Equity Security Prices, Investors' Planning Horizon, and Corporate Financial Planning

Stanley C W Salvary*

Information contained in the security prices are relevant to different segments of the financial community. Given the most appropriate methodology, each segment attempts to extract the information relevant to its decision. This paper posits that the Net Present Value (NPV) (share market price less book value of that share) of a firm's equity security, contains information relating to the Average Planning Horizon (APH) of the equity investors. Given general uncertainty and volatile financial market conditions, this study suggests that the messages contained in the NPV may be potentially useful for corporate financial planning.

Introduction

Given the saw-tooth movements in the stock market, which includes the contraction in the late 2000; there has been large, low frequency swings in the value of the stock market, which has moved upward from 1950-1965, then downward till 1982, and finally upward again until early 2000, and this behavior of the stock market is quite perplexing to most observers including the economists; (Hall, 2001, p. 1) maintains "that these large movements are the result of rational (if not accurate) appraisal of the cash, likely to be received by the shareholders in the future". In line with Hall's position, Harford (1999, p. 1974) found that high cash reserves are associated with high market to book value ratios.

It is quite evident that messages are transmitted in security prices and the several bits of information contained in the security prices are relevant to different segments of the financial community. Invariably, each segment attempts to extract the information relevant to its decision, using the most appropriate methodology. This study does not attempt to address the reason for the behavior in the market, but attempts to discern any factors that would contribute to better financial planning on the part of corporate management.

In a study of publicly traded US firms for the period 1971-1994, Opler *et al.* (1999, p. 35) found that firms with more excess cash, spend more on acquisition of other business and have higher capital expenditures, regardless of whether or not they had good

* Professor Emeritus, Department of Accounting, Canisius College, Buffalo, New York, USA.
  E-mail: stawinsal@yahoo.ca

investment opportunities. Also, Harford (1999, p. 1995) found that firms which had accumulated large amounts of cash reserves made value decreasing business acquisitions. In accordance with Minton and Schrand (1999, p. 425), if managers make rational decisions based on available information, then the costs of reducing cash flow volatility should be weighed against the benefits.

Furthermore, Barrese and Scordis (2003, p. 2) maintain that: "Investors do not accept a lower rate of return for the stock of a firm that does, through a risk management program, what the shareholders can do for themselves at lower cost through portfolio diversification". In line with the position taken by Cochrane (1999), that apparently investors are able to earn a substantial premium by holding dimensions of risk unrelated to the market movements, such as, recession-related or distress-related risk; this research focuses on information that may be potentially beneficial to corporate financial planning, in the presence of the securities market revelation of firm-specific investors' average planning horizon (APH).

In this study, the net present value (*NPV*) of a firm's equity security, as measured by the difference between the share's market price and its book value, is deemed to be a source of information relating to the average planning horizon (APH) of the firm's equity investors. Quite conceivably, with the knowledge of the APH contained in the *NPV* (an element of the stock price in the capital market which is related to the earnings/cash flows generated by the firms), the corporate financial planners may improve the financial planning. This study, unlike the study by Basak and Shapiro (2001), does not deal with models of risk management, but provides an insight on information that can be useful for risk management.

An Information Search Process Using Accounting and Capital Market Data

Investments consist of: the current money savings (M) being exchanged for the present value of future cash flows (V) in the capital market—a spot transaction; and the money savings (M) received by the firm, being exchanged for strategic and productive resources (C) to generate cash flows in the commodity market—a forward transaction. From the above, two dynamic models are identified: the capital market valuation model and the financial accounting information model. The capital market valuation model is represented in equation (1):

$$V = f(r,\ e,\ n), \text{ where, } n = 0\ o\ k \qquad \qquad ...(1)$$

V reflects a point in time; that is, a point event emerges representing the spot market. The financial accounting model is captured by equation (2):

$$C = g(R,\ q,\ e,\ n), \text{ where, } n = 0\ o\ 1 \qquad \qquad ...(2)$$

C (financial accounting information) reflects a continuum in time, and captures the functioning of the forward market. The variables identified in equations (1) and (2) are:

e = Expected earnings/cash flows

r = Financier's opportunity rate of discount

R = Entrepreneur's internal rate of return

q = Entrepreneur's committed finance

n = Time periods

The existing duality embedded in the process of investment, intimates at a basis for extracting information from the security prices. As interest rates rise (relative yields increase) on financial instruments, the risk inherent in a residual security increases; as the discount rate would be higher; increased uncertainty about the future would shorten the investment horizon. Under these dynamic conditions, in the selection process some firms are better in short-term risks and other are better in long-term risks. By utilizing the information on market expectation embedded in market valuation, the firm may be able to optimize its planning function by devising desirable financial policies (e.g., revise existing hedging strategies) that are considered desirable by the potential shareholders. Thus, given a "clientele theory of ownership" in imperfect capital markets (Adler, 1970, p. 831), the firm may be able to maximize the value of its share.

Specifically, from equity security prices and financial accounting information, information on market expectation that is embodied in the APH, can be effectively isolated. A search process for information, which is contained in market expectations, is explored in terms of the relevant aspects of the equity security prices and financial accounting information. At this stage equation (1) is restated, in which V is replaced by S, which is expressed in equation (1.1) as follows:

$$S = f(e, r, n) \quad (S = V) \qquad \qquad ...(1.1)$$

S = Market price of equity security

e = Earnings

r = Discount rate

n = Number of years – (APH)

In this study, as defined by Turnovsky (1970), $NPV = S - K$, where S is the market price of the equity security and K is the book value/committed finance (i.e., financial accounting measurement) of the equity security. This paper attempts to extract information that could be useful while establishing criteria for financial policy decisions under general uncertainty, and financial market conditions when financial and business risks are subject to control. The assumptions underlying the study are outlined below.

Basic Assumptions

1. The equity investor's decision model is a "sequential expectations adjustment model" with reduced uncertainty at the end of every fiscal year, with the release of the audited financial statements (Salvary, 1982). The investor's utility function guides the investor's revision process. While the value of a firm's security is subject to instantaneous price revision, the investor's revision period is guided by the changes in absolute returns and not relative returns. It is assumed that one of the investor's crucial decision variables

is the number of dollars—the decision to revise a portfolio occurs when the absolute returns on the new portfolio are sufficient to absorb the cost of abandoning the old portfolio. Abandonment cost is defined as: (a) transactions costs—cost to dispose of old portfolio and cost of searching for a new portfolio; (b) capital losses—existing relative returns being higher than that on the old portfolio, thus disposal would result in a capital loss; and (c) absolute returns generated by the old portfolio.

2. The firm's risk characteristics and the investor's utility function are intertwined, thus the sensitivity to firm's risk can be assessed by noting the difference in response to changes in financial risk (FR) vis-a-vis business risk (BR). FR has been measured by the ratio derived from the bank prime interest rate (BPIR) and the individual firm's rate of return on invested capital (RRC). FR was used instead of the debt to equity ratio (D/E). BR has been measured using the coefficients of variation for earnings per share (EPS) and the rate of return on stockholder's equity (RRE).

3. Risk averse investors, seek to maximize their cash flow (through tax postponement and/or tax reduction, capital gains preferred to ordinary income). Consequently, a high rate of return for the firm would be more attractive than a high dividend payout ratio (DPR).

4. The amount invested in the securities market is an assigned risk fund of the investor.

5. The portfolio held between debt and equity is a function of risk and return.

6. Investors do not have a common planning (investment) horizon, although they may have a common revision period. They share a common one period revision, but their investment adjustment periods differ. The joint effect of investors' rate of discounting and planning horizons produces an apparent homogeneous planning horizon—an average planning horizon.

7. All investors do not share the same expectations, however, the interest rate (r) implied by the firm's bond rating, is assumed to be incorporated in the investors' beliefs concerning their utility functions and probability distributions.

8. The investor evaluates temporal prospects using the *NPV* criterion, and is influenced by the firm size. The belief exists that large firms have a greater degree of stability than small firms.

9. Invariably, investors need a database to formulate revisions of their annual expectations. Accordingly, *EPS* data and *RRE* as per financial accounting are used to validate their estimation procedure or to re-specify their valuations models.

10. Investors are assumed to make multi-period investment decisions with successive single period revisions. Under this condition, the one period equilibrium-pricing model may be mis-specified (Reinganum, 1981). The general form of the one period equilibrium model is represented by equation (3).[1]

---

[1] For variations of this model see: Adler (1970), Turnovsky (1970) and Anzac (1975).

$$S = EPS/i \qquad \qquad ...(3)$$

(S = Market value; i = Discount rate; EPS = Earnings per share)

The specification, that is used in this paper to discern the timing horizon (Schneller, 1975) in the investors' decision process, is referred to as a "sequential expectations adjustment model" (SEAM) (Salvary, 1982). It is represented by equation (4).

$$S_1 = BVPS_0 + \sum_{n=1}^{k} EPS1 \cdot R^n / 1 \cdot r^n \qquad \qquad ...(4)$$

S_1 = Security's market price in period 1

$BVPS_0$ = Book value per share of equity at period 1

EPS = Seven years average EPS as adjusted downwards by one standard deviation

RR = Seven years average RRE adjusted downwards by one standard deviation

r = Rate of discount

n = Number of periods, from 1, 2, ...k.

$BVPS$, a deposit on a contract for future earnings, is subject to a higher downside risk than a savings deposit of bank. Downward adjustment in EPS and RRE of one standard deviation, avoids the explosive nature of the assumed perpetual growth (Schneller, 1975:1299). While the investor would use the model to estimate S, the model is used to establish n (APH) in this study. Although S is endogenous in the investors' decision model, it is exogenous to the model in this study. While n is exogenous to the model in the investors' decision process, it is endogenous to the model in the experiment.

In the model, there are two alternative available values for r: the risk free interest rate plus a risk premium; and the interest rate applicable to the risk class. First alternative was rejected on theoretical grounds. According to Adler (1970, p. 831) "...the calculation of the risk-adjusted discount rate is dependent upon 'the levels of both the expected returns and the pre-selected present value' of the equity security".

The use of the first alternative would be contradictory to the intent of this study, since the model would be used by the investor to arrive at a present value of the equity security. That is, the market value which is endogenous to the model is transformed into an exogenous variable. The use of the second alternative avoids *ex post* tampering with *ex ante* price formation, and reduces the ambiguity or lessens the danger of altering the actual message contained in the prices, as established in the securities market. Consequently, the second alternative was selected on theoretical grounds, for r represents a family of risk-adjusted yield functions (viz., the firms' individual RRE as adjusted downwards by one standard deviation), rather than just one risk-adjusted discount rate. It is assumed that the impact of financing as reflected in the difference between the RRC and RRE has some validity for financial risk assessment.

Data and Methodology

The data covers the period from 1983 to 1990. The sample consists of 25 firms selected at random. Conditions for selecting the sample were: a firm must have positive net income at a minimum and a December 31, fiscal year-end was required. For each firm, the following data for 8 years were collected: *EPS,* BPIR, DPR, *S, BVPS,* and RRC and *RRE*. Data on *EPS,* RRC, *RRE,* DPR, and *BVPS* were obtained from Value Line Investment Survey. Data on *S* were obtained from *The Wall Street Journal* for each firm. Data on BPIR was obtained from the *Federal Reserve Bulletin*. Simple correlation analysis and chi-square test was used to check for statistical independence.

Market Expectation Information

In conjunction with publicly disseminated risk assessment information (*r*), the investor uses accounting information *EPS* and *RRE* to arrive at the *NPV* as stated in equation (5):

$$NPV = \sum_{n=1}^{k} EPS \ DIV \ 1 \ RRE^{n} / 1 \ r^{n} \qquad ...(5)$$

The magnitude of APH (*n*) is influenced by changes in market conditions and changes with the release of the accounting information. The market price adjusts sequentially, based upon the revised expectations, with each accounting period furnishing information on the first instalment. Differences between planned and actual, causes the revision and hence a new *NPV* in the spot market value—capital market valuation. The aggregation of expectations is experienced in the spot market and disaggregation of expectations is experienced in the forward market.

Data Analysis

The framework for the analysis pursues the line of reasoning presented by Vickers (1978, p. 13), "In imperfect market environments, in structurally disequilibrium situations, decision-makers have to judge, what rates of return can be expected on money capital investments, what risks are involved, how the risk-averting suppliers of money capital can be expected to react to unfolding situations, and what, in the light of answers to these questions, are deemed to be economically viable or optimum courses of action".

A corporate financial planner may wish to estimate the impact of the variables (RRC, *RRE*, and *EPS*) upon APH—the investors' planning horizon. Program trading—the simultaneous trading of a portfolio of stocks which became popular with large institutional investors by the end of the 1980s—has not been discussed in this study since it does not have any influence on the information content in security prices. In analyzing the data, the objective is to establish the value of APH, to formulate a strategy for dealing with financial decisions. To illustrate, the planner may have the following decision matrix, which is depicted in Table 1.

Table 1: Decision Matrix: Suggested Action to Take if Condition Holds						
Financial Policy Instrument	Financial Policies					
	Dividends		Debt		Equity	
Policy Given Risk Variable	Increase	Decrease	Issue	Retire	Issue	Reacquire
Financial Risk BPIR, RRC	X	X	X	Excess Funds	Shortage of Funds	X
	X	X	Shortage of Funds	X	X	Excess Funds
Business Risk EPS, RRE	Excess Funds Beyond Adequate RRC Projects	Shortage of Funds Excess of Adequate RRC Projects	X	X	X	X

Market Expectation Information: Findings and Implication

Using the data in Tables 2, 3, and 4, the planner can assess the sensitivity of APH to the various variables. The value given for each variable (RRC, RRE, FR, BR, CVRRC, CVEPS, and Net Income) is a seven-year average for the period 1983-1989. Equation (5), which is a variation of equation (6), is used to determine the value of APH.

Share price at end of 1990 = Book value at end of 1989(Growth rate)   ...(6)

The only unknown variable is n (APH). Upon solving the equation, APH is determined.

Firstly, while emphasis has been placed upon the PE ratio (Reinganum, 1981, p. 41) as it is one of the most commonly examined figure in stock investment (Bajkowski, 1991), it must be noted that it is an end result; it is a datum. A low or high PE ratio has to be explained. Why a stock is considered underpriced or overpriced requires an explanation. As noted in Table 2, there is, as expected a strong positive correlation between PE and APH. As suggested earlier, APH is a guide for the corporate financial planner to develop the strategy for financial decision-making, under general uncertainty and financial market conditions, when financial and business risks are subject to control. As per Bajkowski (1991), high earnings growth firms are aligned with high PE ratios, while low earnings growth firms are associated with low PE ratios. However, Table 3, in which the firms have been segmented into high and low PE ratios, reveal poor correlation between high PE ratios and RRE. Accordingly, the information derivable from APH is unique in that it is not derivable from the PE ratio.

Secondly, while messages are contained in the PE ratio, the PE ratio is static. It is not a decision variable. It is determined ex post, after investors' decisions have been made and firms' earnings have been reported. Yet, the APH is a dynamic approach; it is an aggregation of the decision variables that constitute the basis of market and limit orders in the securities market.

	PE 1990	RRC RRE 1983-1989		APHc 1990	FR BR 1983-1989		CV CV RRC EPS 1983-1989		Share Price 1990	Book Value 1989	Net Income 1983-89
Southwest Air	16	8.100	10.3	80.500	0.510	0.088	0.270	0.320	17.500	13.400	48
Brush Wellman	13	11.400	12.4	30.600	0.690	0.075	0.280	0.270	14.000	13.100	27
Medtronic Inc.	37	18.400	18.6	25.100	3.140	0.038	0.120	0.320	86.250	9.980	76
Bausch & Lomb	32	13.500	16.0	24.000	3.550	0.041	0.080	0.260	71.000	11.960	77
Johnson & Johnson	19	18.100	20.5	23.100	1.770	0.077	0.190	0.390	71.750	12.450	699
Instron	13	10.900	11.9	21.700	0.790	0.064	0.240	0.260	8.250	5.870	3
National Presto	10	10.400	10.5	19.100	1.440	0.036	0.140	0.250	40.750	27.660	18
Teleflex	19	13.000	16.3	15.500	4.330	0.022	0.060	0.330	32.870	9.870	17
Norfolk Southern	12	9.500	10.4	14.700	1.670	0.021	0.120	0.180	41.750	30.440	504
Abbott Labs	20	25.500	28.1	12.500	3.310	0.050	0.150	0.330	45.000	6.160	571
McDonalds Corp.	11	12.600	19.4	10.800	4.690	0.016	0.060	0.280	29.120	9.250	509
Duke Power	13	9.300	12.6	10.800	7.620	0.003	0.030	0.110	30.620	18.050	481
"EG&G, Inc."	12	22.300	23.4	9.300	2.060	0.030	0.200	0.150	31.000	12.040	56
Boston Edison	12	7.800	11.1	7.000	1.500	0.020	0.110	0.150	20.000	16.730	88
PS ENT. GP	10	8.900	12.8	6.200	2.960	0.004	0.070	0.070	26.380	19.850	533
Orange & Rklnd	10	8.800	12.1	5.700	7.800	0.004	0.030	0.150	31.370	24.170	40
NYS E&G	10	8.600	13.0	4.600	2.390	0.011	0.080	0.150	26.000	21.290	188
Con Edison	10	9.100	12.4	4.500	4.280	0.003	0.050	0.070	23.620	19.210	580
Allegheny Pwr Sys	10	8.600	12.9	4.200	5.590	0.002	0.030	0.050	36.870	11.900	214
CSX Corp.	9	7.400	9.3	0.000	0.400	0.040	0.290	0.140	31.750	33.240	401
Airborne Freight	9	8.200	10.4	0.000	0.350	0.130	0.350	0.370	17.000	10.650	10
Rollins Truck	8	6.500	9.8	0.000	0.980	0.050	0.130	0.390	7.750	6.470	11
Eastman Kodak	10	9.100	11.4	0.000	0.310	0.210	0.400	0.530	41.620	20.480	755
Overseas Ship	10	5.500	6.4	0.000	0.860	0.040	0.130	0.340	16.250	20.090	41
Delta Airlines	10	9.800	12.2	0.000	0.240	0.380	0.480	0.790	55.750	53.180	204
R	**0.412**	0.155	–	0.084	–0.125	–0.061	0.061	0.015	0.067	–0.264	–0.211
R²	0.169	0.024	–	0.007	0.016	0.004	0.004	0.000	0.004	0.070	0.045

Note:
- PE = Price earnings ratio
- FR = Financial risk derived value
- RRC = Average rate of return on capital
- BR = Business risk derived value
- RRE = Average rate of return on stockholder's equity
- CV/RR = Coefficient of variation of RR
- CV/EPS = Coefficient of variation of EPS
- APH = An estimate of (a surrogate for) n
- APHc = Calculated planning horizon
- 0.0 = APHc value is negative.

	PE 1990	RRC 1983-1989	RRE 1983-1989	APHc 1990	FR 1983-1989	BR 1983-1989	RRC 1983-1989	EPS 1983-1989	Price 1990	Value 1989	Income 1983-89
Table 3: Firms Segmented into High and Low PE Ratios											
Panel A: Low PE Ratios (PE ≤ 10)											
National Presto	10	10.400	10.500	19.100	1.440	0.036	0.140	0.250	40.750	27.660	18
PS ENT. GP	10	8.900	12.800	6.200	2.960	0.004	0.070	0.070	26.380	19.850	533
Orange & Rklnd	10	8.800	12.100	5.700	7.800	0.004	0.030	0.150	31.370	24.170	40
NYS E&G	10	8.600	13.000	4.600	2.390	0.011	0.080	0.150	26.000	21.290	188
Con Edison	10	9.100	12.400	4.500	4.280	0.003	0.050	0.070	23.620	19.210	580
Allegheny PwrSys.	10	8.600	12.900	4.200	5.590	0.002	0.030	0.050	36.870	11.900	214
Eastman Kodak	10	9.100	11.400	0.000	0.310	0.210	0.400	0.530	41.620	20.480	755
Overseas Ship	10	5.500	6.400	0.000	0.860	0.040	0.130	0.340	16.250	20.090	41
Delta Airlines	10	9.800	12.200	0.000	0.240	0.380	0.480	0.790	55.750	53.180	204
CSX Corp.	9	7.400	9.300	0.000	0.400	0.040	0.290	0.140	31.750	33.240	401
Airborne Freight	9	8.200	10.400	0.000	0.350	0.130	0.350	0.370	17.000	10.650	10
Rollins Truck	8	6.500	9.800	0.000	0.980	0.050	0.130	0.390	7.750	6.470	11
R (PE with all)	–	**0.515**	**0.366**	**0.376**	**0.371**	0.041	–0.154	–0.119	0.577	0.374	**0.306**
R²	–	0.265	0.134	0.141	0.138	0.002	0.024	0.014	0.333	0.140	0.094
Panel B: High PE Ratios (PE > 10)											
Medtronic Inc.	37	18.400	18.600	25.100	3.140	0.038	0.120	0.320	86.250	9.980	76
Bausch & Lomb	32	13.500	16.000	24.000	3.550	0.041	0.080	0.260	71.000	11.960	77
Abbott Labs	20	25.500	28.100	12.500	3.310	0.050	0.150	0.330	45.000	6.160	571
Johnson & Johnson	19	18.100	20.500	23.100	1.770	0.077	0.190	0.390	71.750	12.450	699
Teleflex	19	13.000	16.300	15.500	4.330	0.022	0.060	0.330	32.870	9.870	17
Southwest Air	16	8.100	10.300	80.500	0.510	0.088	0.270	0.320	17.500	13.400	48
Brush Wellman	13	11.400	12.400	30.600	0.690	0.075	0.280	0.270	14.000	13.100	27
Instron	13	10.900	11.900	21.700	0.790	0.064	0.240	0.260	8.250	5.870	3
Duke Power	13	9.300	12.600	10.800	7.620	0.003	0.030	0.110	30.620	18.050	481
Norfolk Southern	12	9.500	10.400	14.700	1.670	0.021	0.120	0.180	41.750	30.440	504
"EG&G, Inc."	12	22.300	23.400	9.300	2.060	0.030	0.200	0.150	31.000	12.040	56
Boston Edison	12	7.800	11.100	7.000	1.510	0.017	0.110	0.150	20.000	16.730	88
McDonalds Corp.	11	12.600	19.400	10.800	4.690	0.016	0.060	0.280	29.120	9.250	509
R (PE with all)	–	**0.349**	0.261	0.134	0.127	0.112	–0.198	**0.444**	**0.828**	–0.284	–0.176
R²	–	0.122	0.068	0.018	0.016	0.013	0.040	0.197	0.685	0.081	0.031

In Table 4, firms are classified as market stressed (discounted) (APH ⊂ 5), market neutral (normal) (APH values > 5 but ⊂ 15), and market favored (premium) (APH > 15). Upon reviewing the correlation between PE and RRE for the three sets of firms, market returns on low PE firm have been found to be higher than the market returns on high PE firms; this finding is consistent with a priori reasoning, because a dollar change in stock

Table 4: Sensitivity Data: Firms Segmented by Capital Market Assessment											
Panel A: Market Stressed – (APH ≤ 5 Years)											
	PE 1990	RRC 1983-1989	RRE 1983-1989	APH 1990	FR 1983-1989	BR 1983-1989	CV RRC 1983-1989	CV EPS 1983-1989	Share Price 1990	Book Value 1989	Net Income 1983-89
NYS E&G	10	8.600	13.000	4.6	2.390	0.010	0.080	0.150	26.000	21.290	188
Con Edison	10	9.100	12.400	4.5	4.280	0.003	0.050	0.070	23.620	19.210	580
Allegheny Pwr Sys	10	8.600	12.900	4.2	5.590	0.002	0.030	0.050	36.870	11.900	214
CSX Corp.	9	7.400	9.300	0.0	0.400	0.040	0.290	0.140	31.750	33.240	401
Airborne Freight	9	8.200	10.400	0.0	0.350	0.130	0.350	0.370	17.000	10.650	10
Rollins Truck	8	6.500	9.800	0.0	0.980	0.050	0.130	0.390	7.750	6.470	11
Eastman Kodak	10	9.100	11.400	0.0	0.310	0.210	0.400	0.530	41.620	20.480	755
Overseas Ship	10	5.500	6.400	0.0	0.860	0.040	0.130	0.340	16.250	20.090	41
Delta Airlines	10	9.800	12.200	0.0	0.240	0.380	0.480	0.790	55.750	53.180	204
R	**0.458**	**0.370**	**0.663**	–	**0.885**	**–0.538**	**–0.726**	**–0.690**	0.006	–0.224	0.176
R²	0.210	0.137	0.439	–	0.784	0.289	0.526	0.476	3E-05	0.050	0.031
Panel B: Market Neutral – (5 Years < APH < 15 Years)											
Norfolk Southern	12	9.500	10.400	14.7	1.670	0.021	0.120	0.180	41.750	30.44	504
Abbott Labs	20	25.500	28.100	12.5	3.310	0.050	0.150	0.330	45.000	6.16	571
McDonalds Corp.	11	12.600	19.400	10.8	4.690	0.016	0.060	0.280	29.120	9.25	509
Duke Power	13	9.300	12.600	10.8	7.620	0.003	0.030	0.110	30.620	18.05	481
"EG&G, Inc."	12	22.300	23.400	9.3	2.060	0.030	0.200	0.150	31.000	12.04	56
Boston Edison	12	7.800	11.100	7.0	1.510	0.017	0.110	0.150	20.000	16.73	88
PS ENT. GP	10	8.900	12.800	6.2	2.960	0.004	0.070	0.070	26.380	19.85	533
Orange & Rklnd	10	8.800	12.100	5.7	7.800	0.004	0.030	0.150	31.370	24.17	40
R	**0.528**	**0.356**	0.293	–	–0.229	**0.529**	0.325	**0.546**	**0.757**	–0.036	**0.588**
R²	0.278	0.127	0.086	–	0.052	0.280	0.106	0.298	0.573	0.001	0.346
Panel C: Market Favored – (APH ≥ 15 Years)											
Southwest Air	16	8.100	10.300	80.5	0.51	0.088	0.270	0.320	17.500	13.400	48
Brush Wellman	13	11.400	12.400	30.6	0.69	0.075	0.280	0.270	14.000	13.100	27
Medtronic Inc.	37	18.400	18.600	25.1	3.14	0.038	0.120	0.320	86.250	9.980	76
Bausch & Lomb	32	13.500	16.000	24.0	3.55	0.041	0.080	0.260	71.000	11.960	77
Johnson & Johnson	19	18.100	20.500	23.1	1.77	0.077	0.190	0.390	71.750	12.450	699
Instron	13	10.900	11.900	21.7	0.79	0.064	0.240	0.260	8.250	5.800	3
National Presto	10	10.400	10.500	19.1	1.44	0.036	0.140	0.250	40.750	27.660	18
Teleflex	19	13.000	16.300	15.5	4.33	0.022	0.060	0.330	32.870	9.870	17
R	–0.123	**–0.501**	**–0.436**	–	**–0.501**	**0.660**	**0.569**	0.135	**–0.325**	–0.011	–0.106
R²	0.015	0.251	0.190	–	0.251	0.436	0.324	0.018	0.105	0.001	0.011

prices on low PE stocks would produce more dramatic impact on the market returns of the low PE stocks, than would a similar dollar change on high PE stocks. Further support is provided in Table 4, where the accounting earnings (RRE) of the firms with low PE ratios are better aligned with the PE ratios, than are those of the firms with high PE ratios. The following findings are significant.

For the market stressed firms in Table 4, the correlations between APH and RRE and FR are positive and significant; whereas, the correlations between APH and BR, CVRRC, and CVEPS are negative and significant. For the market neutral firms, the correlation between APH and FR is negative; whereas, the correlations between APH and BR, and CVEPS are positive and significant. For the market-favored firms, the correlations between APH and RRC, RRE, and FR are negative and significant; whereas, the correlations between APH and BR, and CVRRC are positive and significant.

Thirdly, an examination of the relationship, between APH and net income shown in Table 5, reveals that APH is sensitive to size of income. This finding is consistent with Assumption 8. Shifts will occur over time for firms, from a normal value to a stressed or an abnormal position.

Table 5: Firms Segmented into High and Low Net Income										
Panel A: Firms with Low Net Income (NI $\leq$ $100 mn)										
	PE 1990	RRC RRE 1983-1989	APHc 1990	FR BR 1983-1989		CV CV RRC EPS 1983-1989		Share Price 1990	Book Value 1989	Net Income 1983-89
Boston Edison	12	7.8 11.1	7.0	1.51	0.020	0.11	0.15	20.00	16.73	88
Bausch & Lomb	32	13.5 16.0	24.0	3.55	0.040	0.08	0.26	71.00	11.96	77
Medtronic Inc.	37	18.4 18.6	25.1	3.14	0.040	0.12	0.32	86.25	9.98	76
"EG&G, Inc."	12	22.3 23.4	9.3	2.06	0.030	0.20	0.15	31.00	12.04	56
Southwest Air	16	8.1 10.3	80.5	0.51	0.090	0.27	0.32	17.50	13.40	48
Overseas Ship	10	5.5 6.4	0.0	0.86	0.040	0.13	0.34	16.25	20.09	41
Orange & Rklnd	10	8.8 12.1	5.7	7.80	0.004	0.03	0.15	31.37	24.17	40
Brush Wellman	13	11.4 12.4	30.6	0.69	0.070	0.28	0.27	14.00	13.10	27
National Presto	10	10.4 10.5	19.1	1.44	0.040	0.14	0.25	40.75	27.66	18
Teleflex	19	13.0 16.3	15.5	4.33	0.020	0.06	0.33	32.87	9.87	17
Rollins Truck	8	6.5 9.8	0.0	0.98	0.050	0.13	0.39	7.75	6.47	11
Airborne Freight	9	8.2 10.4	0.0	0.35	0.130	0.35	0.37	17.00	10.65	10
Instron	13	10.9 11.9	21.7	0.79	0.060	0.24	0.26	8.25	5.87	3
R (Net Income to APH)										0.1503
R²										0.0226
Panel B: Firms with High Net Income (NI > $100 mn)										
Eastman Kodak	10	9.1 11.4	0.0	0.31	0.210	0.40	0.53	41.62	20.48	755
Johnson & Johnson	19	18.1 20.5	23.1	1.77	0.080	0.19	0.39	71.75	12.45	699

(Contd...)

	PE 1990	RRC 1983-1989	RRE	APHc 1990	FR 1983-1989	BR	CV RRC 1983-1989	CV EPS	Share Price 1990	Book Value 1989	Net Income 1983-89
Table 5: Firms Segmented into High and Low Net Income (Contd...)											
Con Edison	10	9.1	12.4	4.5	4.28	0.003	0.05	0.07	23.62	19.21	580
Abbott Labs	20	25.5	28.1	12.5	3.31	0.050	0.15	0.33	45.00	6.16	571
PS ENT. GP	10	8.9	12.8	6.2	2.96	0.004	0.07	0.07	26.38	19.85	533
McDonalds Corp.	11	12.6	19.4	10.8	4.69	0.020	0.06	0.28	29.12	9.25	509
Norfolk Southern	12	9.5	10.4	14.7	1.67	0.020	0.12	0.18	41.75	30.44	504
Duke Power	13	9.3	12.6	10.8	7.62	0.003	0.03	0.11	30.62	18.05	481
CSX Corp.	9	7.4	9.3	0.0	0.40	0.040	0.29	0.14	31.75	33.24	401
Allegheny Pwr Sys	10	8.6	12.9	4.2	5.59	0.002	0.03	0.05	36.87	11.90	214
Delta Airlines	10	9.8	12.2	0.0	0.24	0.380	0.48	0.79	55.75	53.18	204
NYS E&G	10	8.6	13.0	4.6	2.39	0.010	0.08	0.15	26.00	21.29	188
R (Net Income to APH)											0.4240
R²											0.1800

In Table 6, it is revealed that the value of the APH can be affected by the DPR. This finding is consistent with Lamont (1998)—a very low dividend yield may be associated with a negative risk premium. The chi-square value is 0.45, which is significant at the 0.03% level. This finding does suggest that the investors' planning horizon (APH) is not independent of the dividend payout ratio (DPR).

Investment Horizon APH (n)	Average Dividend Payout Ratio (DPR)			Total Observations
	DPR < 30%	30% < DPR < 50%	50% < DPR	
Table 6: Dependence Test of APH with Average Dividend Payout Ratio (DPR)				
APH $\geq$ 15 Yrs.	4 (2.24)	3 (2.88)	1 (2.88)	8 (32%)
5 < APH < 15Yrs.	2 (2.24)	2 (2.88)	4 (2.88)	8 (32%)
APH $\leq$ 5	1 (2.52)	4 (3.24)	4 (3.24)	9 (36%)
Total	7	9	9	25 (100%)
$\tilde{F}$ = **0.45**				

Based upon the findings noted above, and given an "ownership clientele" theory, the financial planner can attract equity investors, who are compatible with the firm's financial plan, and thus possibly maximize the firm's position. With adherence to a strategy based upon a 'dividend clientele', the planner would focus on paying dividends, rather than repurchase shares to attract that type of clientele. However, it must be noted that: "Repurchases (of stock) do not appear to be replacing dividends; rather they seem to serve the complementary role of paying out short-term cash flows. ...Cash flows of repurchasing firms continue to be lower than those of the dividend increasing firms" (Jagannathan *et al.*, 2000, p. 382).

Conclusion

Given the framework established in this study, some encoded messages contained in the security prices can be deciphered. The main findings in this study are: (1) Investors' average planning horizon (APH) can be useful in a relative sense and not in an absolute sense. The location of APH among the range of APHs, seemingly is more relevant than the absolute value, particularly so, in the case of the market-stressed firms. While a very low dividend yield may be associated with a negative risk premium, higher dividend payout ratios are associated with the market-stressed firms, and lower dividend payout ratios are associated with the market-neutral firms. (2) One component of business risk (CVRRC), which is interrelated with financial risk, is subject to control. Hence, APH shows a high degree of sensitivity to certain business risk variables.

The findings in this study do suggest that the financial planner may be able to assess better the firm's situation and develop or modify strategy to deal with the firm's situation, as it is being experienced. Apparently, a more comprehensive approach to financial planning may be accommodated using the information generated with APH. Accordingly, the firm fundamentals as discerned from the model in the study, could be a guide to the corporate financial planner when developing or modifying the firm's risk management program and hedging strategy–linear, convex, concave, or collar. Y

References

1. Adler Michael (1970), "On Risk-Adjusted Capitalization Rates and Valuation by Individuals", Journal of Finance Vol. 25, No. 4, pp. 819-835.

2. Bajkowski John (1991), "Price-Earnings Ratio and Fundamental Stock Valuation", AAII Journal, July, pp. 20-22.

3. Barrese J and Scordis N (2003), "Corporate Risk Management", Review of Business Vol. 24, No. 3 (Fall), pp. 26-29.

4. Basak Suleyman and Shapiro Alexander (2001), "Value-at-Risk-Based Risk Management: Optimal Policies and Asset Prices", Review of Financial Studies Vol. 14, No. 2, pp. 371-405.

5. Cochrane John H (1999), "New Facts in Finance", Economic Perspectives Federal Reserve Bank of Chicago Vol. XXIII, No. 3, pp. 36-58.

6. Hall Robert E (2001), "Struggling to Understand the Stock Market", Papers and Proceeding, American Economic Review (May).

7. Harford Jarrad (1999), "Corporate Cash Reserves and Acquisitions", Journal of Finance Vol. 54, No. 6, pp. 1969-1997.

8. Jagannathan Murali, Stevens Clifford P and Weisbach Michael S (2000), "Financial Flexibility and the Choice between Dividends and Stock Repurchase", Journal of Financial Economics, Vol. 57, No. 3, pp. 355-384.

9. Lamont Owen (1998), "Earnings and Expected Returns", *Journal of Finance*, Vol. 53, No. 5, pp. 1563-1587.

10. Minton B A and Schrand C (1999), "The Impact of Cash Flow Volatility on Discretionary Investment and the Costs of Debt and Equity Financing", *Journal of Financial Economics*, Vol. 54, pp. 423-460.

11. Opler T, Pinkowitz L, Stulz R and Williamson R (1999), "The Determinants and Implications of Corporate Cash Holdings", *Journal of Financial Economics*, Vol. 52, pp. 3-46.

12. Reinganum Marc R (1981), "Misspecification of Capital Asset Pricing: Empirical Anomalies based on Earnings' Yields and Market Values", *Journal of Financial Economics*, Vol. 9, pp. 19-46.

13. Salvary S C W (1982), "Financial Accounting and Finance Valuation: A Market Expectations Information Approach", Paper presented-Eastern Finance Association 18th Annual Meeting.

14. Schneller Meir I (1975), "Mean, Variance Portfolio Composition When Investors' Revision Horizon is Very Long", *Journal of Finance*, Vol. 30, No. 5, pp. 1293-1300.

15. Turnovsky Stephen J (1970), "Financial Structure and the Theory of Production", *Journal of Finance*, Vol. 25, No. 5, pp. 1061-1080.

16. Vickers Douglas (1978), "Realism and Relevance in the Cost of Money Capital", Oxford Economic Papers. Vol. 39, No. 1, pp. 102-116.