Beliefs and Stock Market Fluctuations: New Evidence from the Past Seven Decades

Online Appendix

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- Appendix A: Derivation of the model described in Section 2.
- Appendix B: Additional figures and tables.
- Appendix C: Details on Stambaugh bias correction.
- Appendix D: Data appendix.

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A Model Derivation

The market-clearing condition is given by:

$$1 = \alpha \frac{F_t^N R_{t+1}}{\gamma\sigma^2} + (1-\alpha)\frac{F_t^S R_{t+1}}{\gamma\sigma^2}$$

Return expectations are assumed to follow:

$$F_t^S R_{t+1} = E_t R_{t+1}$$
$$F_t^N R_{t+1} = E_t R_{t+1} + \mu R_t.$$

which leads to the equilibrium condition:

$$\gamma\sigma^2 = E_t R_{t+1} + \alpha\mu R_t \tag{A.1}$$

We are looking for a linear Rational Expectations Equilibrium so that

$$P_t = a + bD_t + cG_t + dR_t.$$

In equilibrium, rational expectations are given by:

$$\begin{aligned} E_t R_{t+1} &= a + (1+b)E_t D_{t+1} + cE_t G_{t+1} + dE_t R_{t+1} \\ &\quad - (1+r)\left(a + bD_t + cG_t + dR_t\right) \\ &= \frac{1}{1-d}\left(-ra + (1-rb)D_t + (\rho(1+b) - c(1+r-\rho))G_t - (1+r)dR_t\right) \end{aligned}$$

Substituting this expression into the equilibrium equation (A.1) yields the equilibrium price:

$$P_t = -\frac{\gamma\sigma^2}{r}.\frac{1+r}{1+r+\alpha\mu} + \frac{1}{r}D_t + \frac{1+r}{r}\frac{\rho}{1+r-\rho}G_t + \frac{\alpha\mu}{1+r+\alpha\mu}R_t$$

Prediction 1 The first bullet point follows from:

$$F_t^S R_{t+1} = E_t R_{t+1} = \gamma\sigma^2 - \alpha\mu R_t$$
$$F_t^N R_{t+1} = E_t R_{t+1} + \mu R_t = \gamma\sigma^2 + (1-\alpha)\mu R_t$$

where the first equation comes from the market clearing condition (A.1) and the second one follows by combining with the definition of naive trader forecasts. Since these two are affine functions of R_t with opposite signs, the two forecasts are negatively correlated.

The second bullet point is related to volume. Volume is the change in position of each agent from one period to the next, i.e.:

$$\text{Volume}_t = \frac{|\Delta F_t^S R_{t+1}|}{\gamma\sigma^2} = \frac{|\Delta F_t^N R_{t+1}|}{\gamma\sigma^2}.$$

From the market clearing condition (A.1), we know that $\Delta F_t^S R_{t+1} = -\Delta F_t^N R_{t+1}$ so that:

$$\frac{|\Delta F_t^S R_{t+1} - \Delta F_t^N R_{t+1}|}{\gamma\sigma^2} = \frac{2|\Delta F_t^S R_{t+1}|}{\gamma\sigma^2} = 2\text{Volume}_t$$

Prediction 2 This follows directly from the expressions of forecasts above.

Prediction 3 We rewrite the price equation as:

$$\underbrace{P_t - \frac{1}{r}D_t}_{\text{valuation}} = \text{constant} + \underbrace{\frac{1+r}{r}\frac{\rho}{1+r-\rho}G_t}_{\text{cash flow shocks}} - \underbrace{\frac{1}{1+r+\alpha\mu}F_t^S R_{t+1}}_{\text{sophisticated expected returns}}$$

which can alternatively be written as a function of naive expected returns:

$$\underbrace{P_t - \frac{1}{r}D_t}_{\text{valuation}} = \text{constant} + \underbrace{\frac{1+r}{r}\frac{\rho}{1+r-\rho}G_t}_{\text{cash flow shocks}} + \underbrace{\frac{\alpha}{1-\alpha}\frac{1}{1+r+\alpha\mu}F_t^N R_{t+1}}_{\text{naive expected returns}}.$$

A comparison between these two expressions shows that valuations are (1) more sensitive to sophisticated expectations when G_t has low persistence and (2) more sensitive to sophisticated expectations than naive ones when α is low.

B Additional Figures and Tables

Table B.1: *Correlates of Stock Returns Expectations: Literature Review*

	Data	Returns forecasters	Period	Corr. with valuation	Corr. with past returns	Predicts fut. returns	Analyzes flow cash forecasts
Bacchetta et al. (2009)	UBS-Gallup	Retail/Institutions	1998-2003	> 0			No
Greenwood and Shleifer (2014)	AAII/II/Gallup	Retail/Institutions	1996-2012	> 0	> 0		No
Adam et al. (2017)	UBS-Gallup	Retail/Institutions	1998-2008	> 0			No
Wang (2020)	Bloomberg	Institutions	2002-2019		< 0		No
De La O and Myers (2021)	IBES/CFO survey	Analysts/CFOs	2003-2015	> 0			Yes, mix
Andonov and Rauh (2021)	Disclosure	Pension funds	2014-2017		> 0		No
Nagel and Xu (2022)	Various+imputation	Individuals	1987/2000-2021	$= 0$	> 0		No
Nagel and Xu (2023)	CFO survey	CFOs	2000-2021	$= 0$	$= 0$		No
	Livingston	Forecasters	1952-2021	$= 0$	< 0		No
Couts et al. (2024)	Institutions' websites	Institutions	1987-2022				No
Dahlquist and Ibert (2024)	Institutions' websites	Institutions	2000-2024	< 0			No
Büsing and Mohrschladt (2024)	IBES	Analysts, PTG+Rec	2002-2024	< 0	< 0	> 0	No
Bastianello (2025)	IBES	Analysts PTG	2002-2024	$= 0$	< 0	> 0	No
This paper	Value Line	Value Line	1956-2024	< 0	< 0	> 0	Yes

Notes: This table summarizes papers that explicitly study expectations about returns. Nagel and Xu (2023) data has six observations from 1972 to 1977, but consistent coverage without gaps starts in 1987.

Table B.2: *Subjective Expected Returns and the Earnings-Price Ratio*

	E/P_t								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$F^{VL}r_{t\to t+4}$	0.260								
	(4.75)								
$F^{IBES}r_{t\to t+1}$		-0.091							
		(-2.21)							
$F^{Sh\text{-}inst}r_{t\to t+1}$			-0.038						
			(-0.81)						
$F^{Liv}r_{t\to t+1}$				-0.040					
				(-0.34)					
$F^{Sh\text{-}indiv}r_{t\to t+1}$					-0.114				
					(-0.87)				
$F^{SPF}r_{t\to t+10}$						-0.001			
						(-0.01)			
$F^{GH}r_{t\to t+10}$							-0.673		
							(-2.24)		
$F^{NX}r_{t\to t+1}$								0.156	
								(0.84)	
$F^{GH}r_{t\to t+1}$									0.149
									(0.57)
R^2	0.593	0.184	0.009	0.005	0.038	0.000	0.199	0.045	0.027
N	69	22	36	73	27	34	23	36	23

Notes: This table reports results from annual time series regressions of the current earnings-price ratio on expected returns from various surveys. The earnings-price ratio measures earnings over year $t-1$ relative to the market cap at the end of year $t-1$. Expected returns are as of Q1 of year t. t-statistics in parentheses based on Newey-West standard errors with bandwidth $S = 1.3\sqrt{T}$.

Table B.3: *Inverse-CAPE and Subjective Expected Excess Returns*

	$\frac{1}{\text{CAPE}_t}$								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$\text{F}^{\text{VL}}\text{xr}_{t\to t+4}$	0.275								
	(3.16)								
$\text{F}^{\text{IBES}}\text{xr}_{t\to t+1}$		0.036							
		(0.93)							
$\text{F}^{\text{Sh-inst}}\text{xr}_{t\to t+1}$			0.029						
			(0.54)						
$\text{F}^{\text{Liv}}\text{xr}_{t\to t+1}$				-0.163					
				(-2.83)					
$\text{F}^{\text{Sh-indiv}}\text{xr}_{t\to t+1}$					0.035				
					(0.53)				
$\text{F}^{\text{SPF}}\text{xr}_{t\to t+10}$						0.246			
						(2.81)			
$\text{F}^{\text{GH}}\text{xr}_{t\to t+10}$							0.055		
							(0.34)		
$\text{F}^{\text{NX}}\text{xr}_{t\to t+1}$								-0.268	
								(-2.52)	
$\text{F}^{\text{GH}}\text{xr}_{t\to t+1}$									0.013
									(0.27)
R^2	0.401	0.067	0.022	0.128	0.008	0.209	0.010	0.196	0.001
N	69	22	35	72	26	33	23	36	23

Notes: This table reports results from annual time series regressions of the current inverse CAPE ratio on expected excess returns from various surveys. Expected returns are as of Q1 in year t. Expected excess return is calculated by subtracting the 1-year bond yield as of December of year $t-1$. The inverse-CAPE is as of December of year $t-1$. t-statistics in parentheses based on Newey-West standard errors with bandwidth $S = 1.3\sqrt{T}$.

Table B.4: *Earnings-Price Ratio and Subjective Expected Excess Returns*

	E/P$_t$								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$\text{F}^{\text{VL}}\text{xr}_{t\to t+4}$	0.256								
	(2.37)								
$\text{F}^{\text{IBES}}\text{xr}_{t\to t+1}$		-0.096							
		(-2.36)							
$\text{F}^{\text{Sh-inst}}\text{xr}_{t\to t+1}$			-0.047						
			(-1.02)						
$\text{F}^{\text{Liv}}\text{xr}_{t\to t+1}$				-0.176					
				(-3.97)					
$\text{F}^{\text{Sh-indiv}}\text{xr}_{t\to t+1}$					-0.179				
					(-1.26)				
$\text{F}^{\text{SPF}}\text{xr}_{t\to t+10}$						-0.026			
						(-0.15)			
$\text{F}^{\text{GH}}\text{xr}_{t\to t+10}$							-0.334		
							(-2.73)		
$\text{F}^{\text{NX}}\text{xr}_{t\to t+1}$								-0.192	
								(-1.17)	
$\text{F}^{\text{GH}}\text{xr}_{t\to t+1}$									0.047
									(0.26)
R^2	0.364	0.208	0.033	0.159	0.087	0.001	0.123	0.066	0.005
N	69	22	35	72	26	33	23	36	23

Notes: This table reports results from annual time series regressions of the current earnings-price ratio on expected excess returns from various surveys. Expected returns are as of Q1 in year t. Expected excess return is calculated by subtracting the 1-year bond yield as of December of year $t-1$. t-statistics in parentheses based on Newey-West standard errors with bandwidth $S = 1.3\sqrt{T}$.

Table B.5: *Earnings-Price Ratio and Value Line Expected Returns and Earnings Growth*

	E/P_t					
	(1)	(2)	(3)	(4)	(5)	(6)
$F^{VL}r_{t\to t+4}$	0.260		0.295	0.183	0.216	0.156
	(4.75)		(6.86)	(2.45)	(4.51)	(2.61)
$F^{VL}g_{t\to t+4}$		0.204	-0.204	-0.146	-0.377	-0.306
		(1.48)	(-1.88)	(-1.35)	(-3.17)	(-3.07)
Inflation				0.359		0.239
				(2.00)		(1.89)
10-year bond yield					0.422	0.343
					(3.04)	(2.94)
R^2	0.593	0.045	0.627	0.685	0.712	0.735
N	69	69	69	69	69	69

Notes: This table reports results from regressions of current earnings-price ratio on VL expected returns and expected EPS growth. The earnings-price ratio measures earnings over $t-1$ to the market cap at the end of $t-1$. Expectation variables are as of Q1 of year t. Inflation and the 10-year bond yield are as of December of year $t-1$. Newey-West standard errors with bandwidth $S = 1.3\sqrt{T}$.

Table B.6: *Subjective Expected Returns and Cyclically Adjusted Earnings Growth*

Panel A: Expected returns and cyclically adjusted earnings growth

	$\text{F}^{\text{VL}}\text{r}_{t\to t+4}$ (1)	$\text{F}^{\text{IBES}}\text{r}_{t\to t+1}$ (2)	$\text{F}^{\text{Sh-inst}}\text{r}_{t\to t+1}$ (3)	$\text{F}^{\text{Liv}}\text{r}_{t\to t+1}$ (4)	$\text{F}^{\text{Sh-indiv}}\text{r}_{t\to t+1}$ (5)	$\text{F}^{\text{SPF}}\text{r}_{t\to t+10}$ (6)	$\text{F}^{\text{GH}}\text{r}_{t\to t+10}$ (7)	$\text{F}^{\text{NX}}\text{r}_{t\to t+1}$ (8)	$\text{F}^{\text{GH}}\text{r}_{t\to t+1}$ (9)
$\text{e}_{t-1} - \text{cae}_{t-6}$	0.043	-0.047	-0.041	-0.035	0.003	-0.000	0.000	0.026	0.010
	(0.60)	(-1.69)	(-2.81)	(-1.40)	(0.24)	(-0.09)	(0.11)	(2.75)	(0.96)
R^2	0.023	0.091	0.128	0.038	0.001	0.000	0.000	0.175	0.065
N	69	22	36	73	27	34	23	36	23

Panel B: Controlling for past returns

	$\text{F}^{\text{VL}}\text{r}_{t\to t+4}$ (1)	$\text{F}^{\text{IBES}}\text{r}_{t\to t+1}$ (2)	$\text{F}^{\text{Sh-inst}}\text{r}_{t\to t+1}$ (3)	$\text{F}^{\text{Liv}}\text{r}_{t\to t+1}$ (4)	$\text{F}^{\text{Sh-indiv}}\text{r}_{t\to t+1}$ (5)	$\text{F}^{\text{SPF}}\text{r}_{t\to t+10}$ (6)	$\text{F}^{\text{GH}}\text{r}_{t\to t+10}$ (7)	$\text{F}^{\text{NX}}\text{r}_{t\to t+1}$ (8)	$\text{F}^{\text{GH}}\text{r}_{t\to t+1}$ (9)
$\text{e}_{t-1} - \text{cae}_{t-6}$	0.063	-0.011	-0.021	-0.033	0.003	-0.004	0.000	0.013	-0.002
	(0.95)	(-0.38)	(-2.11)	(-1.32)	(0.21)	(-0.53)	(0.10)	(1.79)	(-0.14)
$\text{r}_{t-2\to t-1}$	-0.115	-0.136	-0.084	-0.009	-0.003	0.016	-0.000	0.053	0.044
	(-3.63)	(-3.84)	(-2.28)	(-0.42)	(-0.11)	(0.92)	(-0.02)	(4.60)	(3.49)
R^2	0.085	0.218	0.241	0.039	0.002	0.035	0.000	0.333	0.245
N	69	22	36	73	27	34	23	36	23

Notes: This table reports results from annual time series regressions of subjective expected equity returns as of Q1 of year t on log earnings in December $t-1$ relative to the cyclically adjusted log earnings in December $t-6$ (panel A). Panel B adds past returns from December $t-2$ to December $t-1$ as a second explanatory variable. t-statistics in parentheses based on Newey-West standard errors with bandwidth $S = 1.3\sqrt{T}$.

Table B.7: *VL Expectation Errors: Returns and the Inverse CAPE*

Panel A: 1956-2024

	$F^{VL}r_{t\to t+4}$	$r_{t\to t+4}$	$r_{t\to t+4} - F^{VL}r_{t\to t+4}$
	(1)	(2)	(3)
$\frac{1}{CAPE_t}$	2.369	1.164	-1.205
	(6.21)	(3.92)	(-2.09)
R^2	0.648	0.192	0.144
N	66	66	66

Panel B: 1956-1987

	$F^{VL}r_{t\to t+4}$	$r_{t\to t+4}$	$r_{t\to t+4} - F^{VL}r_{t\to t+4}$
	(1)	(2)	(3)
$\frac{1}{CAPE_t}$	3.517	1.511	-2.005
	(9.14)	(4.27)	(-2.89)
R^2	0.836	0.466	0.368
N	32	32	32

Panel B: 1988-2020

	$F^{VL}r_{t\to t+4}$	$r_{t\to t+4}$	$r_{t\to t+4} - F^{VL}r_{t\to t+4}$
	(1)	(2)	(3)
$\frac{1}{CAPE_t}$	1.609	3.438	1.829
	(5.48)	(2.38)	(1.18)
R^2	0.428	0.293	0.092
N	34	34	34

Notes: This table reports results from regressions of realized return, Value Line's expected returns, and Value Line's return forecast errors on inverse of the Shiller CAPE ratio. t-statistics in parentheses based on Newey-West standard errors with bandwidth $S = 1.3\sqrt{T}$.

Table B.8: *VL Expectation Errors: Returns and Past Returns*

	$F^{VL}r_{t\to t+4}$	$r_{t\to t+4}$	$r_{t\to t+4} - F^{VL}r_{t\to t+4}$
	(1)	(2)	(3)
$r_{t-2\to t-1}$	-0.089	-0.039	0.050
	(-3.27)	(-1.23)	(1.18)
R^2	0.038	0.009	0.010
N	66	66	66

Notes: This table reports results from regressions of VL expected returns, realized returns, and VL return forecast errors on past 1-year market returns. Expectations are as of Q1 of year t. t-statistics in parentheses based on Newey-West standard errors.

Table B.9: *VL Expectation Errors: Price-Earnings Multiple*

	$\frac{F_t^{VL}P_{t+4}}{F_t^{VL}EPS_{t+4}}$	$\frac{P_{t+4}}{F_{t+4}^{VL}EPS_{t+4}}$	$\frac{P_{t+4}}{F_{t+4}^{VL}EPS_{t+4}} - \frac{F_t^{VL}P_{t+4}}{F_t^{VL}EPS_{t+4}}$
	(1)	(2)	(3)
$\frac{P_t}{F_t^{VL}EPS_t}$	0.504	0.623	0.119
	(5.28)	(3.67)	(0.48)
R^2	0.509	0.292	0.011
N	65	65	65

Notes: This table reports results from regressions of the VL expected long-term price-earnings multiple, the realized long-term price-earnings multiple, and VL long-term price-earnings multiple forecast error on the current price-earnings multiple. Expectations are as of Q1 of year t. t-statistics in parentheses based on Newey-West standard errors.

Table B.10: *VL Expectation Errors: EPS Growth*

Panel A: Past EPS Growth from $t-2$ to $t-1$

	$F^{VL}g_{t\to t+4}$	$g_{t\to t+4}$	$g_{t\to t+4} - F^{VL}g_{t\to t+4}$
	(1)	(2)	(3)
$g_{t-2\to t-1}$	-0.052	-0.038	0.015
	(-3.46)	(-1.63)	(0.50)
R^2	0.124	0.029	0.003
N	65	65	65

Panel B: Earnings Relative to Cyclically Adjusted EPS Growth

	$F^{VL}g_{t\to t+4}$	$g_{t\to t+4}$	$g_{t\to t+4} - F^{VL}g_{t\to t+4}$
	(1)	(2)	(3)
$e_{t-1} - cae_{t-6}$	-0.012	-0.065	-0.054
	(-1.04)	(-3.99)	(-2.40)
R^2	0.013	0.189	0.102
N	65	65	65

Notes: This table reports results from regressions of expected EPS growth, realized EPS growth, and forecast errors on past EPS growth. Expectations are as of Q1 of year t. Expectations of EPS growth are from Value Line. In Panel A, past EPS growth is from year $t-2$ to $t-1$. In Panel B, past EPS growth is the log of earnings for the S&P 500 in year t relative to cyclically adjusted earnings in year $t-5$ as in Bordalo et al. (2024). t-statistics in parentheses based on Newey-West standard errors.

Table B.11: *Predicting Future Returns with Subjective Expected Returns from Other Surveys: Excess Returns*

	$xr_{t\to t+1}$ (1)	$xr_{t\to t+2}$ (2)	$xr_{t\to t+3}$ (3)	$xr_{t\to t+4}$ (4)	$xr_{t\to t+5}$ (5)	$xr_{t\to t+6}$ (6)
$F^{IBES}xr_{t\to t+1}$	-0.427	0.394	1.023	0.672	1.126	1.086
{Bias-adj Coef}	{-0.402}	{0.065}	{0.683}	{0.380}	{0.572}	{1.618}
(p-value)	(0.209)	(0.691)	(0.298)	(0.665)	(0.519)	(0.612)
R^2	0.021	0.010	0.051	0.012	0.021	0.018
N	22	21	20	19	18	17
$F^{Sh\text{-}inst}xr_{t\to t+1}$	0.457	0.840	1.184	1.835	2.037	1.143
{Bias-adj Coef}	{0.470}	{0.935}	{1.330}	{1.751}	{1.816}	{0.954}
(p-value)	(0.447)	(0.419)	(0.501)	(0.374)	(0.449)	(0.729)
R^2	0.020	0.031	0.035	0.050	0.041	0.010
N	35	34	33	32	31	30
$F^{Liv}xr_{t\to t+1}$	0.057	-0.210	-0.260	0.008	-0.203	-0.630
{Bias-adj Coef}	{0.006}	{-0.251}	{-0.227}	{-0.142}	{-0.353}	{-1.019}
(p-value)	(0.883)	(0.733)	(0.782)	(0.992)	(0.880)	(0.685)
R^2	0.000	0.003	0.003	0.000	0.001	0.004
N	69	68	67	66	65	64
$F^{Sh\text{-}indiv}xr_{t\to t+1}$	0.795	-0.608	0.711	-0.078	-6.086	-13.408
{Bias-adj Coef}	{-0.075}	{-1.236}	{-1.950}	{-3.838}	{-10.479}	{-16.160}
(p-value)	(0.747)	(0.865)	(0.920)	(0.987)	(0.451)	(0.086)
R^2	0.010	0.002	0.001	0.000	0.050	0.215
N	26	25	24	23	22	21
$F^{SPF}xr_{t\to t+10}$	2.022	5.651	7.518	11.104	9.866	15.456
{Bias-adj Coef}	{2.037}	{5.721}	{7.390}	{10.199}	{9.786}	{16.035}
(p-value)	(0.366)	(0.270)	(0.528)	(0.416)	(0.479)	(0.139)
R^2	0.039	0.110	0.097	0.107	0.047	0.084
N	33	32	31	30	29	28
$F^{GH}xr_{t\to t+10}$	2.551	6.011	10.350	14.003	24.858	40.877
{Bias-adj Coef}	{2.683}	{5.928}	{9.529}	{13.256}	{25.651}	{43.897}
(p-value)	(0.425)	(0.477)	(0.430)	(0.353)	(0.104)	(0.010)
R^2	0.046	0.131	0.277	0.293	0.335	0.524
N	23	22	21	20	19	18
$F^{NX}xr_{t\to t+1}$	-0.588	-1.348	-2.780	-3.770	-7.492	-5.861
{Bias-adj Coef}	{-0.346}	{-1.226}	{-2.474}	{-3.094}	{-5.641}	{-5.457}
(p-value)	(0.672)	(0.546)	(0.597)	(0.600)	(0.434)	(0.523)
R^2	0.005	0.011	0.024	0.026	0.062	0.029
N	36	36	35	34	33	32
$F^{GH}xr_{t\to t+1}$	0.298	0.034	2.900	3.929	-2.882	2.103
{Bias-adj Coef}	{0.643}	{0.743}	{3.490}	{4.984}	{-0.679}	{3.564}
(p-value)	(0.879)	(0.993)	(0.485)	(0.290)	(0.574)	(0.603)
R^2	0.001	0.000	0.036	0.042	0.012	0.006
N	23	22	21	20	19	18

Notes: This table reports results from estimating equation (8) with future cumulative realized excess returns on the left-hand-side and expected excess returns from various surveys on the right-hand-side. The realized excess return is the return on the market from April of year t to April of year $t+h$ minus the h-year yield to maturity from December of year $t-1$. Expectations are based on surveys from Q1 of year t. We address Stambaugh (1999) bias using the bootstrap approach in Nagel and Xu (2023). For each independent variable, OLS coefficients are reported; bootstrap bias-adjusted coefficients are reported in braces; bootstrapped p-values are reported in parentheses.

Table B.12: *Predicting Returns with Value Line Expected Returns: Robustness using VL Universe of Firms*

Panel A: Nominal Returns

	$r_{t\to t+1}$ (1)	$r_{t\to t+2}$ (2)	$r_{t\to t+3}$ (3)	$r_{t\to t+4}$ (4)	$r_{t\to t+5}$ (5)	$r_{t\to t+6}$ (6)
$F^{VL}r_{t\to t+4}$	0.499	0.763	1.167	1.875	2.711	3.603
{Bias-adj Coef_1}	{0.231}	{0.560}	{1.053}	{1.787}	{2.570}	{3.743}
{Bias-adj Coef_2}	{0.343}	{0.463}	{0.732}	{1.313}	{2.028}	{2.806}
(p-value)	(0.045)	(0.022)	(0.013)	(0.010)	(0.007)	(0.001)
R^2	0.058	0.080	0.115	0.174	0.237	0.299
N	69	68	67	66	65	64

Panel B: Excess Returns

	$xr_{t\to t+1}$ (1)	$xr_{t\to t+2}$ (2)	$xr_{t\to t+3}$ (3)	$xr_{t\to t+4}$ (4)	$xr_{t\to t+5}$ (5)	$xr_{t\to t+6}$ (6)
$F^{VL}xr_{t\to t+4}$	0.486	0.553	0.757	1.294	1.944	2.455
{Bias-adj Coef_1}	{0.187}	{0.299}	{0.587}	{1.051}	{1.609}	{2.338}
{Bias-adj Coef_2}	{0.320}	{0.238}	{0.304}	{0.724}	{1.267}	{1.670}
(p-value)	(0.246)	(0.372)	(0.277)	(0.157)	(0.103)	(0.035)
R^2	0.035	0.027	0.031	0.057	0.089	0.108
N	69	68	67	66	65	64

Notes: This table reports results from regressions of future realized returns on expected returns (panel A) and of future realized excess returns on expected excess returns (panel B). Realized returns are calculated for the universe of firms in VL at time t. Expected excess returns are calculated by subtracting the horizon-matched Fama-Bliss/Liu-Wu bond yield from cumulative nominal returns. The realized excess return from t to $t+h$ is computed as the cumulative nominal return over that horizon minus the time t yield to maturity on a Treasury bond with maturity of h years. We address Stambaugh (1999) bias using two complementary corrections: a bootstrap approach following Nagel and Xu (2023) (method 1) and an alternative correction following Boudoukh et al. (2022) (method 2). For each independent variable, OLS coefficients are reported; bootstrap bias-adjusted coefficients are reported in braces; bootstrapped p-values are reported in parentheses.

Table B.13: *Price-Earnings Variance Decomposition: Robustness to Aggregation Methdology*

	CF	ER	LT
	(1)	(2)	(3)
$\ln(\mathrm{P}/\mathrm{E}_t)$	0.110	0.597	0.287
	(1.57)	(6.01)	(4.04)

Notes: This table reports results from regressions of each term in the Campbell-Shiller decomposition on the current log price-earnings ratio. Relative to Table 5, we calculate each term in the Campbell-Shiller decomposition by first aggregating all variables in the VL expectations data and then calculating the expected return based directly on the aggregated series, instead of calculating the expected return as the market-cap-weighted firm-level expected return. Newey-West standard errors with bandwidth $S = 1.3\sqrt{T}$.

Table B.14: *Implications of Belief Disagreement: Change in Beliefs*

Panel A: Belief Disagreement and Trading Volume

	Volume				
	(1)	(2)	(3)	(4)	(5)
$\lvert \Delta F^{\text{NX}}\mathbf{r} - \Delta F^{\text{VL}}\mathbf{r} \rvert$	3.261				
	(2.73)				
$\lvert \Delta F^{\text{Sh-indiv}}\mathbf{r} - \Delta F^{\text{VL}}\mathbf{r} \rvert$		1.144			
		(1.98)			
$\lvert \Delta F^{\text{GH}}\mathbf{r} - \Delta F^{\text{VL}}\mathbf{r} \rvert$			2.185		
			(1.84)		
$\lvert \Delta F^{\text{Indiv-avg-all}}\mathbf{r} - \Delta F^{\text{VL}}\mathbf{r} \rvert$				2.314	
				(1.68)	
$\lvert \Delta F^{\text{Indiv-avg-unbal}}\mathbf{r} - \Delta F^{\text{VL}}\mathbf{r} \rvert$					1.602
					(1.31)
R^2	0.055	0.015	0.037	0.030	0.015
N	145	100	86	83	148

Panel B: Belief Disagreement and Return Volatility

	Volatility				
	(1)	(2)	(3)	(4)	(5)
$\lvert \Delta F^{\text{NX}}\mathbf{r} - \Delta F^{\text{VL}}\mathbf{r} \rvert$	0.237				
	(7.75)				
$\lvert \Delta F^{\text{Sh-indiv}}\mathbf{r} - \Delta F^{\text{VL}}\mathbf{r} \rvert$		0.083			
		(3.05)			
$\lvert \Delta F^{\text{GH}}\mathbf{r} - \Delta F^{\text{VL}}\mathbf{r} \rvert$			0.143		
			(6.77)		
$\lvert \Delta F^{\text{Indiv-avg-all}}\mathbf{r} - \Delta F^{\text{VL}}\mathbf{r} \rvert$				0.160	
				(5.11)	
$\lvert \Delta F^{\text{Indiv-avg-unbal}}\mathbf{r} - \Delta F^{\text{VL}}\mathbf{r} \rvert$					0.169
					(5.42)
R^2	0.422	0.076	0.185	0.169	0.243
N	145	100	86	83	148

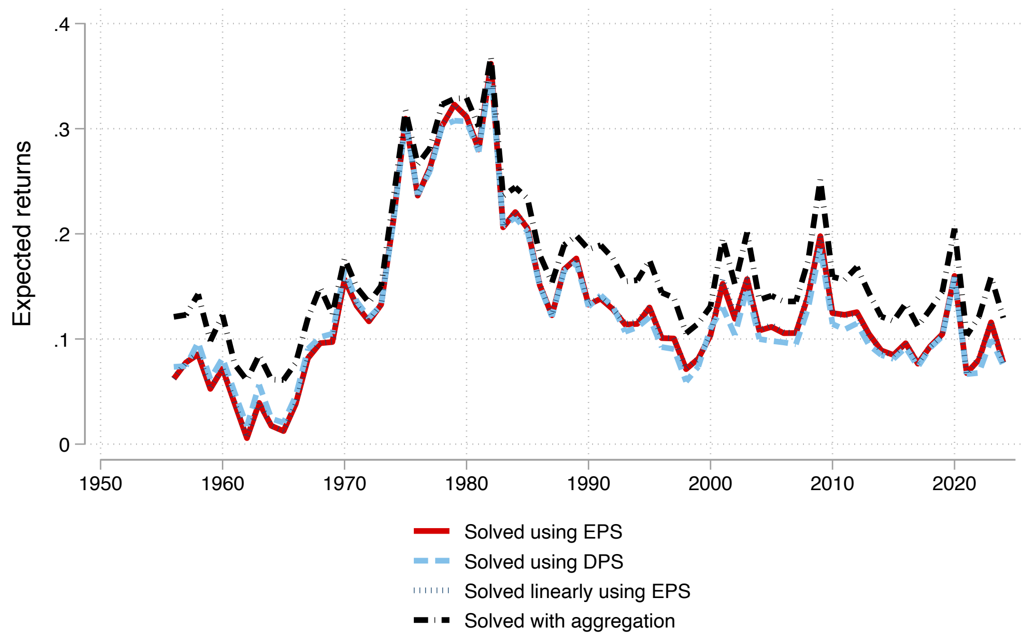
Notes: This table reports results from regressions of trading volume and standard deviation of daily market returns in quarter t on the absolute difference between the change in expected returns of individuals (from the Shiller survey, Nagel-Xu, Graham-Harvey survey) and the change in expected returns of Value Line in the same quarter t. $\lvert \Delta \text{F}^{\text{Indiv-avg-avail}}\text{r} - \Delta \text{F}^{\text{VL}}\text{r} \rvert$ uses the average of the individual expected return series available in a given quarter to maximize the sample length (if only one series is available, the average is just the value from that one series). $\lvert \Delta \text{F}^{\text{Indiv-avg-all}}\text{r} - \Delta \text{F}^{\text{VL}}\text{r} \rvert$ uses the average of all three individual expected return series, so it requires that all three are available in a given quarter. t-statistics in parentheses. Newey-West standard errors with bandwidth $S = 1.3\sqrt{T}$.

Table B.15: *Long-term and Short-term Multiples*

	$\frac{F^{VL}P_{t+4}}{F^{VL}EPS_{t+4}}$									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$\frac{P_t}{F^{VL}EPS_t}$	0.564	0.297	0.226	0.217	0.242	0.255	0.273	0.272	0.285	0.311
	(7.03)	(2.76)	(1.91)	(2.40)	(2.83)	(2.79)	(2.98)	(3.18)	(3.28)	(3.72)
$\frac{P_{t-1}}{F^{VL}EPS_{t-1}}$		0.337	0.191	0.154	0.142	0.144	0.143	0.173	0.168	0.157
		(4.77)	(3.76)	(3.14)	(2.46)	(2.57)	(2.37)	(4.40)	(4.18)	(3.66)
$\frac{P_{t-2}}{F^{VL}EPS_{t-2}}$			0.247	0.139	0.094	0.102	0.105	0.086	0.102	0.097
			(3.17)	(2.03)	(1.56)	(1.51)	(1.46)	(1.20)	(1.61)	(1.49)
$\frac{P_{t-3}}{F^{VL}EPS_{t-3}}$				0.179	0.105	0.049	0.050	0.064	0.056	0.075
				(4.20)	(2.80)	(1.16)	(0.98)	(1.75)	(1.17)	(3.09)
$\frac{P_{t-4}}{F^{VL}EPS_{t-4}}$					0.131	0.023	-0.028	-0.015	-0.001	-0.025
					(2.27)	(0.32)	(-0.39)	(-0.18)	(-0.01)	(-0.31)
$\frac{P_{t-5}}{F^{VL}EPS_{t-5}}$						0.159	0.066	-0.000	0.015	0.051
						(2.06)	(1.12)	(-0.01)	(0.31)	(1.22)
$\frac{P_{t-6}}{F^{VL}EPS_{t-6}}$							0.140	0.066	-0.007	-0.006
							(2.30)	(1.18)	(-0.15)	(-0.12)
$\frac{P_{t-7}}{F^{VL}EPS_{t-7}}$								0.119	0.020	-0.051
								(1.99)	(0.42)	(-1.13)
$\frac{P_{t-8}}{F^{VL}EPS_{t-8}}$									0.154	0.089
									(2.91)	(2.35)
$\frac{P_{t-9}}{F^{VL}EPS_{t-9}}$										0.116
										(1.61)
Constant	6.901	5.890	5.500	5.184	4.867	4.625	4.416	4.216	3.856	3.573
	(4.99)	(3.71)	(3.55)	(3.29)	(2.96)	(3.01)	(3.19)	(3.31)	(3.23)	(3.11)
R^2	0.618	0.696	0.737	0.758	0.772	0.787	0.808	0.830	0.853	0.877
N	69	68	67	66	65	64	63	62	61	60

Notes: This table reports results from regressions of Value Line's forecast for long-term multiples on current forward multiples and its lags. Newey-West standard errors with bandwidth $S = 1.3\sqrt{T}$.

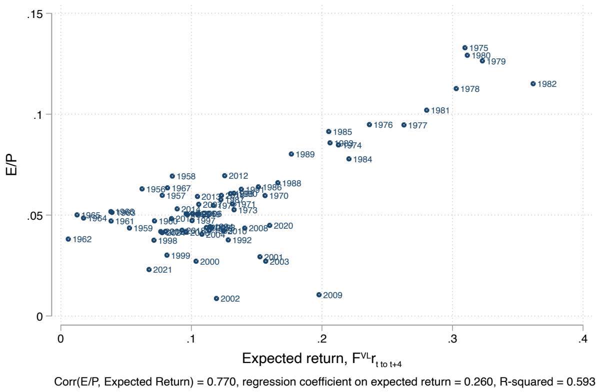
Figure B.1: *Value Line Expected Returns: Alternative Calculation Approaches*



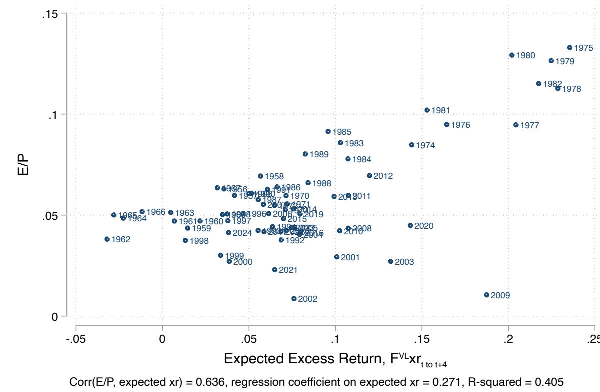
Notes: This figure plots the VL expected return using various calculation approaches. "Solved using EPS" is the baseline measure in the paper. "Solved using DPS" directly uses VL's forecast of dividends per share. "Solved using linearly interpolated level of EPS" uses the level of EPS and linearly interpolates EPS forecasts from year t to $t+4$, allowing for negative values of year t EPS. "Solved with aggregation" first aggregates all variables (current market cap, expected earnings in t, expected earnings in $t+4$, and expected market cap in $t+4$) in VL and then computes the expected return from the aggregate series.

Figure B.2: *Valuation Rations and Measures of Expected Return from Value Line*

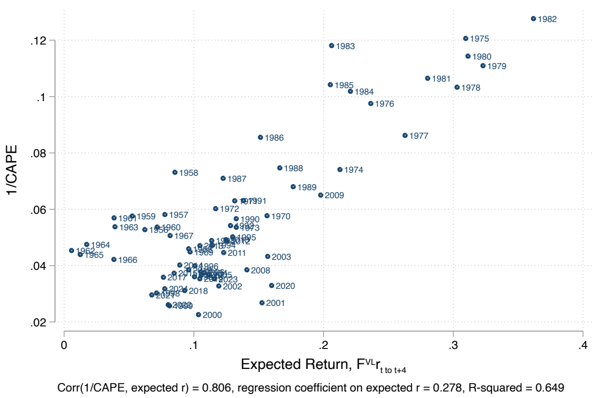
(a) *Current EP Ratio and VL Expected Return*



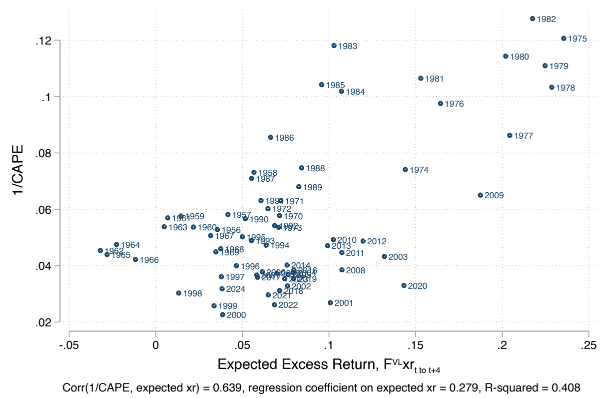
(b) *Current EP Ratio and VL Expected Excess Return*



(c) *1/CAPE and VL Expected Return*

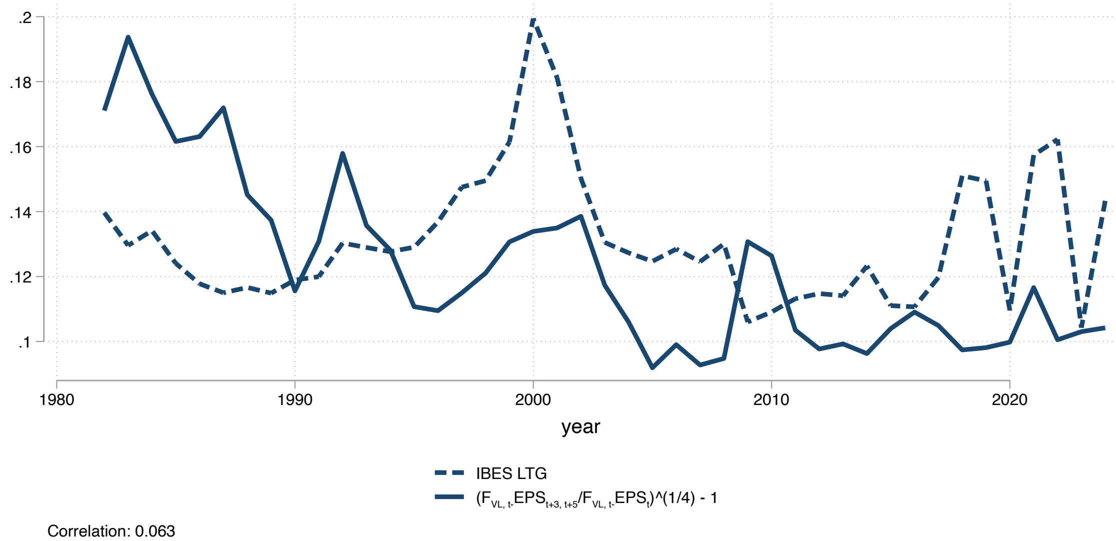


(d) *1/CAPE and VL Expected Excess Return*



Notes: This figure plots measures of the earnings-price ratio against measures of expected returns. VL expected returns are as of Q1 of year t. The VL expected excess return is calculated by subtracting the horizon-matched bond yield (four years) as of December of year $t-1$.

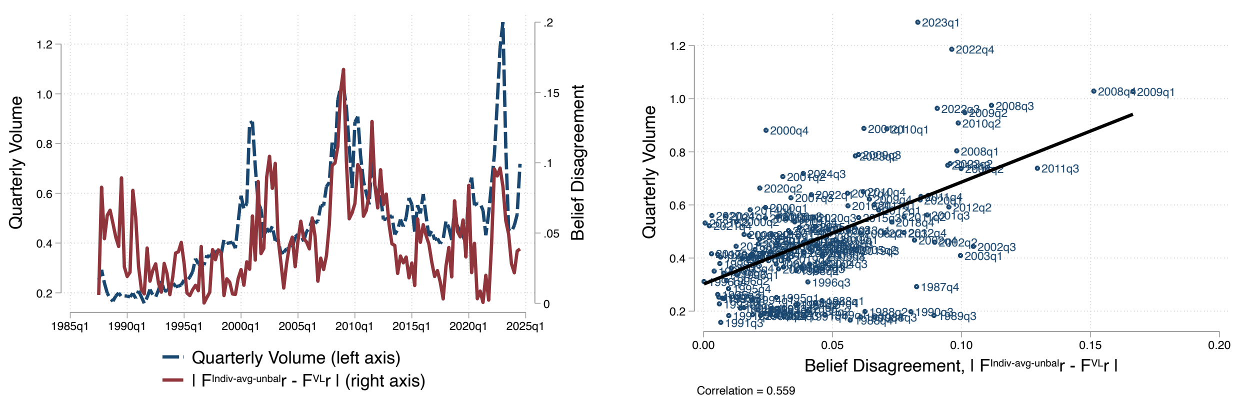
Figure B.3: *Subjective Expected Long-Term EPS Growth: Value Line and IBES LTG*



Notes: This figure shows subjective expected EPS growth from IBES and Value Line. Subjective expected EPS Growth from IBES is LTG forecast as of Q1 in year t, defined as the expected annual increase in operating earnings over the company's next full business cycle, a period ranging from three to five years. Expected EPS growth from VL is as of Q1 of year t and meausures the annualized expected growth in EPS from t to $t+4$.

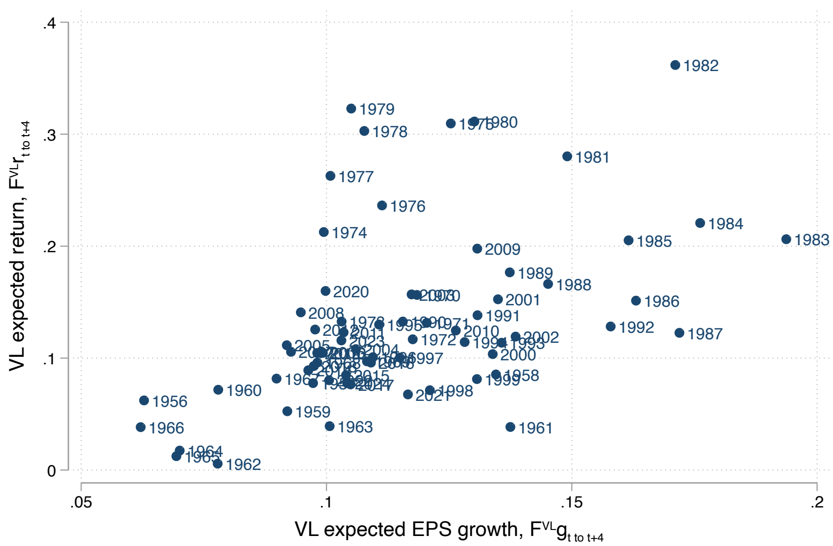
Figure B.4: *Disagreement about Expected Returns and Trading Volume: Robustness using Unbalanced Average*

(a) *Time series* **(b)** *Scatter plot*



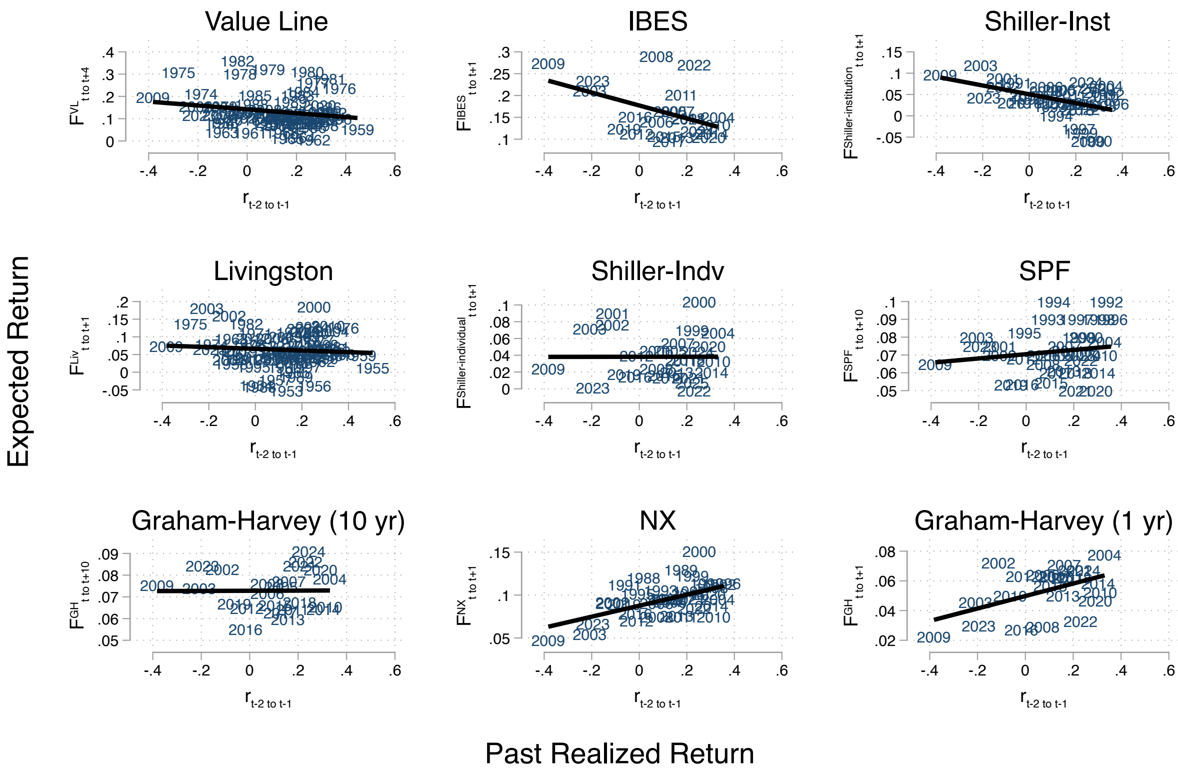
Notes: This figure is similar to Figure 7, but computes the individual expected return in the belief disagreement measure by taking the average of any available series (an unbalanced average). For example, in early years when Nagel-Xu is the only available series, we just use this series. When additional series become available, we take the within-quarter average across available series.

Figure B.5: *VL Expected Cash Flow and Expected Return*



Notes: The figure plots VL's expected return from t to $t+4$ against their expected EPS growth from t to $t+4$. Both measures are annualized. VL expectations for year t are formed in Q1.

Figure B.6: *Survey Expected Return and Past Realized Return*



Notes: This figure shows subjective expected returns from various surveys against past realized returns. Subjective expected returns are as of Q1 in year t. Past realized returns are returns on the market from December of year $t-2$ to December of year $t-1$.

C Details on Stambaugh Bias Correction

This appendix provides details on the two approaches we use to correct for Stambaugh (1999) bias.

C.1 Method 1: Nagel and Xu (2023) Approach

We consider the following two predictive regressions for horizon H:

$$z_{t+H} = \alpha_H + \beta_H x_t + \eta_{t+H}, \tag{B.1}$$
$$x_{t+1} = \kappa + \Phi x_t + \iota_{t+1}. \tag{B.2}$$

1. We estimate an AR(1) model for the predictor, x_t. To correct for the bias in the AR estimates, we use the approach in Amihud et al. (2008) that relies on the analytical expressions from Nicholls and Pope (1988). This allows us to obtain the bias-adjusted coefficients and shocks: $\tilde{\kappa}$, $\tilde{\Phi}$, and $\{\tilde{\iota}_t\}$, given by

$$\tilde{\Phi} = \hat{\Phi} + \frac{1+3\hat{\Phi}}{T} + \frac{3(1+3\hat{\Phi})}{T^2},$$
$$\tilde{\kappa} = (1-\tilde{\Phi})\bar{x},$$
$$\tilde{\iota}_t = x_t - \tilde{\kappa} - \tilde{\Phi} x_{t-1},$$

   where $\bar{x} = T^{-1}\sum_t x_t$ is the sample mean of the predictor.

2. We next estimate the predictive regression in (B.1) with OLS, obtain $\hat{\alpha}_H$, $\hat{\beta}_H$, residuals $\hat{\eta}_{t+H}$, and the corresponding t-statistic $\hat{t}_H$ for $\hat{\beta}_H$ computed using Newey–West standard errors with bandwidth $S = 1.3\sqrt{T}$.

3. We then construct pseudo-samples by bootstrapping the time-series of residual vectors $(\tilde{\iota}_t, \hat{\eta}_t)$. We use a stationary block bootstrap, where the optimal block length is determined as in Politis and White (2004).

4. To compute the bootstrap p-value: For each bootstrap sample i and horizon H, with bootstrapped residuals, we impose the null of no predictability by generating data from

$$z^{null,i}_{t+H} = \bar{z} + \hat{\eta}^i_{t+H}, \tag{B.3}$$
$$x^i_{t+1} = \tilde{\kappa} + \tilde{\Phi} x^i_t + \tilde{\iota}^i_{t+1}. \tag{B.4}$$

   - We then re-run the predictive regression in the sample i and record the t-statistic t^i_H.

- The $\{t_H^i\}$ are used to obtain the small-sample p-value by comparing with the sample t-statistic $\hat{t}_H$. The bootstrap p-value is computed as

$$\hat{p}_H = \frac{1}{B}\sum_{i=1}^{B}\mathbf{1}\left(|t_H^i| \geq |\hat{t}_H|\right).$$

5. To compute the bias-adjusted bootstrap coefficient: For each bootstrap sample j and horizon H, with bootstrapped residuals, we generate data under the alternative that $\beta_H = \hat{\beta}_H$ as

$$z_{t+H}^{alter,j} = \hat{\alpha}_H + \hat{\beta}_H x_t^j + \hat{\eta}_{t+H}^j, \tag{B.5}$$

$$x_{t+1}^j = \tilde{\kappa} + \tilde{\Phi} x_t^j + \tilde{\iota}_{t+1}^j. \tag{B.6}$$

- We then re-run the predictive regression in the sample j and record the coefficients $\hat{\beta}_H^j$.
- From the distribution of bootstrapped coefficients, we estimate the finite-sample bias as the difference between the mean of bootstrapped coefficients and the sample OLS estimate:

$$\widehat{\text{Bias}}_H = \frac{1}{B}\sum_{j=1}^{B}\hat{\beta}_H^j - \hat{\beta}_H.$$

- The bias-adjusted coefficient is

$$\bar{\beta}_H = \hat{\beta}_H - \widehat{\text{Bias}}_H = 2\hat{\beta}_H - \frac{1}{B}\sum_{j=1}^{B}\hat{\beta}_H^j.$$

where B is the number of bootstrap simulations, set to 5000.

C.2 Method 2: Boudoukh-Israel-Richardson Correction

1. Steps 1–3 are identical to Method 1.

2. To compute the bias-adjusted coefficient: For each horizon H,

- Estimate the AR(1) process for the predictor (eq. (B.2)), obtain the OLS coefficient $\hat{\Phi}$, residuals $\hat{\iota}_{t+1}$, and compute the variance,

$$(\sigma_\iota^2) = \text{Var}(\hat{\iota}_{t+1}).$$

- Next, estimate the one-period predictive regression (eq. (B.1) with H=1), obtain the OLS residuals $\hat{\eta}_{t+1}$, and compute the contemporaneous innovation covariance

$$(\sigma_{\eta\iota}) = \text{Cov}(\hat{\eta}_{t+1}, \hat{\iota}_{t+1}).$$

- Estimate the biased coefficients $\hat{\beta}_H^{\text{ols}}$ from the H-horizon regression:

$$z_{t\to t+H} = \alpha_H + \beta_H x_t + \eta_{t+H}.$$

- Compute the bias following the formula in Boudoukh et al. (2022):

$$\widehat{\text{Bias}}_H^{BIR} = -\frac{1}{T}\left[H(1+\hat{\Phi}) + 2\hat{\Phi}\left(\frac{1-(\hat{\Phi})^H}{1-\hat{\Phi}}\right)\right]\frac{(\sigma_{\eta\iota})}{(\sigma_\iota^2)}.$$

- Compute the bias-adjusted coefficient: $\bar{\beta}_H^{BIR} = (\hat{\beta}_H^{\text{ols}}) - \widehat{\text{Bias}}_H^{BIR}$.

3. To compute the bootstrap p-value: For each bootstrap sample j and horizon H, with bootstrapped residuals, impose the null of no predictability by generating data as

$$z_{t+H}^{null,j} = \bar{z} + \hat{\eta}_{t+H}^j, \tag{B.7}$$

$$x_{t+1}^j = \tilde{\kappa} + \tilde{\Phi} x_t^j + \tilde{\iota}_{t+1}^j. \tag{B.8}$$

   - We then re-run the predictive regression on the resulting pseudo-sample and record the t-statistic t_H^j.
   - The small-sample p-value under the null is obtained by comparing the bootstrap distribution of $\{t_H^j\}$ with the sample t-statistic $\hat{t}_H$. Formally, the bootstrap p-value is computed as

$$\hat{p}_H = \frac{1}{B}\sum_{j=1}^{B} \mathbf{1}\left(|t_H^j| \geq |\hat{t}_H|\right).$$

   where B denotes the number of bootstrap replications.

D Data Appendix

D.1 New Value Line Database, 1956-1989

Data source. We digitize *Value Line Investment Survey* from 1956 through 1989. We digitize the first quarter reports of each year. This dataset covers 38,696 firm-year observations, with an average of 1,138 firms each year for 34 years. The VL reports contain actual realizations of major accounting variables for approximately past 10 years. Moreover, the reports contain forecast data of the past year, current year, the next year, and a 3-5 horizon.[1]

Data construction. With a team of research assistants and the assistance of the MIT Library, we scanned physical volumes and microfilm images of the VL reports published between January and March each year from 1956 to 1989. We then separated pages with industry reports from pages containing the analysis of individual firms. Figures B3 and B4 contain examples of the raw data we digitize. We then apply a few preprocessing techniques to enhance the quality of the scanned photo (enhancing the scans, rotating, and cropping the images). We then OCR the images using the Amazon Web Services Textract OCR engine to obtain the JSON file with block objects containing all the strings and coordinates that Amazon Textract was able to read. From the JSON file, we locate the firm name, ticker, and pages. We then locate the coordinates of the table we needed from the block objects and use them to calculate the slope and the skewed angle, then rotate page and all coordinates by that angle to straighten it up. We cropped the table of interest from the straightened page and uploaded to Amazon Textract again to get a precise translation of all the cells and their deskewed coordinates. The returned block objects are then reconstructed into tables. We also use Textract's query feature to extract additional information from the page, such as the recent price, dividend yield, P/E ratio, and Value Line rankings. In early years (1956-1963), the 3-5 year forecasts are reported in the text, so we extract these using AWS's query function. We then combine all the above information we obtained in one excel sheet containing: forecast and actual tables, names and dates, and query answers.

To ensure that the digitization was high quality, we applied a range of checks. We manually checked all tables for misread strings, unaligned columns, and jammed rows or cells. We pay special attention to suspicious cells and cells with a low confidence score. Further, we applied a range of accounting and financial identities. For example, we checked consistency between sales, sales per share, and common shares outstanding. We also checked for outliers in the current P/E ratio, earnings per share, and recent price.

Data cleaning and panel construction. We appended the data tables for each firm and year. We then use the CRSP database to construct a firm-year panel of firms with actuals and forecasts. To match firms across years, we cleaned the tickers and firm names. In particular, we standardize firm names by constructing a ground truth list of names and

[1] For a few years, the long-term forecasts are at the 2-4 year horizon.

tickers. We then applied a fuzzy match to the CRSP database to find PERMNO code corresponding to each firm-year, applying a confidence threshold of 95 percent.

D.2 Modern Value Line Database, 1987-2024

The Value Line data we use from 1988 onwards was purchased from Value Line. Data purchased includes two products: Fundamental Datafile and Historical Estimates File.

The Value Line Fundamental Datafile only contains realizations data and includes detailed annual income statements, balance sheets, and cash flow statements for around 7,000 major public companies across 10 economic sectors and 97 industry categories.

The Value Line Historical Estimates File contains both realizations and forecast data, including estimated income statement and balance sheet data for about 1,600 major public companies across 10 economic sectors and 97 industry groups, along with identifiers for over 7,000 companies. Generally, for each stock, the data provides forecasts for the current year, next year, and 3 to 5 years ahead. We use E&P data to construct forecast and realizations data for the modern period. In Historical Estimates files, Value Line uses a stock's historical eight-digit CUSIP and exchange ticker as the identifier. We merge firms to CRSP stocknames table from WRDS by CUSIP-year to assign PERMNO to each CUSIP. PERMNO is assigned by historical CUSIP and year. As Value Line sometimes backfills CUSIPs, if this merge fails, we use header CUSIP, the next historical CUSIP, or refer to Value Line's historical CUSIP changes file to assign PERMNO.

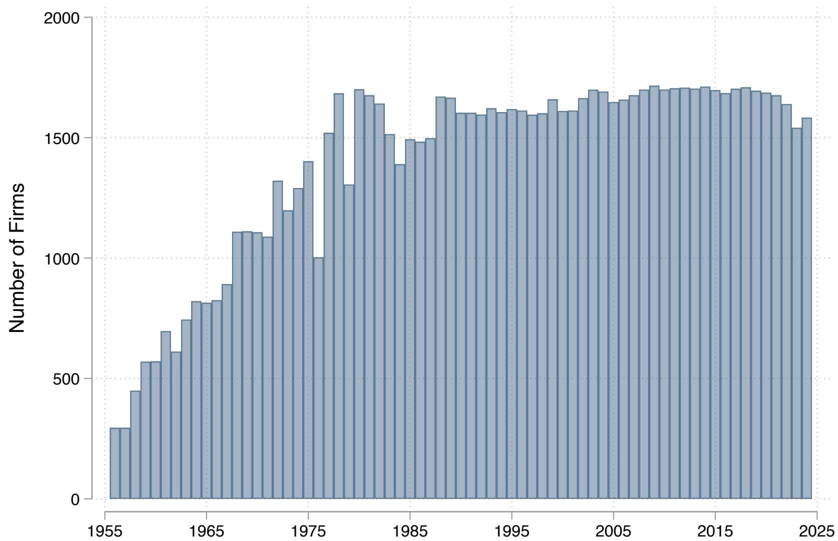
To extract actual realizations data, we take estimates which have been identified as actual data by Value Line (with actual indicator filled with an "A"). If the actual data is missing for a certain PERMNO-year, impute the data using actual values from Compustat. To be consistent with digitized historical digitized data, only keep forecasts with pricing date in quarter 1 of each year. If a CUSIP shows up multiple times in pricing quarter 1, we use the forecasts from the latest pricing date.

To combine the digitized and modern data, we simply append the datasets for non-overlapping years. For overlapping years (1988-1989), if a firm shows up in both digitized and modern data, we first use the forecast from modern data. In rare instances where a firm is not in the modern data but is in the historical data, we use the information from the historical data.

D.3 Value Line Data Coverage

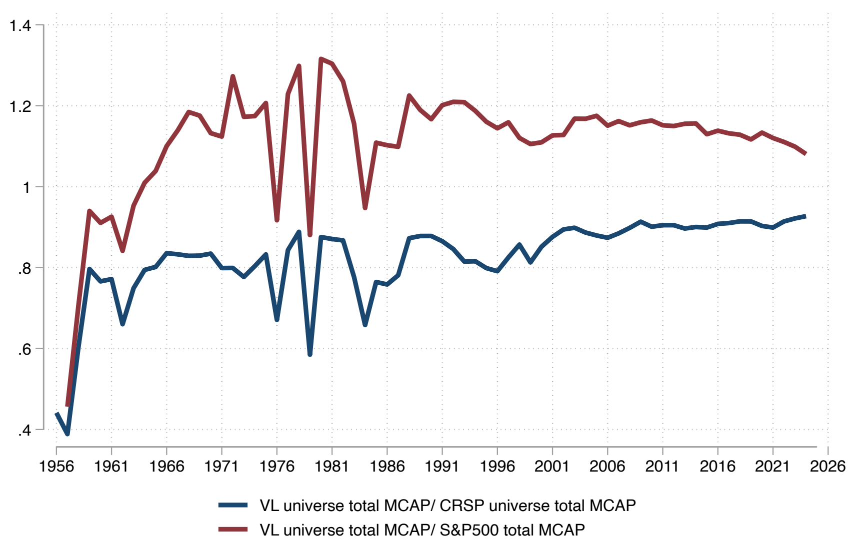
Firm coverage. Figure B1 plots the number of firms in our Value Line dataset in each year. In the early part of the sample (1950s), Value Line covers about 300-500 firms. Coverage rises to about 1000 firms in the mid-1960s and 1500-1600 by the mid-1970s. Figure B2 shows that VL firms account for 80% or more of the total CRSP market cap in most years after 1960.

Figure B1: *Value Line Forecasts: Number of Firms by Year*



Notes: This figure shows the number of unique firms covered in Value Line in the first quarter of each year.

Figure B2: *Value Line Forecasts: Total Market Capitalization Relative to CRSP and S&P500 Universe by Year*



Notes: This figure shows the total market capitalization of firms covered in Value Line in the first quarter of each year, relative to the total market capitalization of (i) firms in the CRSP universe and (ii) constituents of the S&P 500. The S&P 500 was started in 1957, so this ratio is missing for 1956.

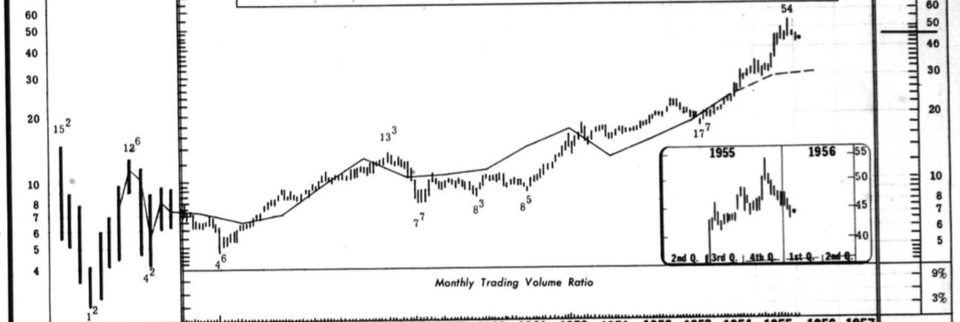
Figure B3: *Example of Value Line Original Data: General Motors, 1956*

VALUE LINE RATING & REPORT

GENERAL MOTORS (GM)

JANUARY 30, 1956 **37**

Growth (Index Range: 100 to 0)	Stability	Quality Rank	Current Price/Value Classification	Price/Earnings Ratio	Dividend Yield	Recent Price	Est'd Normal Avge Price 1956	Est'd Normal Avge Price 1959-61	
74	76	B+	V (Overpriced) at 44	10 Year Avge (8.1); Est'd Current 12.2	10 Year Avge (7.5%); Est'd Current 5.1-5.7%	44	30	46	(Nil)



	1929	1932	1937	1938	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Sales ($ mill.)	1504	432	1607	1067	2437	2251	3796	4262	3128	1963	3815	4702	5701	7531	7466	7549	10028	9824	12350E	11100E	
Profit Margin	21.1%‡	10.8%‡	16.1%	14.5%	21.6%	14.1%	12.7%	11.8%	8.8%	4.8%	16.8%	19.0%	21.3%	25.2%	21.3%	20.7%	17.4%	18.4%			
Plant Account	416	328	409	396	410	372	327	299	350	608	723	775	778	802	942	1263	1536	2161	2266§		
Working Cap'l	248	222	347	387	500	652	829	903	775	769	865	1087	1266	1506	1456	1191	1236	1351	2183§		
Book Value	2.66	2.38	2.96	3.09	3.41	3.67	3.87	4.00	4.17	4.09	4.63	5.51	6.62	7.71	8.25	9.00	9.93	11.27	14.00§		
Earn'gs per sh.	.91	d .03	.73	.36	.74	.59	.54	.61	.68	.29	1.04	1.62	2.44	3.12	1.88	2.08	2.24	3.03	4.20E	3.60E	
D'v'd's per sh†	.60	.21	.63	.25	.63	.33	.33	.50	.50	.38	.50	.75	1.33	2.00	1.33	1.33	1.33	1.67	2.17	2.25-2.50E	
Price/Earn'gs	12.7	--	12.1	18.2	9.0	10.4	15.7	16.3	17.0	37.3	9.4	6.1	4.2	4.6	8.9	9.2	9.1	8.4			
Dividend Yield	5.2%	8.4%	7.1%	3.8%	9.4%	5.4%	4.0%	5.0%	4.3%	3.4%	5.1%	7.6%	13.1%	13.8%	8.0%	7.0%	6.5%	6.5%	5.6%		

CAPITAL STRUCTURE

Debt $300.0 mill. **Interest** $9.8 mill.

Pfd Stock $283.6 mill. **Dividend** $12.9 mill.

1,000,000 shares $3.75 cum. (no par)
1,835,644 shares $5 cum. (no par)

Common Stock 275,140,965 shares •

Calendar Year	SALES ($ Millions) for Quarters Ended Mar. 31	June 30	Sept. 30	Dec. 31	Full Year
1949	1282.3	1595.4	1580.4	1242.7	5701
1950	1642.7	1963.6	1992.5	1932.3	7531
1951	1959.9	1921.4	1721.4	1862.9	7477
1952	1793.1	2075.5	1695.4	1985.2	7549
1953	2546.8	2893.7	2490.5	2097.0	10028
1954	2410.2	2655.9	2153.1	2604.3	9824
1955	3100.7	3411.9	3031.1	2806E	12350E
1956					11100E
1957					

Calendar Year	EARNINGS (Per Share) for Quarters Ended Mar. 31	June 30	Sept. 30	Dec. 31	Full Year
1949	.51	.62	.74	.57	2.44
1950	.79	1.02	.81	.50	3.12
1951	.53	.52	.34	.49	1.88
1952	.47	.53	.44	.64	2.08
1953	.57	.60	.52	.55	2.24
1954	.71	.89	.60	.83	3.03
1955	1.14	1.27	.90	.89E	4.20E
1956					3.60E
1957					

Calendar Year	DIVIDENDS PAID # in the three months ended Mar. 31	June 30	Sept. 30	Dec. 31	Twelve month Total
1949	.208	.208	.208	.706	1.33
1950	.25	.25	.667	.833	2.00
1951	.333	.333	.333	.333	1.33
1952	.333	.333	.333	.333	1.33
1953	.333	.333	.333	.333	1.33
1954	.333	.333	.333	.667	1.67
1955	.333	.333	.50	1.00	2.17
1956					
1957					

#-Dividend payment dates: Mar. 10th, June 10th, Sept. 10th, Dec. 10th.
†-Dividends declared.
‡-Includes dividend income from subsidiaries.

BUSINESS: General Motors is the world's largest automobile manufacturer. Accounted for 50% of U.S. passenger car output in 1955. Makes Chevrolet, Pontiac, Oldsmobile, Buick, and Cadillac, cars; Chevrolet and GMC trucks. Also manufactures diesel locomotives, Allison aircraft engines, and Frigidaire refrigeration equipment. Defense business about 14% of sales; exports about 10%. Labor costs, 28% of sales; materials costs, 51%. Has over 500,000 employees; 487,639 stockholders. Directors own 4% of outstanding common shares; E. I. duPont, 23%. Brd. Chrmn., A. P. Sloan, Jr.; Pres., H.H. Curtice. Inc.: Del. Address: 2044 W. Grand Blvd., Detroit, Mich. **Stock traded: NYSE.**

REPORT: Although General Motors, in common with other automobile manufacturers, has had to curtail its production schedules, the cutbacks at GM have been much less severe than those elsewhere in the industry. As a result, GM's first quarter output, pegged at less than 47% of the industry total as recently as mid-December, now seems likely to top 50%. Chiefly responsible for this relatively favorable prospect has been the surprisingly enthusiastic consumer acceptance of GM's 1956 models, particularly the face-lifted Chevrolet, already making a runaway of the 1956 sales race. Furthermore, GM's Buick has maintained a firm grip on the Number 3 position, while Oldsmobile has recaptured 4th place from Chrysler Corp.'s Plymouth. Boasting four of the industry's six best-selling cars, GM appears unassailable in its position as industry leader.

Nevertheless, GM's volume and profits in 1956 probably will not match the record 1955 levels. The auto manufacturers themselves are now echoing predictions made by this Service 3 months ago that passenger car output would dip steeply in 1956. While General Motors should fare better than most of its competitors in an industry-wide recession, as it did in 1954, some decline in sales and earnings seems unavoidable.

With capital outlays scheduled to exceed depreciation allowances by about $500 million this year, and the company's working capital position little more than adequate, directors will be under some pressure to conserve earnings. The indicated $2.50 annual dividend rate is patently suspect; if profits should fall to $3.60 a share, as we estimate, payment of a $2.50 dividend would leave only $300 million for re-investment. Accordingly, declaration of a year-end payment smaller than 1955's $1 a share seems possible.

In the hypothesized 1959-61 economic environment, characterized by an automobile output averaging 7.8 million units annually, we would expect General Motors to retain 50% of the passenger car market and achieve an average annual sales volume of $12.6 billion. Earnings then could average $4.25 a share and dividends $2.75. Such dividends, capitalized at 6% as suggested by past norms adjusted to trend, would command an average price of 46 (10.8 times earnings) during the 3-year period.

ADVICE: General Motors is currently classified in Group V (Overpriced) because it stands substantially more than two standard variations above its Rating. The sharp earnings rise of the past two years appears to have been interrupted temporarily, at least, thus leaving capitalization rates, which have risen along with earnings and dividends, extremely vulnerable. Selling at more than 12 times earnings, as generous a ratio as prevailed in the previous bull market years of 1929 and 1937, and yielding no more than in either of those years, the stock would appear to have exhausted its potentialities for near-term appreciation. Investors concerned with preserving and building capital are advised to switch to such currently underpriced issues as (B+) G. C. Murphy (44), (B+) Chicago, Rock Island and Pacific (41).

Above per share figures and price ranges adjusted for a 2-for-1 split, Oct. '50; 3-for-1 split, Sept. '55.
•-Excludes treasury shares.
§-As of Sept. 30, 1955.

To project the 1956 Value Line Rating according to your own estimates, multiply your estimated 1956 dividend by 3.24, your estimated 1956 earnings by 3.11 and add 11.07 to the sum of the two.
The bands around the Rating on the weekly chart are drawn to a standard variation of 3.2 points.

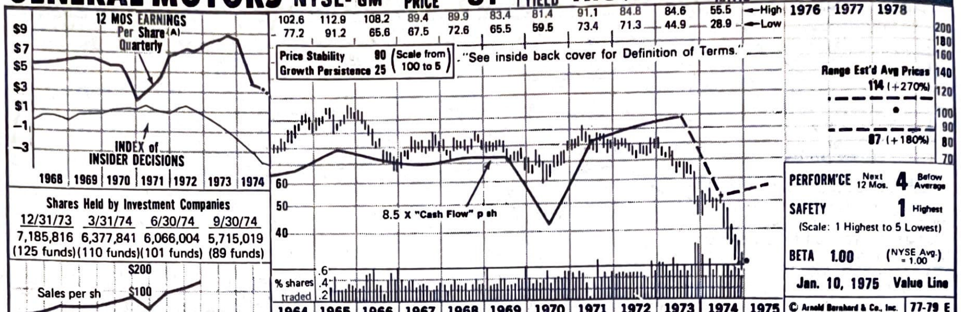
Figure B4: *Example of Value Line Original Data: General Motors, 1975*

GENERAL MOTORS NYSE-GM

RECENT PRICE 31 | DIV'D YIELD 11.0% (NORM 5.2%) | P/E RATIO 10.7 (NORM 11.5) | 130

102.6	112.9	108.2	89.4	89.9	83.4	81.4	91.1	84.8	84.6	55.5	←High
77.2	91.2	65.6	67.5	72.6	65.5	59.5	73.4	71.3	44.9	28.9	←Low

Price Stability 90 | Growth Persistence 25 (Scale from 100 to 5). "See inside back cover for Definition of Terms."



Shares Held by Investment Companies

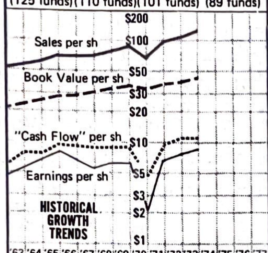
12/31/73	3/31/74	6/30/74	9/30/74
7,185,816	6,377,841	6,066,004	5,715,019
(125 funds)	(110 funds)	(101 funds)	(89 funds)

PERFORM'CE Next 12 Mos. 4 Below Average

SAFETY 1 Highest (Scale: 1 Highest to 5 Lowest)

BETA 1.00 (NYSE Avg. = 1.00)

Jan. 10, 1975 Value Line



1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	© Arnold Bernhard & Co., Inc.	77-79 E
59.60	72.60	70.74	70.09	79.62	85.02	65.55	98.75	106.45	125.29	*107.00*	*119.60*	Sales per sh	*173.00*
7.77	9.35	8.52	8.14	8.57	8.62	4.96	9.77	10.71	11.51	*6.00*	*6.75*	"Cash Flow" per sh	*13.50*
6.04	7.40	6.23	5.65	6.01	5.94	2.08	6.72	7.52	8.35	*2.95*	*3.50*	Earnings p sh (yr-end)	*9.00*
6.05	7.41	6.24	5.66	6.02	5.95	2.09	6.72	7.51	8.34	*2.95*	*3.50* (A)	Egs p sh as reported	*9.00*
4.45	5.25	4.55	3.80	4.30	4.30	3.40	3.40	4.45	5.25	3.40	*3.40* (B)	Div'ds Decl'd per sh	*6.00*
3.26	4.63	4.16	3.19	3.01	3.65	3.96	3.54	3.29	4.07	*4.90*	*4.90*	Cap'l spending per sh	*6.90*
24.99	27.13	28.81	30.68	32.42	34.07	32.85	36.22	39.26	42.37	*41.80*	*41.85* (C)	Book Value per sh	*52.10*
285.18	285.58	285.68	285.70	285.79	285.76	286.06	286.23	285.92	285.73	*286.00*	*286.00* (D)	Common Shs Outst'g	*289.00*
15.0	13.8	13.3	14.3	13.5	12.8	33.7	12.2	10.5	7.9	*14.9*		Avg Ann'l P/E Ratio	*11.5*
4.9%	5.1%	5.5%	4.7%	5.3%	5.6%	4.8%	4.2%	5.7%	7.9%	7.7%		Avg Ann'l Div'd Yield	*5.8%*
16997	20734	20209	20026	22755	24295	18752	28264	30435	35798	*30600*	*34200*	Sales ($mill)	*50000*
51.1%	53.0%	50.7%	55.6%	51.9%	53.8%	45.5%	56.6%	54.1%	54.4%	*49.0%*	*50.5%*	Market Share	*52.5%*
21.3%	21.6%	18.7%	18.0%	18.1%	16.7%	7.9%	16.0%	16.3%	14.4%	*7.0%*	*7.5%*	Operating Margin	*12.0%*
494.8	556.7	654.1	712.6	729.1	765.8	821.5	873.1	912.4	902.9	*900*	*925*	Depreciation ($mill)	*1300*
1734.8	2125.6	1793.4	1627.3	1731.9	1710.7	609.1	1935.7	2162.8	2398.1	*855*	*1015*	Net Income ($mill)	*2620*
5.9%	5.8%	6.2%	6.3%	6.1%	6.0%	6.1%	6.1%	6.2%	5.8%	*6.0%*	*6.0%*	Depreciation Rate	*6.0%*
47.2%	48.1%	45.2%	46.0%	50.9%	50.5%	21.8%	48.0%	48.8%	46.9%	*43.0%*	*44.0%*	Income Tax Rate	*47.0%*
10.2%	10.3%	8.9%	8.1%	7.6%	7.0%	3.2%	6.8%	7.1%	6.7%	*2.8%*	*3.0%*	Net Income Margin	*5.2%*
232.0	231.7	287.5	344.8	284.3	317.0	281.2	615.6	790.9	756.5	*750*	*740*	Funded Debt ($mill)	*700*
7409.6	8030.1	8514.5	9048.3	9547.7	10020	9680.3	10650	11509	12391	*12235*	*12250* (C)	Net Worth ($mill)	*15050*
3651.0	3684.9	3606.0	4006.4	4230.3	4352.1	3010.5	4530.4	5564.8	6196.9	*5600*	*5350*	Working Cap'l ($mill)	*7650*
23.4%	26.5%	21.1%	18.0%	18.1%	17.1%	6.3%	18.2%	18.8%	19.4%	*7.0%*	*8.5%*	% Earned Net Worth	*17.5%*
74%	71%	73%	67%	72%	73%	162%	51%	59%	63%	*115%*	*97%*	% All Div'ds to Net Inc	*67%*

ANNUAL RATES of change (per sh)	Past 10 Yrs	Past 5 Yrs	Est '71-'73 to '77-'79
Sales	8.0%	8.5%	*8.0%*
"Cash Flow"	6.0%	5.0%	*4.0%*
Earnings	5.5%	5.0%	*3.0%*
Book Value	5.5%	5.0%	*3.0%*

CURRENT POSITION ($mill.)	1971	1972	12/31/73
Cash Assets	3317.0	2946.9	3046.1
Receivables	2724.2	2806.2	3082.5
Inventory (FIFO)	3991.6	4200.2	5176.9
Other	478.8	585.2	861.0
Current Assets	10511.6	10538.5	12166.5
Accts Payable	2206.3	2469.8	3275.7
Debt Due	--	--	--
Other	3774.9	2504.0	2693.9
Current Liab'ties	5981.2	4973.8	5969.6

CAPITAL STRUCTURE as of 12/31/73

Debt $756.5 mill. **Interest** $63.0 mill. Includes $371.3 mill. debt of foreign subsidiaries.

Pension Liab'ty $4.1 billion

Pfd Stock $283.6 mill. **Pfd Div** $12.9 mill. 1,000,000 shs. $3.75 cum. ($100 stated value) 1,835,644 shs. $5.00 cum. ($100 stated value)

Common Stock 285,730,153 shares

Cal-endar	QUARTERLY SALES ($ Millions) Mar. 31	June 30	Sept. 30	Dec. 31	Full Year
1971	7780	7592	5624	7268	28264
1972	7780	8457	5378	8820	30435
1973	9569	9606	7608	9015	35798
1974	6939	8277	6938	*8446*	*30600*
1975	*7700*	*9000*	*7500*	*10000*	*34200*

Cal-endar	EARNINGS AS REPORTED (per sh) Mar. 31	June 30	Sept. 30	Dec. 31	(A) Full Year
1971	2.12	1.97	.75	1.88	6.72
1972	2.26	2.52	.41	2.32	7.51
1973	2.84	2.78	.92	1.80	8.34
1974	.41	1.05	.05	*1.44*	*2.95*
1975	*.40*	*1.00*	*.40*	*1.70*	*3.50*

Cal-endar	QUARTERLY DIVIDENDS PAID Mar. 31	June 30	Sept. 30	Dec. 31	(B) Full ■Year
1971	.85	.85	.85	.85	3.40
1972	.85	1.10	.85	1.65	4.45
1973	.85	1.20	.85	2.35	5.25
1974	.85	.85	.85	.85	3.40
1975					

BUSINESS: General Motors is the world's largest automobile manufacturer. 1973 output was 54.4% of U.S. total. Automotive products account for 94% of sales. Also makes Chevrolet and GMC trucks; Frigidaire and Delco appliances; GM diesel locomotives and engines. Operates manufacturing and assembly plants in 17 foreign countries which make Vauxhall cars, Bedford trucks, and Opel and Holden cars and trucks. Foreign business acounts for about 16%, labor costs, 34% of 1973 sales. Has 811,000 employees, 1,306,000 stkhldrs. Insiders own 1% of stock. Chrmn.: T.A. Murphy. Pres.: E.B. Estes. Inc.: Del. Address: 3044 W. Grand Blvd., Detroit, MI 48202.

GM's yield is high, but is it secure? The $3.40 regular annual dividend was probably not earned last year and this may be the case through most of 1975 as well. Furthermore, the corporation's cash position is deteriorating as "cash flow" falls short of outlays for capital improvements, tooling, and dividends. Such a scenario would normally put the dividend in question. GM, though, has the means (and the borrowing power, if necessary) to maintain the payout for several quarters even if it exceeds earnings — as it did in the strike year of 1970. Its overall cash position (see table below) is the best by far of all the auto manufacturers. We believe a cut would come only if the directors were convinced that there was going to be a long-term reduction in the corporation's basic earning power. If industry and corporate prospects turn up later this year (see below), there would be no grounds for such an opinion. Accordingly, we think the dividend will hold.

The number one auto maker probably ended 1974 on a weak note. In addition to soft retail demand, factory auto sales also suffered by comparison with the prior year when output was accelerated to build dealer inventories in anticipation of a strike.

Earnings may remain depressed for a time. Domestic auto production in the first quarter is currently scheduled at about the year-earlier level reflecting the company's belief that retail demand will remain weak.

Some improvement is possible after midyear. Auto buyers (such as they are) have given a good reception to the company's new small car offerings. This may augur well for the luxury small car slated for a Spring introduction. In addition, its full-size cars, especially the luxury lines, have been returning to favor since the ending of the oil embargo. (A new gasoline tax and/or rationing could quickly reverse this trend, however.) The corporation may well garner a bigger share of the larger auto market we envision for the closing months of the year and earnings could benefit accordingly.

M.S.

CASH POSITION	5-Year Av'g	12/31/73
Current Assets to Current Liabilities:	203%	204%
Cash & Equiv's to Current Liab'ties:	47%	51%
Working Capital to Sales:	17%	17%

(A) Based on avg. shs. outstanding. (B) Next div'd meeting about Feb. 3. Goes ex about Feb. 7. Div'd payment dates: Mar. 10, June 10, Sept. 10, Dec. 10. ■ Div'd reinvestment plan available. (C) Excludes intangible assets; in '73, $38 mill., 13¢ a sh. (D) In millions, adjusted for stock splits and div'ds.