BEYOND EARNINGS

APPLYING THE HOLT CFROI AND ECONOMIC PROFIT FRAMEWORK

DAVID A. HOLLAND
BRYANT A. MATTHEWS

WILEY

"This is a must-read for any serious student of equity market valuations. Holland and Matthews systematically debunk the widely held view that EPS and other flawed accounting metrics are what drive stock markets. Cash flow is king and this book provides a step-by-step guide to calculating a vastly superior measure of corporate performance, the Cash Flow Return on Investment metric."

John Birkhold, Partner, Origin Asset Management

"This fascinating book is a must-read for all serious investors and business leaders who want to understand how companies really create value for shareholders."

Nigel Bolton, Chief Investment Officer Fundamental Active Equity, BlackRock

"HOLT CFROI is a useful framework through which we can compare a stock's market valuation versus what the economic enterprise's cash flow prospects are ultimately likely to support, and this book does a great job explaining it in a plain-English fashion."

Gunnar Miller, Global Director of Research, Allianz Global Investors

"The HOLT CFROI framework focuses on what really matters in company valuation. A must-read for every serious fundamental investor!"

Michael Schmidt, Deka Investment, Managing Director Asset Servicing and Alternative Investments, Member of Board

"This is by far the best book I have read on corporate valuation. Every board member should read this book."

Aled Smith, Director of Global Equities, M&G Investments

"This book makes a significant contribution to performance evaluation and valuation methodology. The authors explain the use of the HOLT framework and CFROI to measure corporate performance and value creation."

Emeritus Professor Carlos Correia, University of Cape Town

"This book is indispensable to anyone wanting to use HOLT for valuation; for those not familiar with HOLT, however, the book may more appropriately be seen as a form of reference book, to warn the reader about potential problems in valuation and to suggest possible solutions."

Professor Dr. Michel Habib, University of Zurich

"I would argue that every Director of any public company should spend about a week going through this material very carefully. If they cannot pass an examination on this text they are not fit to be custodians of shareholder capital."

Emeritus Professor Brian Kantor, University of Cape Town; Chief Economist & Investment Strategist, Investec Wealth & Investment

"Beyond Earnings *introduces the concepts of Cash Flow Return on Investment (CFROI) and Economic Profit. Holland and Matthews bring these abstract concepts to life, as they apply them to real world examples of publicly-listed companies. They show that, as well as helping to judge the effectiveness of corporate management teams, CFROI and Economic Profit can be invaluable in helping to identify mispriced securities. I have no hesitation in recommending this book to anyone interested in investment or corporate finance."*

Tom Mann, Senior Portfolio Manager, Schroder Investment Management

"Using a time-tested, total systems, CFROI approach to valuation, Holland and Matthews offer theoretical and implementation insights about valuation that are missing from mainstream finance. The HOLT valuation technology is now an integral part of the investment process at a large number of worldwide money management organizations."

Bartley J. Madden, Author, *Value Creation Thinking*

"A must-read for anyone with a mindset of improving their long term investing skills."

Jacob Gemmel, Senior Portfolio Manager, Swedbank Robur Asset Management

"In our age of alternative truths in politics as well as finance, HOLT has proven to be one of very few truthful voices in analyzing corporate performance."

Henrik Andersson, Fund Manager, Didner & Gerge

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This book is dedicated to the memory of Bob Hendricks who passed away on May 28, 2017. The global success of the HOLT CFROI framework never would have been realized without Bob's vision, persistence, and uncanny marketing skills. Bob brought the CFROI framework to life for countless fund managers, corporate clients and HOLT employees. He distilled the art of stock selection to its essence in his famous 2-minute drills. He reminded us that investing was fun but required many hours of attention.

Bob was an amazing presenter – one of the best we've seen. To be on the same presentation bill with him was daunting. We recall having to precede him at a seminar in Germany after he had retired. Bob was the keynote speaker. After a full day of lectures on the mechanics of financial performance analysis and equity valuation, when listeners were surely mentally exhausted, he held the audience of fund managers spellbound. Bob de-mystified stock analysis, breezed through 2-minute drills, and told tales from his forty years in the financial industry. At the end of his speech, the audience jumped out of their seats and enthusiastically applauded. The Director of Research at a distinguished fund manager told us that he leapt up wondering why Bob Hendricks hadn't been awarded a Nobel prize only to realize after calm reflection that the presentation simply described the skilled application of a discounted cash flow model. Bob brought the subject of investing to life!

CONTENTS

INTRODUCTION

THE PRICING PUZZLE: FOUNDATIONAL HOLT CONCEPT AND A KEY TO BETTER VALUATION

On May 13, 2017, the *Financial Times* reported that "investors wiped $4.6bn from the market value of the U.S. department store sector in the space of two days, as concern mounted about sliding sales and the effects of online competition." U.S. department stores suffered an astonishing fall in market value of over 16% in two days.[1] Who is responsible for this vaporization of shareholder value? All fingers were pointed at Amazon, the biggest online retailer, which accounts for 5% of retail spending in the United States, and is presently the world's fifth most valuable company.[2]

In 1994, Amazon was just a fledgling start-up. The Internet was beginning to take off as a vehicle for commerce, and growth rates were forecast to be into the *hundreds* of percent. Seeing an opportunity, Jeff Bezos launched Amazon as an online retail bookstore from his garage. Over the last decade, Amazon has grown its revenue to almost 13 times from where it started for a compound annual growth of 29%.[3] To say it is disrupting traditional retailers and ways of doing business is an understatement.

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[1] Adam Samson, Mamta Badkar, and Nicole Bullock, "US Retail Sector's Misery—In Charts," *Financial Times*, May 13, 2017.

[2] Reported in "Primed," *The Economist*, March 25, 2017, pp. 24–26.

[3] Even as late as 2014 when we began writing this book, we would have been skeptical of Amazon increasing its sales from $74bn in 2013 to $136bn in 2016. According to our study of sales growth in Chapter 10, Amazon only had a 13% probability of growing sales at this rate or higher over three years.

Amazon's share price has increased 63,990% since its IPO on May 15, 1997, versus 300% in total return for the S&P 500 over the same period.[4] Amazon surpassed the mighty Wal-Mart in 2015 as the most valuable retailer in America. Despite this stellar performance, Amazon regularly posts poor earnings numbers and a subpar return on equity (ROE) yet consistently trades at a price-to-book (P/B) ratio in the neighborhood of 20. Is there something missing in the accounting figures?

Jeff Bezos, CEO and founder of Amazon, gives us a clue in his 1997 Letter to Shareholders: "When forced to choose between optimizing the appearance of our GAAP accounting and maximizing the present value of future cash flows, we'll take the cash flows." Treating Amazon's research and development (R&D) cost as a long-term investment instead of an accounting expense provides a completely different perspective on the company's economic profitability and value. The capitalization of R&D is explored in the Asset Life section of Chapter 3. Accounting data does not convey a clear picture of a firm's economic performance, and is becoming less relevant as intangible assets become more important than physical assets in generating economic value.[5] A framework that focuses on economic returns and ties them to intrinsic value is crucial for equity investors and corporate managers when pricing assets and strategies. We show how cash flow return on investment (CFROI) improves upon accounting measures of profitability in Chapter 3, using Amazon's 2013 annual report. We explore discounted cash flow (DCF) and discounted economic profit (EP) valuation methods in Chapters 4 and 6. The tools and techniques are the same for fund and corporate managers, and we welcome both groups to apply this book's lessons in valuing companies and assessing their profitability.

A thread that runs throughout the book from its opening is the importance of capital allocation and investing in positive net present value (NPV) strategies. We demonstrate the connection between project economics and corporate valuation. Company managers who focus on making positive

[4]Nicole Bullock, and Mamta Badkar, "Amazon's 20 Years as 'Pre-Eminent Disrupter of Retail,'" *Financial Times*, May 16, 2017.

[5]For more on the increasing irrelevance of accounting numbers, see Baruch Lev and Feng Gu, *The End of Accounting and the Path Forward for Investors and Managers*, John Wiley & Sons, 2016.

NPV investments will increase the economic profit and intrinsic value of their firms. Beware when acquisitions and investments are made for "strategic" reasons. This excuse often means that financial reasons are lacking. Capital allocation, NPV, EP, and intrinsic value are intimately linked.

Successful equity investing requires an ability to gauge the expectations of others (what's priced into the stock) and to skillfully weigh this expectation against the likelihood of success. Accurately predicting a company's future profitability doesn't necessarily lead to outperformance. Instead, large gains accrue to investors who identify stocks that will beat expectations. It doesn't matter if the expectations are for failure or enormous success: If a company can better those expectations, shareholders will reward the company by pushing its share price higher.

The professional employer services firm Automatic Data Processing (ADP) makes this point clear. Since 1991, ADP has earned impressive operating margins that rank it in the top twentieth percentile of profitability in the world. ADP ranks as one of the 50 most profitable firms over the past 25 years.

Despite ADP's impressive track record of performance, price expectations as of April 2004 showed investors were anticipating even greater success. And investors got it right! Over the next 10 years, ADP outpunched rivals and steadily earned increasing profits. What an impressive achievement: Investors anticipated this success and embedded it into the stock price as early as 2004. But here's the key point: ADP's shareholder returns over this ten-year period were lackluster, and investors earned no more than benchmark performance despite ADP's stunning record of profitability. How could this happen? It's simple, really: If you bought ADP in April of 2004, you paid for stellar future operating performance. ADP met this expectation; it did *not* exceed it. Instead of reaping huge gains as profits rose, shareholders earned exactly what they paid for in the form of benchmark returns. Upon reflection, this should be viewed as an entirely reasonable outcome: If stocks are priced efficiently, then companies that meet expectations should return only their cost of equity.

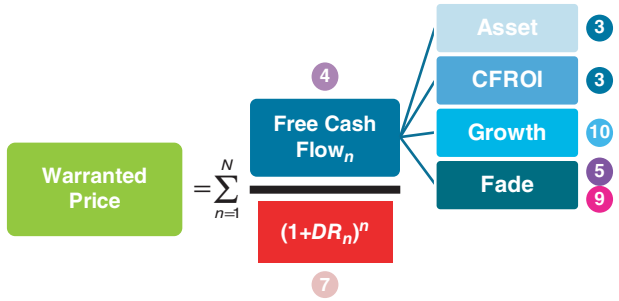
Starbucks, the purveyor of fine coffee, had similarly high expectations in January 2009. Its cash flow return on investment (CFROI) was expected to rise from 8.5% to 9.3% over the ensuing five years. This seemingly small upward improvement was empirically a 20% probability event, meaning that 80% of firms with similar profitability throughout history were unable to lift CFROI above 9.3%. This placed the odds of success at 1-in-4 (0.2/0.8). But, instead of just meeting expectations, Starbucks brewed profits well above this level, pushing CFROI over the brim toward 12%. This success was unanticipated, and Starbucks share price leapt ahead of its benchmark, nearly quadrupling it by 2013. Finding stocks that can beat expectations is the key to earning large returns. We explore how to evaluate market expectations in Chapter 11.

The ultimate aim of equity analysts and portfolio managers is to select future winners and avoid tomorrow's losers. This requires a considerable measure of predictive skill (or luck). Like a garden, forecasting skill can be cultivated to yield greater output. We provide empirical results for the behavior of corporate growth and profitability in Chapters 8, 9, and 10, and show how you can improve your forecasts of growth and profitability. Growth and profitability both exhibit reversion to the mean, which we describe and model as "fade."

A key to superior stock picking is utilizing a framework that facilitates consistent and rigorous evaluation of an investment's positive and negative merits. The HOLT framework is designed to help investors do a better job at grading stock ideas. At the heart of this objective is an effort to de-bias the investor by exposing a stock's embedded price expectations. HOLT's framework is a proven and reliable system that has been rigorously field tested by investment professionals for over 40 years.

This book relies on the Pricing Puzzle as a useful aid for thinking critically about the intrinsic value of a firm (Exhibit I.1). The Pricing Puzzle contains all of the key elements that influence a stock's price, including fundamental and behavioral drivers. Familiarity with this tool can help you quickly and effectively think through how changes in fundamental drivers are likely to influence the value of a company.

EXHIBIT I.1 The Pricing Puzzle and chapter that corresponds to each driver.



HOLT's valuation model is predicated on a life-cycle perspective of corporate evolution. From start-up to mature veteran or restructuring candidate, empirical evidence shows that companies share similar traits at each state of development and that these traits can be helpful in predicting future profitability and growth. Few firms can sustain high profitability for decades. Most companies become cost-of-capital operations within five to ten years.

HOLT's valuation model embeds competitive fade (reversion to the mean) into forecasts of future profitability and growth. Beginning with a firm's asset base, stated in current dollars, the principle drivers of corporate value are the firm's economic rate of return (CFROI), asset growth rate, and its likely fade rate in profitability. These three drivers are used to estimate a firm's free cash flows. Over time, profitability converges toward the cost of capital and growth converges toward a long-term sustainable level.

The Pricing Puzzle can be elegantly stated as a simple but powerful formula that estimates a mature firm's value. We call this the Fundamental Pricing Model:

$$P = B\frac{(ROC_1 - g + f)}{(r - g + f)}$$

where B is book value, ROC is the forward return on capital, g is the asset growth rate, and f is the rate at which profitability fades to the cost of

EXHIBIT I.2 Perspectives for application of the Fundamental Pricing Model.

Perspective:	Equity Holders	Capital Providers (Conventional)	Capital Providers (HOLT)
P:	Equity value	Enterprise value	Enterprise value
B:	Book equity value	Invested capital	Inflation-adjusted gross investment (IAGI)
ROC:	ROE	ROIC	CFROI
g:	Growth in book equity	Growth in invested capital	Real growth in IAGI
r:	Cost of equity, r_e	Weighted-average cost of capital (WACC)	Real cost of capital, HOLT DR
f:	ROE fades to r_e	ROIC fades to WACC	CFROI fades to HOLT DR

capital *r*.[6] Exhibit I.2 shows the corresponding variables for different perspectives.[7] Consistency is paramount!

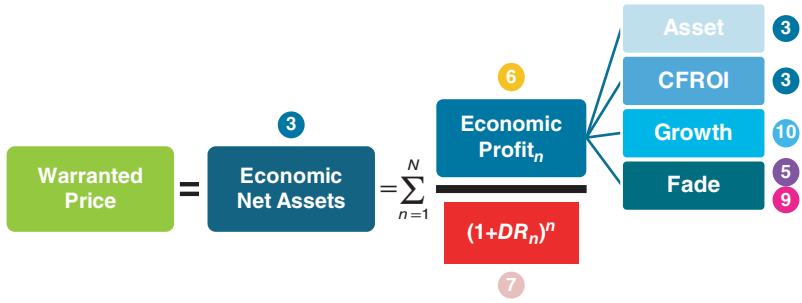
This equation introduces a vital component missing from traditional valuation models, such as the Gordon Growth Model: *fade (f)* is the rate at which profitability reverts toward the mean. The slower the fade, the longer the competitive advantage period (CAP) of a firm with attractive profitability and the greater its intrinsic value. Shifting *B* to the left-hand side of the equation restates the formula as price-to-book, P/B, which can be calculated on the back of an envelope for stable, mature firms.

Note that when the return on capital equals the cost of capital, growth and fade create no value since no excess rents are earned and P/B equals 1. When CFROI is greater than the cost of capital, P/B is greater than 1. When fade is high, profitability changes quickly. Fade *drives down* or reduces the intrinsic value of a profitable firm, but *drives up* or enhances the value of an unprofitable one. The strong statistical relationship between

[6]The HOLT framework uses the inflation-adjusted gross assets as the asset base to minimize accounting and inflationary distortions. To obtain the intrinsic enterprise value, the inflation-adjusted accumulated depreciation must be subtracted from the calculated price, which represents a gross value in the HOLT formulation. These nuances and their benefits are explored in the book.

[7]The earnings form of the model is: $P = E_1 \frac{\left(1-\left[\frac{g-f}{ROC_1}\right]\right)}{(r-g+f)}$, where the forward earnings E_1 is net income, NOPAT, or gross cash flow for the equity, invested capital and HOLT perspectives respectively. For the full derivation, see our report "Don't Suffer from a Terminal Flaw, Add Fade to your DCF" issued by Credit Suisse HOLT in June 2016.

EXHIBIT I.3 **The Pricing Puzzle using Economic Profit and the chapter that corresponds to each driver.**



HOLT P/B and CFROI supports the utility of this pricing equation.[8] The Fundamental Pricing Model is worth remembering; every student and practitioner of finance should commit it to memory. We explore the use of this equation in Chapter 5 to quickly and effectively estimate a firm's value, understand its competitive advantage period, and gauge expectations embedded in a stock's price.

We praise the virtue of cash flow over earnings throughout the book, which begs the question: Is negative free cash flow a bad thing in the short to medium term if a company has a host of positive NPV strategies to invest in? The answer is a resounding "No!" Capital providers will excitedly queue to invest in positive NPV projects, each of which increases the company's intrinsic value by the expected value of its NPV. For this reason, it is generally easier for company managers to think in terms of economic profit, where a capital charge is subtracted from operating profit. Firms investing in positive NPV projects will create positive economic profit regardless of whether the short to medium term free cash flow is negative. We cover this topic in detail in Chapter 6. The Prizing Puzzle can also be written in terms of economic profit (Exhibit I.3).

[8] R^2 values are typically above 0.7, making CFROI a significant variable in explaining a stock's market enterprise value. We use HOLT P/B and economic P/E, which is HOLT P/B divided by CFROI, as screening variables and stock-picking factors. Economic PE provides an excellent signal of relative attractiveness.

OVERVIEW OF BOOK CHAPTERS

This book is divided into three sections and 11 chapters, with each focusing on a particular aspect of the Pricing Puzzle.

Section I: Financial Performance Assessment

In Chapter 1, we emphasize a core principle for corporate managers and investors: Always pursue positive NPV strategies. The NPV Rule states that any project that delivers returns in excess of its opportunity cost has merit. Managers should continually strive to create value by maximizing NPV. They can accomplish this by focusing their talents and efforts on building a sustainable competitive advantage for their firm. To be clear, short-term pursuit of profits should not dominate long-term value creation. Any tension that might arise between short-term and long-term objectives is resolvable when managers align their core responsibilities with the purpose of the firm. This logical and useful connection between the two is summarized by Bart Madden: "Maximizing shareholder value is best positioned not as the purpose of the firm, but as the result of achieving the firm's purpose."[9] Peter Drucker said, "The purpose of business is to create and keep a customer." He concluded that a firm retains customers, creates its competitive advantage and generates excess profits through innovation and marketing.

Chapter 2 reviews popular profitability metrics and discusses how these measures can be gamed by managers and how investors can sidestep some of these weaknesses. We show the relationship between P/E and a DCF valuation. We introduce the principles of value creation.

In Chapter 3, we describe how CFROI, HOLT's measure of a firm's economic return on investment, is determined from accounting information. We use Amazon as a case study and show how CFROI can be calculated from standard financial reporting statements and the notes from annual filings. We explain the adjustments and their economic reasons.

[9]Bartley J. Madden, *Value Creation Thinking*, LearningWhatWorks, Naperville, IL, 2016.

Section II: Discounted Cash Flow and Economic Profit Valuation

Chapter 4 shows how to value a firm. The present value of free cash flows, not earnings, is the ultimate measure of a firm's intrinsic worth. Companies that earn returns on investment in excess of their opportunity cost will trade at a premium to book because they are generating economic value from their assets that exceeds the cost of their use. Companies that earn returns on investment below their opportunity cost waste investor capital and destroy shareholder value.

Chapter 5 explains the connection between a firm's competitive advantage period (CAP) and its fade in profitability. We show how the fade rate can be easily incorporated into a DCF model. The impact of changes in CAP on intrinsic value can be assessed. The fade rate is a critical value driver when valuing successful companies whose return on capital exceeds their cost of capital.

Chapter 6 describes HOLT's measure of economic profit. Economic profit is the earnings that a firm generates in excess of its opportunity cost. Firms that earn positive economic profits generate significant economic value for investors. Valuations from the free cash flow and economic profit methods are equal for a given forecast. We demonstrate the equivalence. The goal for a company is not to increase earnings but rather to increase economic profit. Management bonuses should be tied to increases in economic profit.

In Chapter 7, we focus on investors' required rate of return. This chapter examines popular measures of the cost of capital. We demonstrate how HOLT's market-implied approach is related to these measures. This is a must-read chapter for HOLT veterans and newcomers who desire a better understanding of risk.

Section III: Value Driver Forecasting

In Chapter 8, we examine the importance of the competitive life-cycle as a framework for thinking about a firm's likely future evolution. Instead of

classifying firms as *value* or *growth*, we split them into four groups based on profitability and expected economic growth: Question Marks, Stars, Cash Cows, and Dogs. We share our research on the probabilities of transitioning from one group to another.

Chapter 9 introduces the concept of fade, or what academics call persistence. This is a ground-breaking chapter that explores the notion of reversion to the mean in corporate profitability. We offer detailed evidence of mean-reversion in corporate profitability and show how investors can distinguish between random profitability, sustained profitability, and reversion to the mean. This is an essential chapter for directors of research, portfolio managers, and analysts who wish to improve the plausibility of their forecasts.

In Chapter 10 we investigate the persistence of revenue, earnings, and asset growth. We find overwhelming evidence that growth rates are volatile and quickly revert to the mean. Earnings growth is like white noise and reveals little of predictive value. Forecasts of sustained earnings growth are typically worthless. Few firms maintain high growth rates for long periods.

Finally, in Chapter 11 we wrap it up by focusing on how investors can effectively gauge the expectations embedded in a firm's stock price. HOLT provides several valuable tools to aid in this effort. This is an essential chapter for investors who seek to hone their skills at picking winning stocks using HOLT Lens.

WHO ARE WE AND WHAT DO WE HOPE TO ACHIEVE

We are valuation practitioners. We have worked with corporate and fund managers to value decisions, divisions, stocks, and strategies. Both sides can use the same metrics and valuation approaches to perform fundamental company analysis. Because we work closely with fund managers and equity analysts, we have focused much of our Credit Suisse HOLT research on refining fundamental valuations by improving forecasts of value drivers. Better probabilistic forecasts result in more accurate valuations.

Our purpose in writing this book is to improve: