.36	2.05	3.15	2.82	3.79	4.21	2.29	
	α_{q^5} ($p_{GRS} = 0.08$)							t_{q^5}					
All	0.02	-0.15	-0.21	-0.06	0.17	0.15	0.28	-2.09	-2.44	-0.73	1.71	0.99	
Micro	0.04	0.20	0.08	0.14	0.18	0.13	0.44	1.89	0.95	1.31	1.78	1.05	
Small	-0.08	0.00	0.01	-0.03	0.04	0.13	-0.93	0.01	0.17	-0.39	0.45	0.88	
Big	0.05	-0.16	-0.22	-0.06	0.16	0.11	0.59	-2.11	-2.44	-0.75	1.50	0.68	
	β_{Mkt}	β_{Me}	$\beta_{I/A}$	β_{Roe}	β_{Eg}		t_{Mkt}	t_{Me}	$t_{I/A}$	t_{Roe}	t_{Eg}		
All	-0.08	0.19	0.70	-0.17	0.12		-1.74	2.30	5.95	-1.48	1.13		
Micro	-0.05	-0.16	0.50	0.05	0.00		-1.31	-2.03	4.80	0.48	-0.02		
Small	-0.03	-0.19	0.70	-0.08	0.08		-0.47	-1.37	5.38	-0.61	0.68		
Big	-0.08	0.12	0.72	-0.16	0.09		-1.55	1.45	5.77	-1.30	0.84		

Security Analysis Strategies

Piotroski (1998): Fundamental score

	L	2	3	4	H	H-L		L	2	3	4	H	H-L
	\bar{R}						$t_{\bar{R}}$						
All	0.32	0.57	0.55	0.55	0.62	0.30	1.17	2.83	2.86	2.93	3.32	1.97	
Micro	0.53	0.75	0.77	0.90	1.02	0.50	1.48	2.38	2.67	3.25	3.84	3.25	
Small	0.48	0.69	0.70	0.82	0.85	0.36	1.49	2.54	2.82	3.40	3.52	2.50	
Big	0.32	0.57	0.53	0.53	0.60	0.28	1.19	2.87	2.82	2.83	3.25	1.78	
	α_{q^5} ($p_{GRS} = 0.09$)						t_{q^5}						
All	-0.04	0.05	0.07	0.00	0.05	0.09	-0.33	0.68	1.48	-0.08	0.71	0.58	
Micro	-0.11	0.13	0.12	0.20	0.22	0.33	-0.97	1.20	1.42	2.25	2.58	2.67	
Small	-0.12	-0.01	-0.03	0.04	-0.01	0.10	-1.07	-0.19	-0.54	0.53	-0.19	0.81	
Big	0.03	0.07	0.08	-0.01	0.05	0.03	0.21	0.91	1.52	-0.15	0.73	0.15	
	β_{Mkt}	β_{Me}	$\beta_{I/A}$	β_{Roe}	β_{Eg}		t_{Mkt}	t_{Me}	$t_{I/A}$	t_{Roe}	t_{Eg}		
All	-0.15	-0.17	0.01	0.41	0.12		-3.64	-2.63	0.12	4.35	1.09		
Micro	-0.14	-0.22	0.28	0.59	-0.15		-4.23	-2.61	2.53	6.12	-1.74		
Small	-0.17	-0.16	0.38	0.45	0.00		-4.30	-3.16	4.52	5.49	0.01		
Big	-0.14	-0.04	-0.00	0.39	0.14		-3.07	-0.51	-0.05	3.77	1.19		

Security Analysis Strategies

Greenblatt (2005): "Magic formula"

	L	2	3	4	H	H-L		L	2	3	4	H	H-L
	\bar{R}							$t_{\bar{R}}$					
All	0.32	0.50	0.47	0.59	0.84	0.52	1.34	2.79	2.53	3.23	4.63	3.56	
Micro	0.53	0.73	0.81	0.94	0.96	0.43	1.51	2.60	2.78	3.36	3.60	2.51	
Small	0.46	0.75	0.74	0.86	0.93	0.47	1.51	3.06	3.05	3.43	3.86	2.87	
Big	0.35	0.49	0.46	0.56	0.82	0.47	1.51	2.78	2.48	3.15	4.60	3.08	
	α_{q^5} ($p_{GRS} = 0.87$)							t_{q^5}					
All	0.06	0.07	-0.02	-0.04	0.05	-0.01	0.62	1.16	-0.37	-0.54	0.68	-0.10	
Micro	0.08	0.04	0.10	0.13	0.14	0.06	0.64	0.43	1.23	1.31	1.49	0.43	
Small	0.03	0.01	0.06	0.00	0.06	0.03	0.37	0.11	0.83	0.04	0.74	0.18	
Big	0.15	0.08	-0.02	-0.04	0.04	-0.11	1.41	1.34	-0.31	-0.57	0.49	-0.84	
	β_{Mkt}	β_{Me}	$\beta_{I/A}$	β_{Roe}	β_{Eg}		t_{Mkt}	t_{Me}	$t_{I/A}$	t_{Roe}	t_{Eg}		
All	-0.12	0.06	0.02	0.40	0.42		-3.44	1.02	0.28	4.86	4.48		
Micro	-0.10	-0.26	0.37	0.67	-0.02		-2.23	-2.13	2.88	6.10	-0.19		
Small	-0.13	-0.10	0.42	0.57	0.08		-2.74	-0.78	3.52	5.08	0.82		
Big	-0.12	0.17	0.00	0.39	0.45		-2.85	2.71	0.02	4.51	4.42		

Security Analysis Strategies

Asness, Frazzini, and Pedersen (2019): Quality score

	L	2	3	4	H	H-L		L	2	3	4	H	H-L
	\bar{R}							$t_{\bar{R}}$					
All	0.37	0.46	0.47	0.56	0.63	0.26	1.48	2.34	2.58	3.05	3.36	3.36	1.79
Micro	0.29	0.78	0.91	0.92	0.90	0.61	0.79	2.60	3.13	3.27	3.36	3.36	3.92
Small	0.50	0.72	0.79	0.77	0.92	0.42	1.61	2.93	3.15	3.10	3.65	3.65	3.19
Big	0.40	0.43	0.44	0.54	0.62	0.22	1.69	2.25	2.47	2.99	3.31	3.31	1.53
	α_{q^5} ($p_{GRS} = 0.00$)							t_{q^5}					
All	-0.01	-0.06	-0.02	0.07	0.11	0.12	-0.12	-0.84	-0.36	1.35	1.85	1.85	1.14
Micro	-0.01	0.22	0.23	0.34	0.29	0.30	-0.06	1.73	2.26	2.81	2.32	2.32	2.45
Small	0.14	0.08	0.06	0.12	0.23	0.09	1.82	1.08	0.90	1.86	2.77	2.77	0.83
Big	0.04	-0.06	-0.02	0.07	0.11	0.07	0.39	-0.75	-0.36	1.24	1.75	1.75	0.59
	β_{Mkt}	β_{Me}	$\beta_{I/A}$	β_{Roe}	β_{Eg}		t_{Mkt}	t_{Me}	$t_{I/A}$	t_{Roe}	t_{Eg}		
All	-0.17	-0.36	-0.61	0.42	0.39		-5.74	-8.82	-9.04	6.76	5.47		
Micro	-0.18	-0.21	0.00	0.64	0.13		-5.94	-4.09	0.00	8.06	1.83		
Small	-0.18	-0.12	-0.12	0.54	0.23		-4.89	-1.34	-1.41	6.72	3.00		
Big	-0.15	-0.22	-0.66	0.38	0.39		-4.40	-5.12	-8.74	5.60	4.76		

Security Analysis Strategies

Asness, Frazzini, and Pedersen (2019): Alternative quality score (with payout)

	L	2	3	4	H	H-L		L	2	3	4	H	H-L
	\bar{R}							$t_{\bar{R}}$					
All	0.24	0.47	0.54	0.58	0.63	0.39	0.94	2.32	2.83	3.13	3.60	2.74	
Micro	0.20	0.85	0.95	1.02	0.93	0.72	0.55	2.76	3.35	3.72	3.62	4.39	
Small	0.47	0.76	0.76	0.88	0.92	0.45	1.48	2.99	3.10	3.58	3.85	3.30	
Big	0.25	0.44	0.51	0.55	0.62	0.36	1.03	2.26	2.74	3.03	3.53	2.71	
	$\alpha_{q^5} (p_{GRS} = 0.00)$							t_{q^5}					
All	-0.02	0.00	0.04	0.04	0.08	0.10	-0.29	-0.03	0.80	0.75	1.52	1.07	
Micro	-0.06	0.27	0.27	0.37	0.26	0.33	-0.35	2.16	2.14	3.62	2.24	2.54	
Small	0.13	0.15	0.01	0.15	0.20	0.08	1.55	2.39	0.13	2.42	2.37	0.73	
Big	0.03	0.01	0.04	0.03	0.07	0.04	0.32	0.09	0.76	0.59	1.36	0.43	
	β_{Mkt}	β_{Me}	$\beta_{I/A}$	β_{Roe}	β_{Eg}		t_{Mkt}	t_{Me}	$t_{I/A}$	t_{Roe}	t_{Eg}		
All	-0.17	-0.40	-0.20	0.38	0.43		-6.14	-10.46	-2.98	6.47	6.42		
Micro	-0.24	-0.18	0.17	0.66	0.17		-7.64	-3.82	1.93	7.91	2.34		
Small	-0.23	-0.15	0.17	0.53	0.22		-6.16	-1.76	2.15	5.90	2.80		
Big	-0.14	-0.26	-0.22	0.34	0.43		-4.59	-6.64	-2.88	5.57	5.76		

Security Analysis Strategies

Buffett's alpha

The AQR 6-factor regressions

	α	β_{Mkt}	β_{SMB}	β_{HML}	β_{UMD}	β_{BAB}	β_{QMJ}	R^2
11/76–3/17	0.46	0.92	-0.18	0.38	-0.05	0.27	0.39	0.29
	1.69	10.62	-1.45	3.00	-0.93	3.04	2.81	
2/68–12/18	0.61	0.78	-0.11	0.30	-0.02	0.27	0.29	0.19
	2.08	8.21	-0.70	1.98	-0.24	2.65	1.91	

The q -factor and q^5 regressions

	\bar{R}	α	β_{Mkt}	β_{Me}	$\beta_{1/A}$	β_{Roe}	β_{Eg}	R^2	
11/76–3/17	1.51	0.48	0.87	-0.14	0.73	0.50		0.27	
	4.81	1.75	10.30	-1.03	4.40	4.56			
		0.66	0.84	-0.16	0.78	0.60	-0.30		0.27
		2.10	9.70	-1.18	4.58	4.63	-1.46		
2/68–12/18	1.44	0.64	0.75	-0.03	0.58	0.42		0.17	
	4.96	2.44	8.40	-0.21	3.61	3.46			
		0.77	0.73	-0.05	0.62	0.48	-0.20		0.18
		2.67	8.14	-0.30	3.79	3.48	-1.11		

Security Analysis Strategies

Spanning tests: $p_{GRS} = 0$ for the R_{Me} , $R_{I/A}$, and R_{Roe} alphas = 0, with and without the R_{Eg} alpha, in the AQR 6-factor models

	\bar{R}	α	MKT	SMB	HML	UMD	BAB	QMJ*	QMJ
$R_{I/A}$	0.38	0.24	-0.08	-0.05	0.39	0.04	0.06	-0.02	
	4.59	3.21	-4.71	-1.88	13.10	1.78	2.25	-0.55	
		0.28	-0.10	-0.08	0.35	0.04	0.07		-0.13
		4.00	-6.74	-3.00	12.05	1.82	2.88		-3.08
R_{Roe}	0.55	0.05	0.10	-0.12	-0.07	0.18	0.11	0.64	
	5.44	0.66	4.24	-2.89	-1.49	5.71	3.20	11.54	
		0.13	0.05	-0.13	-0.04	0.21	0.13		0.59
		1.75	2.20	-3.34	-0.71	6.91	4.24		10.24
R_{Eg}	0.84	0.62	-0.04	-0.10	0.11	0.11	0.01	0.34	
	10.27	9.09	-2.19	-4.09	4.00	4.77	0.41	6.27	
		0.67	-0.08	-0.11	0.13	0.12	0.02		0.29
		9.64	-4.20	-4.91	3.70	5.55	1.03		5.93

Security Analysis Strategies

$\rho_{GRS} = 0.00$ for the nonmarket AQR 6-factor alphas = 0 in q^5

	\bar{R}	α	R_{Mkt}	R_{Me}	$R_{I/A}$	R_{Roe}	R_{Eg}
SMB	0.19	0.06	-0.01	0.92	-0.20	-0.11	
	1.54	1.65	-0.64	54.74	-6.13	-4.03	
		0.10	-0.01	0.92	-0.19	-0.09	-0.05
		2.63	-1.07	54.39	-5.87	-3.14	-2.06
BAB	0.90	0.32	0.06	0.15	0.68	0.45	
	5.73	1.94	1.21	2.19	5.51	4.67	
		0.29	0.07	0.16	0.67	0.43	0.05
		1.73	1.33	2.18	5.35	4.17	0.54
QMJ*	0.42	0.33	-0.21	-0.15	-0.08	0.49	
	4.15	5.23	-11.92	-6.21	-1.95	13.61	
		0.17	-0.18	-0.13	-0.13	0.42	0.23
		2.71	-11.40	-5.15	-3.58	13.45	4.63
QMJ	0.30	0.27	-0.14	-0.15	-0.29	0.47	
	3.02	3.69	-6.75	-4.94	-6.46	11.09	
		0.11	-0.11	-0.13	-0.34	0.40	0.23
		1.69	-5.87	-3.99	-7.68	8.67	4.46

Security Analysis Strategies

Size matters after controlling for quality, one-way sorts

	S	2	3	4	B	S-B		L	2	3	4	H	H-L
Me	0.64	0.74	0.69	0.64	0.49	0.16	Roe	0.22	0.42	0.51	0.59	0.65	0.44
	2.09	2.70	2.83	2.91	2.83	0.76		0.80	2.20	2.82	3.26	3.43	2.71
At	0.63	0.66	0.64	0.58	0.51	0.13	Eg	0.04	0.35	0.46	0.59	0.85	0.82
	2.05	2.51	2.85	2.74	3.07	0.62		0.15	1.65	2.50	3.34	4.59	6.56

Security Analysis Strategies

Two-way sorts on the market equity and quality, \bar{R} and $t_{\bar{R}}$

	S	2	3	4	B	S-B	Ave.	S	2	3	4	B	S-B	Ave.
The market equity and Roe														
L	0.15	0.24	0.35	0.35	0.23	-0.08	0.26	0.43	0.71	1.17	1.20	0.89	-0.32	0.90
2	0.75	0.77	0.58	0.51	0.39	0.36	0.60	2.67	3.05	2.50	2.48	2.10	1.85	2.73
3	0.94	0.74	0.72	0.60	0.45	0.50	0.69	3.46	2.98	3.32	2.98	2.51	2.58	3.26
4	1.22	0.98	0.81	0.72	0.56	0.66	0.86	4.39	3.85	3.44	3.35	3.17	3.40	3.88
H	1.54	1.21	0.98	0.86	0.57	0.97	1.03	4.87	4.33	3.73	3.62	3.10	4.22	4.24
H-L	1.39	0.97	0.63	0.51	0.35		0.77	9.34	5.36	4.11	2.86	2.00		5.47
Ave.	0.92	0.79	0.69	0.61	0.44	0.48		3.15	2.99	2.87	2.78	2.42	2.53	
The market equity and the expected growth														
L	0.02	0.17	0.12	0.08	0.09	-0.07	0.09	0.05	0.52	0.38	0.27	0.38	-0.33	0.33
2	0.71	0.65	0.57	0.52	0.31	0.40	0.55	2.43	2.41	2.35	2.21	1.48	2.15	2.32
3	1.09	0.95	0.78	0.75	0.36	0.72	0.79	3.83	3.71	3.16	3.44	2.05	3.45	3.52
4	1.26	1.08	0.96	0.87	0.51	0.76	0.93	4.39	4.17	4.06	3.92	2.92	3.60	4.19
H	1.47	1.34	1.19	1.06	0.79	0.67	1.17	4.85	5.01	4.66	4.49	4.34	3.10	4.95
H-L	1.45	1.18	1.07	0.98	0.70		1.07	14.09	8.92	8.61	7.61	5.07		11.52
Ave.	0.91	0.84	0.72	0.65	0.41	0.50		3.07	3.13	2.89	2.83	2.23	2.57	

Security Analysis Strategies

Two-way sorts on physical size and quality, \bar{R} and $t_{\bar{R}}$

	S	2	3	4	B	S-B	Ave.	S	2	3	4	B	S-B	Ave.
Total assets and Roe														
L	-0.01	0.27	0.20	0.29	0.37	-0.38	0.23	-0.02	0.82	0.64	1.02	1.52	-1.55	0.77
2	0.53	0.60	0.56	0.51	0.43	0.11	0.52	1.84	2.02	2.34	2.40	2.36	0.53	2.33
3	0.65	0.60	0.57	0.59	0.47	0.18	0.58	2.28	2.46	2.52	2.90	2.67	0.94	2.71
4	0.81	0.71	0.73	0.58	0.59	0.21	0.68	2.88	2.91	3.33	2.69	3.44	1.14	3.19
H	1.15	0.95	0.83	0.71	0.57	0.58	0.84	3.86	3.49	3.56	3.19	3.23	2.83	3.71
H-L	1.16	0.68	0.64	0.42	0.20		0.62	6.92	3.88	3.69	2.28	1.22		4.46
Ave.	0.63	0.63	0.58	0.54	0.49	0.14		2.12	2.39	2.49	2.50	2.77	0.76	
Total assets and the expected growth														
L	-0.03	0.06	0.08	0.34	0.10	-0.12	0.11	-0.08	0.19	0.28	1.15	0.40	-0.55	0.40
2	0.69	0.56	0.42	0.44	0.33	0.36	0.49	2.34	2.18	1.75	1.81	1.60	1.90	2.10
3	0.83	0.79	0.68	0.54	0.40	0.44	0.65	3.04	3.06	3.03	2.51	2.25	2.22	3.01
4	1.03	0.85	0.95	0.65	0.52	0.52	0.80	3.80	3.36	4.34	3.17	3.01	2.79	3.79
H	1.28	1.17	1.00	0.90	0.80	0.48	1.03	4.49	4.47	4.24	4.09	4.47	2.49	4.63
H-L	1.30	1.11	0.92	0.56	0.70		0.92	10.01	6.53	5.92	3.59	4.58		8.71
Ave.	0.76	0.69	0.63	0.57	0.43	0.33		2.67	2.65	2.73	2.57	2.37	1.92	

Security Analysis Strategies

Bartram and Grinblatt (2018): Agnostic fundamental analysis

	L	2	3	4	H	H-L		L	2	3	4	H	H-L
	\bar{R}						$t_{\bar{R}}$						
All	0.57	0.57	0.82	0.87	1.02	0.45	2.29	3.11	4.12	3.73	3.65	2.17	
Micro	0.20	0.36	0.83	0.82	1.11	0.92	0.48	1.00	2.49	2.73	3.44	4.25	
Small	0.58	0.85	0.84	0.98	1.08	0.50	1.73	3.00	3.12	3.63	3.59	2.42	
Big	0.58	0.57	0.83	0.87	1.04	0.46	2.37	3.16	4.23	3.79	3.78	2.11	
	α_{q^5} ($p_{GRS} = 0.00$)						t_{q^5}						
All	0.03	-0.03	0.18	0.28	0.41	0.38	0.24	-0.42	2.26	2.04	2.71	1.66	
Micro	-0.02	-0.27	-0.05	0.01	0.46	0.48	-0.06	-1.36	-0.27	0.08	2.55	1.82	
Small	0.10	0.10	0.03	0.20	0.36	0.27	0.88	1.16	0.28	1.62	2.49	1.23	
Big	0.05	-0.02	0.19	0.34	0.47	0.42	0.46	-0.32	2.40	2.19	2.71	1.70	
	β_{Mkt}	β_{Me}	$\beta_{I/A}$	β_{Roe}	β_{Eg}		t_{Mkt}	t_{Me}	$t_{I/A}$	t_{Roe}	t_{Eg}		
All	0.07	0.30	0.78	-0.24	-0.21		0.93	1.43	3.95	-1.28	-1.50		
Micro	0.03	-0.22	0.64	0.36	0.09		0.35	-2.21	3.43	1.64	0.49		
Small	0.02	-0.37	1.00	0.11	-0.09		0.32	-2.13	5.70	0.54	-0.61		
Big	0.11	0.07	0.70	-0.28	-0.13		1.58	0.37	3.73	-1.54	-0.84		

Security Analysis Strategies

Penman and Zhu (2018): Fundamental strategies

	L	2	3	4	H	H-L	L	2	3	4	H	H-L
	\bar{R}						$t_{\bar{R}}$					
All	0.48	0.73	0.79	0.81	1.01	0.54	1.78	3.49	4.05	4.22	4.61	3.77
Micro	0.35	0.95	0.93	1.05	1.13	0.78	0.93	2.87	2.98	3.48	3.72	4.82
Small	0.52	0.97	0.96	1.01	0.85	0.33	1.61	3.46	3.76	4.02	3.10	2.24
Big	0.51	0.72	0.78	0.80	1.00	0.48	1.99	3.51	4.08	4.19	4.63	3.29
	α_{q^5} ($p_{GRS} = 0.00$)						t_{q^5}					
All	-0.02	-0.04	-0.03	-0.07	0.18	0.20	-0.24	-0.56	-0.42	-0.98	2.18	1.77
Micro	-0.14	0.27	0.23	0.30	0.41	0.55	-1.19	2.50	2.12	2.19	2.65	3.23
Small	-0.07	0.05	0.08	0.14	-0.06	0.01	-0.85	0.62	1.20	1.75	-0.64	0.09
Big	0.02	-0.04	-0.03	-0.08	0.18	0.16	0.36	-0.50	-0.42	-1.08	1.91	1.25
	β_{Mkt}	β_{Me}	$\beta_{I/A}$	β_{Roe}	β_{Eg}		t_{Mkt}	t_{Me}	$t_{I/A}$	t_{Roe}	t_{Eg}	
All	-0.04	-0.21	0.70	-0.13	0.34		-1.19	-4.85	7.88	-2.20	4.58	
Micro	-0.09	-0.24	0.52	0.33	-0.01		-2.07	-3.49	4.21	3.53	-0.06	
Small	-0.06	-0.20	0.73	0.13	0.12		-1.42	-3.09	8.54	1.32	1.47	
Big	-0.05	-0.16	0.68	-0.19	0.36		-1.24	-3.39	6.62	-2.66	4.33	

Security Analysis Strategies

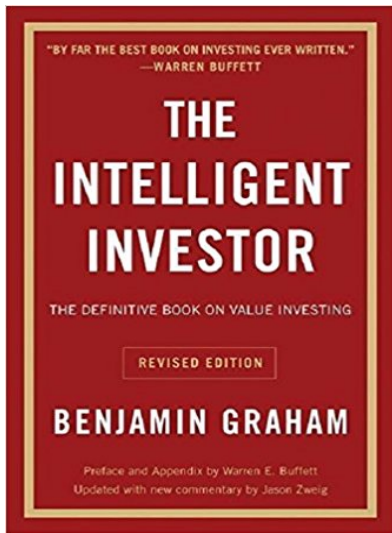
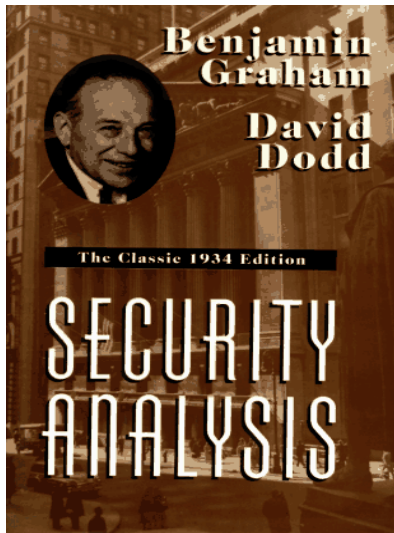
Lewellen (2015): Expected-return strategies

	L	2	3	4	H	H-L		L	2	3	4	H	H-L
	\bar{R}							$t_{\bar{R}}$					
All	0.45	0.67	0.70	0.83	1.17	0.71	2.22	3.56	3.39	3.59	4.05	3.43	
Micro	-0.25	0.52	0.87	0.97	1.43	1.68	-0.64	1.65	3.03	3.48	4.52	9.70	
Small	0.34	0.78	1.00	1.07	1.18	0.83	1.07	2.97	4.16	4.38	4.04	5.28	
Big	0.48	0.67	0.68	0.77	1.04	0.56	2.39	3.60	3.28	3.31	3.59	2.58	
	α_{q^5} ($p_{GRS} = 0.00$)							t_{q^5}					
All	-0.04	0.07	0.02	0.08	0.40	0.44	-0.42	1.06	0.24	0.90	2.86	2.12	
Micro	-0.64	-0.06	0.12	0.25	0.65	1.29	-2.81	-0.46	0.91	2.28	4.42	7.79	
Small	-0.16	-0.01	0.20	0.21	0.28	0.44	-1.14	-0.09	2.18	2.91	3.02	2.46	
Big	0.00	0.08	0.00	0.05	0.34	0.34	-0.05	1.12	-0.04	0.46	1.88	1.44	
	β_{Mkt}	β_{Me}	$\beta_{I/A}$	β_{Roe}	β_{Eg}		t_{Mkt}	t_{Me}	$t_{I/A}$	t_{Roe}	t_{Eg}		
All	0.15	0.68	0.44	-0.36	0.01		2.98	5.21	2.39	-2.94	0.07		
Micro	-0.17	0.12	0.35	0.16	0.28		-3.02	1.26	2.49	0.98	2.10		
Small	-0.05	0.15	0.49	-0.12	0.32		-1.40	1.29	3.11	-1.03	2.18		
Big	0.18	0.49	0.38	-0.29	-0.02		2.93	3.01	1.74	-2.04	-0.11		

- 1 Introduction
- 2 Explaining Security Analysis Strategies
- 3 An Economic Perspective**

An Economic Perspective

Security analysis, classics



An Economic Perspective

Security analysis, investment philosophy

Invest in undervalued securities selling well below the intrinsic value

- The **intrinsic value** is the value that can be justified by the firm's earnings, assets, and other accounting information
- The intrinsic value is distinct from the market value subject to artificial manipulation and psychological distortion

Maintain **margin of safety**, the intrinsic-market value distance

The Superinvestors of Graham-and-Doddsville

By Warren E. Buffett

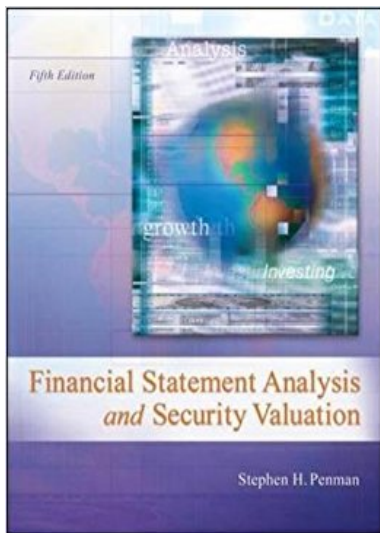
“Superinvestor” Warren E. Buffett, who got an A+ from Ben Graham at Columbia in 1951, never stopped making the grade. He made his fortune using the principles of Graham & Dodd’s Security Analysis. Here, in celebration of the fiftieth anniversary of that classic text, he tracks the records of investors who stick to the “value approach” and have gotten rich going by the book.

“Our Graham & Dodd investors, needless to say, do not discuss beta, the capital asset pricing model or covariance in returns among securities. These are not subjects of any interest to them. In fact, most of them would have difficulty defining those terms (p. 7)”

“Ships will sail around the world but the Flat Earth Society will flourish (p. 15).”

An Economic Perspective

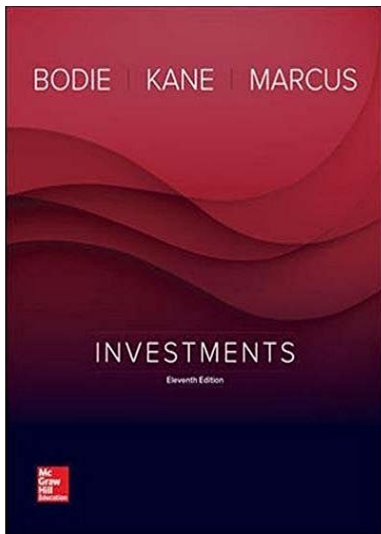
Penman (2013)



“Passive investors accept market prices as fair value. Fundamental investors, in contrast, are active investors. They see that **price is what you pay, value is what you get**. They understand that **the primary risk in investing is the risk of paying too much** (or selling for too little). The fundamentalist actively challenges the market price: Is it indeed a fair price (p. 210, original emphasis)?”

An Economic Perspective

Bodie, Kane, and Marcus (2017)



“[T]he efficient market hypothesis predicts that **most** fundamental analysis also is doomed to failure. if the analyst relies on publicly available earnings and industry information, his or her evaluation of the firm’s prospects is not likely to be significantly more accurate than those of rival analysts (p. 356, original emphasis).”

An Economic Perspective

Reconciling the Graham-Dodd (1934) *Security Analysis* with neoclassical economics

With cross-sectionally varying expected returns, *Security Analysis* not inconsistent with EMH

Validating *Security Analysis* on equilibrium grounds

- Latest factor models all fail to explain Buffett's alpha
- Discretionary, active management cannot be fully substituted by passive factor investing (Kok, Ribando, and Sloan 2017)

The investment theory, in which the expected return varies cross-sectionally, is a good start to understanding Graham and Dodd's (1934) *Security Analysis*