



HOLT Lens™

An Overview of HOLT® Lens
and the HOLT Methodology

Clarity is Confidence

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This handbook is designed to provide licensed users of HOLT Lens™ with an overview of the HOLT methodology as well as practical guidelines for its use. This handbook is intended to reinforce the advisory and education services provided by HOLT. For additional information about Credit Suisse HOLT's products and services, please contact the office in your region.

United States

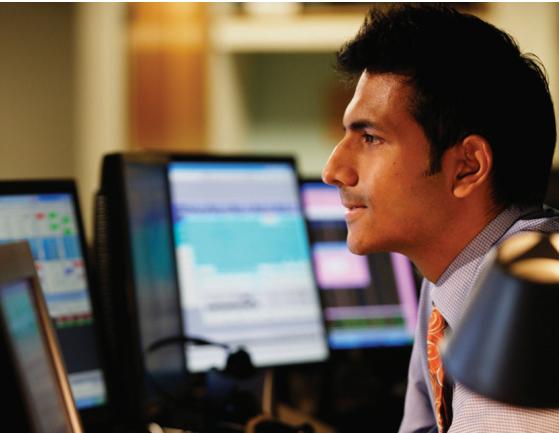
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An Overview of HOLT Lens™ and the HOLT Methodology

Interactive and Customizable

The interactive, customizable HOLT Lens™ platform lets you leverage your own knowledge of the market to gain the sharpest insights into countries, sectors and entire asset classes. Our full suite of tools includes the following:

- Fundamental Analysis: Modeling that allows you to quickly quantify a company's embedded market expectations and assess upside potential as well as downside risks.
- Idea Generation: Hundreds of traditional and proprietary financial metrics you can employ to screen and rank companies according to specific investment criteria.
- Portfolio Allocation and Benchmarking: Tools which facilitate the aggregation of markets, indices, sectors and industries, letting you confidently compare asset classes, regions/countries and investment styles, in order to balance risks within your portfolio.

Clients also have access to Credit Suisse's experts in Equities, Fixed Income and Investment Banking who offer insights into companies, industries and markets around the globe.

HOLT gives you the best perspective for making more confident investment decisions. Its flexible platform, which has been evolving for over 25 years, provides an objective view of over 20,000 companies around the world, with customizable inputs that allow you to test your assumptions against virtually any scenario. Our rigorous, proprietary methodology examines accounting information, converts it to cash and then values that cash. This allows you to survey the entire corporate capital structure and identify key drivers of value that others miss.

How HOLT Improves Investing

The HOLT methodology goes beyond traditional accounting information to emphasize a company's cash generating ability and overall potential for value creation. We offer not only a thorough analysis of a company's performance in the past; we also provide an objective view of the company's valuation in the future.

The cash flow-based return metric at the heart of HOLT, CFROI®, measures an industrial firm's return on investment, or CFROI level, and charts it clearly against the firm's cost of capital. The resulting spread is positive, negative or neutral.

- Returns that exceed their cost of capital create value.
- Returns below the cost of capital destroy value.
- Returns equal to the cost of capital have no impact on shareholder value.

In contrast to the CFROI metric for industrial companies, the CFROE metric is used for financial services firms. Such firms present a unique challenge and are viewed separately from all other sectors. A lender's decision to employ financial leverage is critical to the wealth creation process and, therefore, cannot be removed from the calculation of economic performance. This extra layer of detail is discussed beginning on page 16.

What Makes HOLT Different?



"Where is this firm in its lifecycle and where is it heading?" is a critical question posed by HOLT. As you use HOLT to learn how to pinpoint a company's prospects for value creation, you'll sharpen your awareness of the factors that affect performance at all phases of the cycle.

HOLT's premise is that corporate financial statements can be misleading. Traditional accounting ratios may be unreliable and distort the true profitability of the firm as a result of subjective interpretation of accounting methods such as depreciation and off-balance sheet items. The proprietary HOLT methodology corrects subjectivity by converting income statement and balance sheet information into an economic return called CFROI®, which more closely approximates a company's underlying economics. The resulting returns are objectively-based and can be viewed to assess the firm's historical ability to create or destroy wealth over time.

The proprietary HOLT methodology corrects subjectivity by converting income statement and balance sheet information into a CFROI® return (CFROE for financial service firms), which more closely approximates a company's underlying economics. The resulting returns are objectively-based and can be viewed to assess the firm's historical ability to create or destroy wealth over time.

HOLT also helps you understand the market's expectations, to see whether the market is fairly pricing in a company's prospects for value creation. Essentially, you can decide if the market is optimistic or pessimistic about a company's prospects based on future returns implied by the stock price.

Equally important, HOLT objectively forecasts the most likely path of future returns. Based on the company's performance, and using empirical research on how thousands of companies with similar characteristics have performed in the past, HOLT's default model assigns each company a warranted valuation.

Users can compare HOLT's warranted valuation, as well as their own assumptions about the company, to the expectations of the market and gauge whether the stock is overvalued or undervalued.



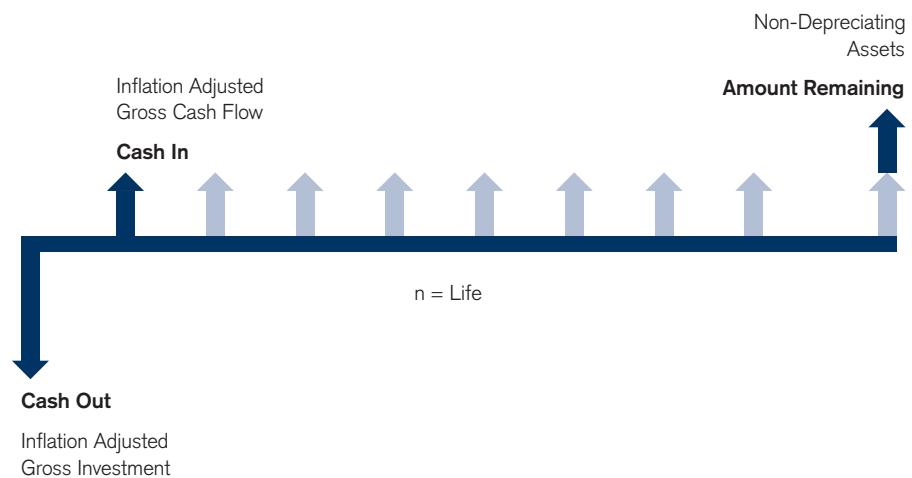
CFROI: The HOLT Measure of Return on Capital

CFROI emphasizes a company's cash generating ability, by taking accounting information and converting it to cash. Cash flows generated from a firm's activities are the best way to measure its underlying economics, telling you whether a company is creating wealth or destroying it.

Typically, when companies undertake a specific project such as an acquisition or an expansion into a new business line, they prepare an economic profile that factors in the forecast amounts and timing of all cash outflows and inflows over the estimated project life. An internal rate of return can then be calculated, which is simply compared to the firm's hurdle rate to decide whether or not to proceed with the project.

HOLT expands on this premise, applying it not merely to a specific project, but to an entire company. CFROI translates the ratio between investments and cash flows into an internal rate of return by recognizing the finite economic life of assets that depreciate such as buildings, and the residual value of assets that don't necessarily depreciate, such as land and cash. Like the IRR calculation of a project, the CFROI metric is a proxy for the company's economic return.

This provides a consistent, holistic approach that can be used to compare performance across a portfolio, a market or a global universe of companies.



Other Key Concepts of the HOLT Methodology



At its heart, HOLT is a discounted cash flow model. Along with the CFROI metric, distinguishing features of the HOLT methodology are the way by which the forecasted stream of net cash flow is generated and the method by which the firm's discount rate, or cost of capital, is estimated.

Net Cash Flow

Key variables that drive the forecasted net cash flow stream are variables that actually generate cash flows – namely, economic returns (CFROI returns), reinvestment rates (asset growth), and their expected patterns of change over time due to competition (fade).

Discount Rate (DR)

The discount rate, or cost of capital, is the rate of return investors demand for making their funds available to the firm. DRs used in HOLT's methodology are market-derived rates, not nominal rates, so they're consistent with CFROI returns. Adjustments to the base rate are made to take account of company-specific leverage and liquidity characteristics.

The Competitive Life-Cycle, or Fade

Most companies experience rapid growth and low returns in their early stages, with returns improving as the company matures. Competition among companies is real, and ultimately drives the profitability of all firms towards the cost of capital. HOLT builds a concept of mean reversion or "fade" directly into its valuation model. It affects the CFROI and growth levels in the future. While this happens at varying rates for different companies, and the life cycle affects each company differently, no company is immune to fade.

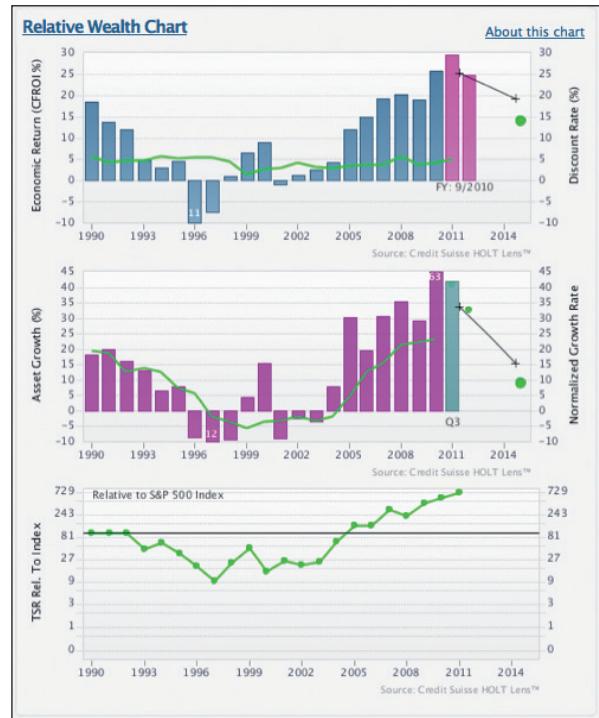
$$\text{Firm Value} = \sum_{t=1}^n \frac{\text{Cash Flow}_t}{(1 + \text{Disc. Rate}_t)}$$



The Relative Wealth Chart: Bringing HOLT's Concepts to Life

The Relative Wealth Chart (RWC) on the HOLT Lens™ platform assesses management's track record in creating shareholder wealth, and allows you to compare the market's expectations for a company, HOLT's perspective, and your own view. While the examples below apply to two Industrial firms, the same concept can be applied to Financial Service firms using the CFROE framework. CFROE is discussed in more detail beginning on page 15.

When viewing the three panels on the RWC, many HOLT Lens users find the place on each panel that represents the current fiscal year, which marks the dividing line between a company's performance and its valuation. To the left of this imaginary line, performance summarizes everything that has happened in the past: a company's track record of economic wealth creation, its net growth in assets, and its stock performance versus the relevant market index. Most RWC pages track performance going back up to 20 years.



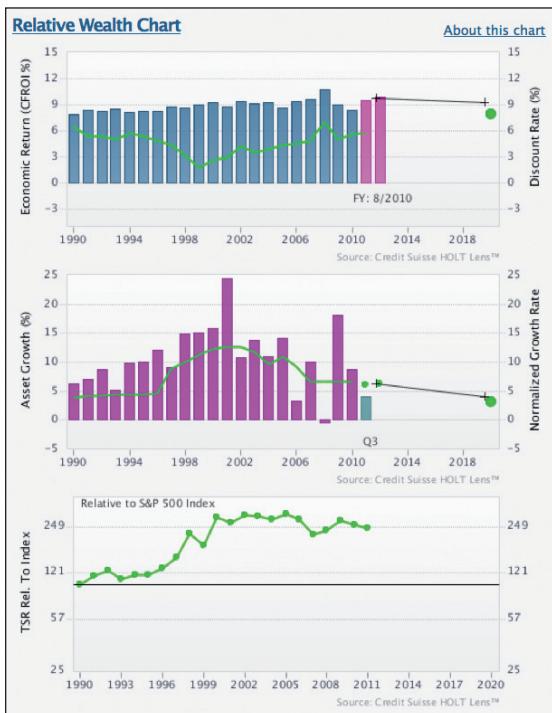
Relative Wealth Chart. Source: HOLT Lens™

To the right of the line, HOLT looks into the future and forecasts the company's valuation, using forecast cash flows derived from consensus earnings estimates. This results in a Warranted Price which can be modified if a user changes the inputs. These customizable inputs affect the company's cash flow and life-cycle patterns, operating assets, reinvestment rate and discount rate. Depending on the type of company under scrutiny, HOLT's default settings will offer either a 5-year or 10-year forecast.

The RWC comprises three panels. This section of the Handbook, which compares two companies to illustrate how their fortunes can diverge, explains each panel in detail and shows how they work together to assess a company's performance and prospects. It also considers different scenarios to demonstrate how varying combinations of CFROI levels and rates of growth allow you to compare your own view to HOLT's perspective and the expectations of the broader market.

The first company, Walgreens, is an example of a company that has created wealth over a sustained period and outperformed its relevant market index, despite a range of issues mature companies typically face. The second, Rite Aid, is an example of a Walgreens peer company which has been less successful in meeting the challenges of the market, with its underperformance and poor prospects clearly reflected in the RWC panels.

Walgreens: An Example of an Outperformer



Relative Wealth Chart. Source: HOLT Lens™

In this example, HOLT indicates that the market expects strong performance to continue.

The top panel illustrates the company's recent history of wealth creation as well as near-term forecasts. It compares historic CFROI levels, represented by the blue bars, to the Discount Rate, represented by the green line. Walgreens has been able to steadily maintain its CFROI levels well above its discount rate, warding off life-cycle

forces, for the past 20 years. The pink bars to the right of the historical period forecast future CFROI levels which are converted from consensus EPS estimates. They drive the t+1 CFROI level forecast (the star between the forecast CFROI levels). Subsequent forecast CFROI levels (the line) to the CFROI level at t+5 (star) reflect typical fade-rate patterns revealed in empirical studies.

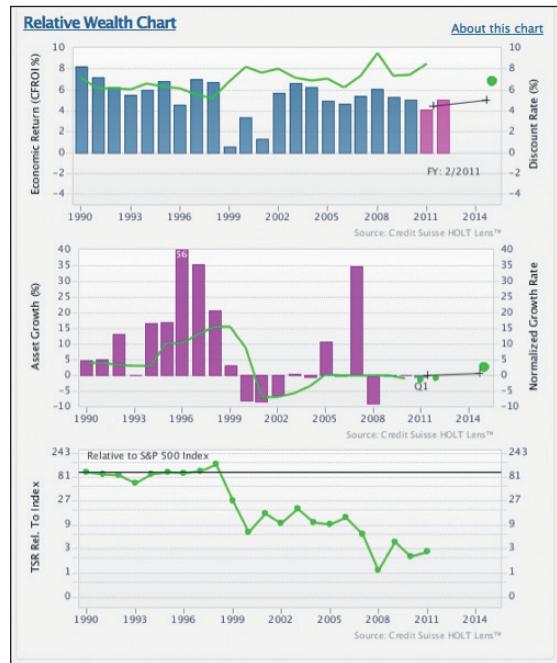
For companies exhibiting high persistence in CFROI, forecasting cash flows accurately requires a longer time-horizon than HOLT's default forecast period of 5 years. For these highly persistent companies, such as Walgreens, the default forecast period is 10 years. In this example (based on data from May 2011), the default forecast of returns (and growth as explained in the next paragraph) leads to a warranted price of \$44, which is very close to the current price. The green dot at t+10 is the CFROI level implied by the stock price for the date shown. That its level is in-line with the default t+5 CFROI level suggests the market is expecting WAG to continue delivering persistent CFROI levels. If CFROI levels were to fade more than implied by the current price, we would expect the stock price to underperform, all else unchanged.

The middle panel shows how fast the company is increasing or decreasing its assets. It compares growth in assets, represented by the bars, to the company's normalized growth rate, represented by the line. "Asset Growth" is the real annual growth rate in operating assets, including acquired assets and capitalized operating leases (this will also include capitalized R&D for research heavy firms). To flag acquisition activity involving purchase accounting, "Asset Growth with Intangibles" is computed as the annual change in intangibles relative to the prior year's operating asset base. "Normalized growth" reflects the available cash flows for reinvestment, including dividends, stock repurchases/issuances and changes in debt. Forecast normalized growth rates for t+1 to t+10 are derived from the forecast CFROI levels and are used in the default valuation model leading to the \$44 target price.

When you see how CFROI can be used to derive cash flows, the link between the top and middle panels of the relative wealth chart becomes clearer. The CFROI and corresponding cash flows affect the speed at which companies can self-fund their growth.

The bottom panel compares the total return of the company's stock to that of the relevant market index. It displays a cumulative index reflecting annual changes in the yearly excess (positive or negative) total return (capital gains/losses + dividends) on the company's stock relative to the total return provided by the local market index. Periods when Walgreen's shares outperformed (under-performed) the S&P 500 are represented by rising (falling) trends in this index. Over the period shown, Walgreens shareholders' returns were about 2.5 times more than an investment in the S&P 500 would have produced.

Rite Aid: An Example of a Potential Underperformer



Relative Wealth Chart. Source: HOLT Lens™

Here, the Relative Wealth Chart shows a stark contrast to the example of Walgreens. The model implies that the market is expecting returns which Rite Aid may not be able to deliver.

Throughout its 20-year history, Rite Aid has struggled to earn returns above the cost of capital. During much of that period, management decided to aggressively invest in and acquire new assets, which destroyed value for shareholders.

How do we know that asset growth destroyed value? In the top panel, CFROI levels, represented by the blue bars, have lagged the Discount Rate, shown by the green line, for over a decade. The pink bars at the right, again converted from consensus EPS estimates, forecast that the current CFROI level of 5% will fall even lower, to 4%.

The bottom panel displays clearly the underperformance of RAD stock, with its total return falling short of the relevant market index over a sustained period. All of the asset growth in the mid to late 1990s led to returns below the cost of capital and the market punished this stock relative to Walgreens' stock.

Take a final look at the top panel, focusing on the green dot near the right margin. Given this track record of destroying value, and your new understanding of the Relative Wealth chart, are the current market expectations for CFROI to improve to 5.5% plausible?



A Page-by-Page Guide to HOLT Lens™

This section of the handbook provides a brief overview of the Companies, Screening and Portfolios features of HOLT Lens™.

Be sure to explore the Tutorials available in HELP for more details about these features.

A screenshot of the HOLT Lens™ software interface. At the top, there is a navigation bar with links for Home, Companies, Screening, Portfolios, and Help. The main area has a yellow header box containing "Guide Notes: Home Page" and a detailed description of the platform's features. Below this is a search bar with the placeholder "Enter tickers, company name". To the right of the search bar is a "Tutorials" section. This section contains three tabs: "HOLT Methodology", "How to Analyse...", and "Lens Guides". Under each tab, there is a list of video tutorials with their respective titles and video links. The "HOLT Methodology" tab includes "Introducing CFROI", "Valuation with HOLT", "Discount Rate", "Fade", "Goodwill", and "Research and Development". The "How to Analyse..." tab includes "Companies", "Banks", "Insurance Companies", "Real Estate Investment Trusts", "Operating Leases", and "Portfolio". The "Lens Guides" tab includes "Peer Analysis", "Screening", "Price Tracking Chart", "Sensitivity", "Accounting Quality", and "Video".

Tutorials. Source: HOLT Lens™

Summary

The Summary page provides a snapshot of key metrics used to value a company and determine its risk and timeliness as an investment. The page is organized to align with HOLT's overall methodology for evaluating stocks. In the center of the page is HOLT's Relative Wealth Chart, which illustrates the firm's economic returns and asset growth. On the right, metrics associated with Valuation, Risk and Momentum are displayed. Click on a link to dig deeper into a component section.

The Valuation box compares the current stock price to the Warranted Price that HOLT systematically assigns to each stock. The Warranted Price is based upon CFROI and growth levels in the forecast period, with each fading according to HOLT's systematic inputs. You can modify these inputs in the Sensitivity feature to see how various scenarios affect the outlook for each company.

The Risk box contains summary information about the company's risk characteristics such as its probability of default and its credit rating. More detailed information about the company's risk profile can be viewed by clicking on the link.

The Momentum box contains summary information about how earnings revisions are affecting the CFROI forecast. This can then be compared to the movement of the stock price to see if there is any near-term correlation between earnings revisions and price performance. More detailed information about the company's price performance and CFROI revisions can be viewed by clicking on the link.

Relative Wealth Chart

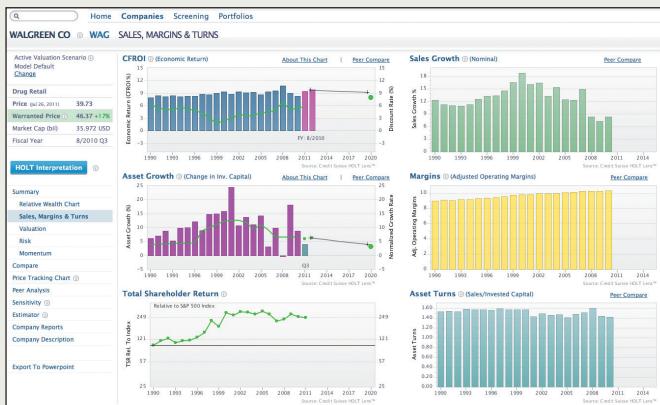
The Relative Wealth Chart provides a concise snapshot of each firm's economic performance. The chart is organized into three panels: the top panel illustrates the firm's history of economic wealth creation, as well as near-term forecasts. The middle panel shows how fast the company is increasing or decreasing its assets after HOLT's adjustments. And the bottom panel compares the total return of the firm's stock to the relevant market index. For a detailed discussion of the Relative Wealth Chart, see page 5.



Summary Chart. Source: HOLT Lens™



Relative Wealth Chart. Source: HOLT Lens™



Sales, Margins & Turns Chart. Source: HOLT Lens™

Sales, Margins & Turns

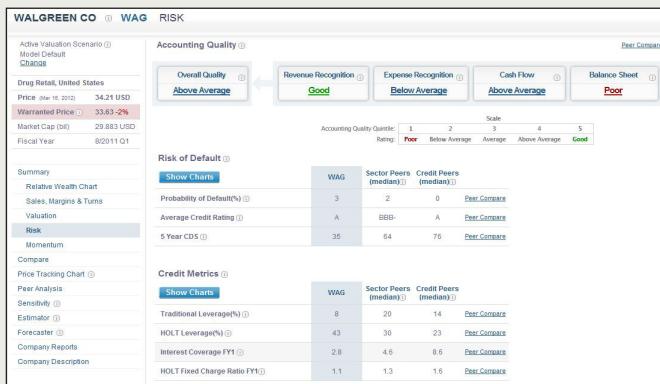
The Sales, Margins & Turns page summarizes the firm's operational performance. For Industrial companies the charts focus on sales, asset growth and operating margins. For Financials, the focus shifts to equity growth, return on assets and leverage. This page is intended to help you understand management's ability to grow the firm and efficiently utilize capital. Note that subtle changes in the composition of margins and growth can often serve as leading indicators of future change in CFROI/CFROE levels and shareholder value.



Valuation Chart. Source: HOLT Lens™

Valuation

The Valuation page provides three charts that highlight HOLT's key valuation metrics. The charts provide a monthly history to illustrate how the metric has changed over time. Traditional valuation metrics are also available on the right side of the page for comparison. The traditional measures provide a current value plotted against the five-year range of values for the firm. The median value for the firm's industry in its region is also provided.



Risk Chart. Source: HOLT Lens™

Risk

HOLT Lens provides a credit risk model (i.e. Merton Model) that is used to generate a probability of default (PoD) estimate for all companies. The two main drivers of the risk model are leverage and equity volatility. The Accounting Quality section of this page should help you assess investment risks due to accounting anomalies. Accounting anomalies can identify aggressive accounting methods, potential for restatement or simply a shift in a company's business model.

Momentum

The Momentum page illustrates the weekly ending price and CFROI revisions for the firm over the last 18 months. CFROI Revisions measures the change in the firm's CFROI forecast (economic returns) due to changes in consensus earnings estimates. Each bar on the CFROI Revisions chart depicts the one-month change in forecasted CFROI. The line on the chart depicts the three-month rolling change in CFROI. This page helps you quickly identify companies with positive CFROI change and cash flows, as well as attractive valuations.



Momentum Chart. Source: HOLT Lens™

Compare

The Compare page allows you to compare firms based on key HOLT metrics. The metrics are organized across three tabs: Summary data, Relative Wealth Chart data and Sales, Margins & Turns data. You can enter the company name or stock symbol for comparison in the provided search box or select a firm from the drop-down list of firms in the same regional industry. You can also change the industry grouping to select from a broader or narrower list of firms for comparison.



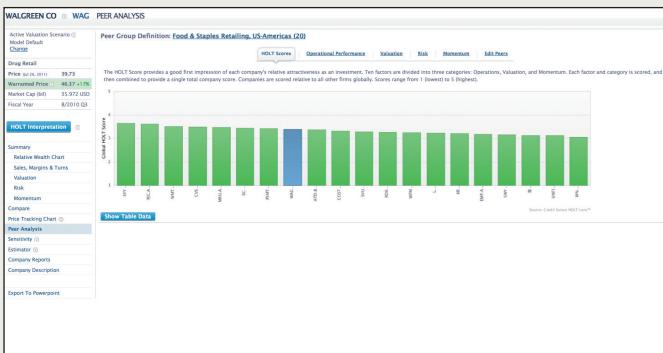
Compare Chart. Source: HOLT Lens™

Price Tracking

Formerly known as the Value Chart, the Price Tracking Chart displays historical annual warranted share prices, based on HOLT's systematic inputs, and compares that to the actual price performance of the stock. Each bar represents the calendar year trading range for the stock. The green triangle represents HOLT's warranted value for the stock at the end of each year, while the white circle represents the closing price for each year. The smaller the deviation between the green triangles and the blue bars, the more reliable the default inputs are for explaining valuation for the company.



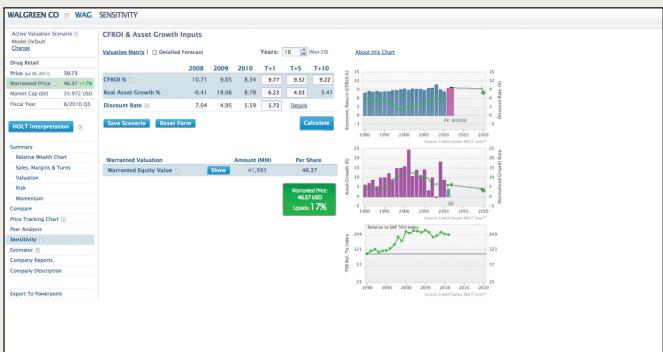
Price Tracking Chart. Source: HOLT Lens™



Peer Analysis Chart. Source: HOLT Lens™

Peer Analysis

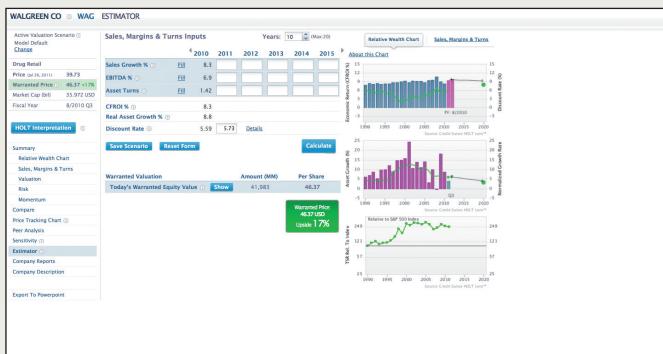
The Peer Analysis option allows you to benchmark and compare a company's various metrics against those of its peers. You can perform the comparison against each of HOLT's key categories and metrics including operations and valuation. You can also customize the peer group based on GICS (Global Industry Classification Standard) or select individual firms for comparison. Select the link next to Peer Group Definition to change the GICS or select Edit Peers to add individual companies.



Sensitivity Chart. Source: HOLT Lens™

Sensitivity

Sensitivity allows you to make adjustments to the model's main inputs and measure the effect on the firm's valuation. The goal is to provide the ability to flex the default model to test different assumptions. You can "override" the CFCROI level, Asset Growth and the Discount Rate (although most users do not adjust the Discount Rate). Changing any of these values will impact the firm's Warranted Equity Value shown towards the bottom of the table. You can save your changes as a Scenario that can be used the next time you view this firm.



Estimator Chart. Source: HOLT Lens™

Estimator

Estimator allows you to forecast future cash flows using the key financial drivers. For Industrial firms the drivers include: Sales Growth, Margins and Asset Turns. For Financial firms, the drivers include: Return on Assets, Asset Growth and Leverage. As with the Sensitivity tool, as you "override" the model inputs, you can immediately measure the impact on the firm's Warranted Valuation at the bottom of the table. You can save your changes as a Scenario that can be used the next time you view this firm.

Forecaster

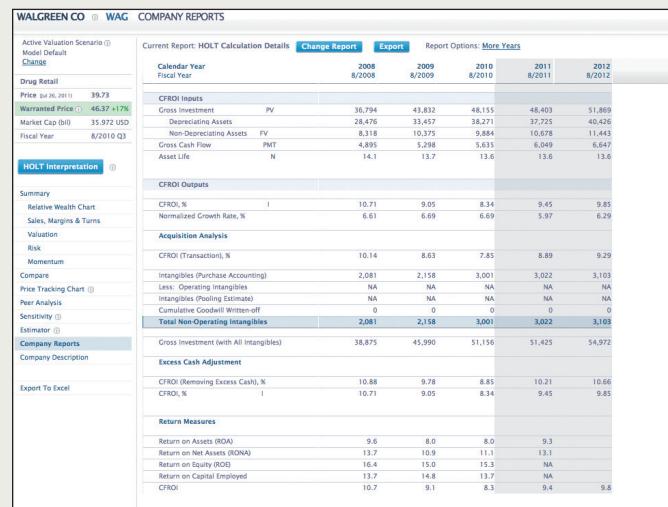
Forecaster allows you to modify a firm's warranted valuation by adjusting financial drivers such as Sales, Margins and Asset Turns. Forecaster also allows you to change inputs to the key operating drivers such as CAPEX and dividends. These inputs will ultimately drive changes to the higher level inputs of economic profitability and balance sheet growth which are the primary drivers for the Sensitivity Model. You can save your changes as a Scenario that can be used the next time you view this firm.



Forecaster Chart. Source: HOLT Lens™

Company Reports

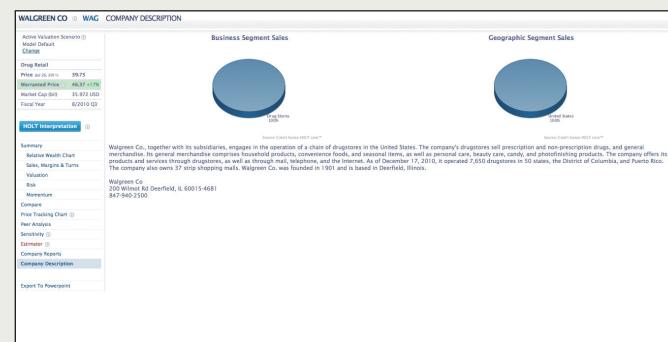
Company Reports provide the detail behind the model variables and calculations. The reports allow you to audit and understand the data that drives the calculations and functions presented on each page. The data presented in each report can be exported to a spreadsheet for further analysis.



Company Reports Chart. Source: HOLT Lens™

Company Description

The Company Description page provides a profile of the firm's business. It also provides charts, where available, illustrating a breakdown of the firm's sales by business and geographical segments.



Company Description Chart. Source: HOLT Lens™

Screening

The Screening feature allows you to filter a subset of companies from the HOLT database or from a portfolio using a combination of variables and associated criteria. The resulting companies of the screen can be analyzed individually or as a group displayed in a variety of reports. Reviewing companies individually allows you to compare a company to the other resulting companies in the screen. Analyzing the results as a whole provides an overview of the composition of the screen.

FULL REPORT Buy Ideas: HOLT Upside, Quality & Momentum											
Current Report: Screening Default											
Choose Report Modify Report Where Is?											
Page Size: 30 Display 1 - 15 Companies of 15 1 4 Page 1 of 1 X											
New Name Symbol Country Market Capitalization (billions) 3-Year CAGR Sales Growth (%) Price Return HOLT Key Minimum % Default UpDate/Dividende 13 Weeks 12 Weeks Cumulative											
SPUL INC ● FISCHER CO INC ● CELEGEN CORP ● VALIANT PHARMACEUTICALS INTL ● GAI INC ● AGILENT TECHNOLOGIES ● HOLLYTINTERS CORP ● TRANSDIGIT GROUP INC ● TEIJIN PETIC ATL INC ● ENERGY XXI (BERMUDA) ● AMERICAN INVESTMENT DEALERS INC ● VIBRAPHARMA INC ● JAZZ PHARMACEUTICALS PLC ● CRUS LOGIC INC ● LOQUITY SERVICES INC											
AAPL USA 545,077 6.8 75.3 87.3 5.96 207 PCBN USA 33,839 3.8 26.8 21.4 2.14 131 CELG USA 33,074 6.6 19.8 32.9 1.19 233 VRSK USA 16,449 12.5 108.4 24.7 1.55 89 CA USA 13,068 7.2 10.4 5.3 1.52 44 ETR USA 12,141 6.9 17.7 16.8 1.86 207 NYSE USA 7,518 11.4 147.4 26.7 6.6 68 TDO USA 5,636 2.9 50.9 36.7 1.46 127 TPX USA 5,286 9.2 25.3 60.3 1.07 42 EOG USA 2,794 9.1 95.8 9.4 2.13 38 DSR USA 2,150 10.1 17.0 23.9 4.25 425 VPHM USA 2,075 4.9 21.4 44.4 5.03 21 JAZZ USA 1,964 15.9 63.8 49.7 4.00 37 CRUS USA 1,154 8.4 28.0 11.7 1.88 56 LQDT USA 1,143 17.4 40.5 171.5 1.71 34											

Screening Chart. Source: HOLT Lens™

Portfolio

The Portfolio feature allows you to create a portfolio of companies on which you can analyze and screen. You can review portfolios based on key HOLT metrics and relevant benchmarks. The Exceptions Summary section highlights the companies in your portfolio that have failed one or more rules used to identify attractive companies based on the HOLT model. Drill into each exception to determine if a company in your portfolio should be replaced with a more attractive company. The Company Scoring section lists each company in your portfolio and its HOLT score relative to all companies in your portfolio and benchmark. The bar chart illustrates the number of firms in the portfolio that fall in each scorecard quintile.

HOLT Upside, Quality & Momentum vs USA S&P 1500 EXCEPTIONS SUMMARY											
Which of the 15 names in this portfolio need investigating? What is an Exception? Modify Exceptions											
Operational Performance 1 have low CFCROI/CFCROE (rel. to BM) ⓘ						Valuation 4 have high Economic PE (rel. to BM) ⓘ 11 have high HOLT Price to Book (rel. to BM) ⓘ					
Risk 1 have Probability of Default over 5% ⓘ 0 financials have low Reserves to NPA % (rel. to BM) ⓘ 0 financials have a high Leverage Multiple (rel. to BM) ⓘ						Momentum 0 have negative 3 Month CFCROI Revisions ⓘ 1 have low 1 Month Price Return (rel. to BM) ⓘ					
Exceptions Report 0 company has exceptions in each category											

Portfolio Chart. Source: HOLT Lens™



CFROE for Financial Services Firms

Financial service firms present a unique valuation challenge, as a lender's decision to employ financial leverage is critical to the wealth creation process and, therefore, cannot be removed from the calculation of economic performance. The need to focus on a leveraged equity (assets to equity) base for lending firms adds a layer of detail that does not exist for Industrial and Service firms in the HOLT framework. It is with this fundamental notion in mind that Financial Service firms have always been viewed separately from all other sectors in the HOLT valuation model.

Economic Returns

Leverage

The biggest difference between a lending Financial Services company and an Industrial company is the use of debt or leverage. While the typical global Industrial company operates with a debt to equity ratio of 33% (or debt to capital – which is book value of debt plus market capitalization of equity – of 25%), a well-capitalized bank can have a debt to equity ratio between 13x and 17x. (This range is approximated for a Tier 1 ratio of 6% to 8%). It is this ability to take on leverage that allows a lender to generate shareholder returns that are comparable to a manufacturer or a non-financial service provider. Said differently, debt is used as “raw materials” to generate products that can be sold for a profit (or net interest margin – NIM). But because this margin is very thin (compared to Industrial firms), taking on leverage and minimizing funding costs are crucial for a bank to generate adequate returns.

If a lending institution were to operate with leverage similar to an Industrial company, it would generate an ROE of just 1%. Though leverage does not impact ROA, the lender's ROE jumps to roughly 12% with a leverage multiple of 11x.

Capital Structure Funding Mix

The mix of debt and equity funding can have a meaningful impact on a lender's operating results, which is typically not the case for an Industrial company. Ideally, operating decisions or efficiencies of an Industrial company tend to be independent of how its assets are funded. In the lending model, money (or cash) is the bank's means of production. Because of this, banks are constantly looking for the lowest cost supplier of cash, similar to how an Industrial firm will look to the lowest cost supplier of inventory to minimize the cost of goods sold. In the case of lenders, central banks offer the cheapest source of fund supplies through insuring deposits. In return, the banking system supports the central banking tool of money creation. Since deposits (and other debt instruments) offer a relatively cheap source of cash, banks have an incentive to apply high amounts of leverage to the capital base. Without significant deposit/debt funding, ROEs would be abysmal for lenders.

So, interest expense is the cost of a lender's "raw materials" (debt) or operating cash outflow. The sources for capital structure funding between a Financial and an Industrial are very different. For a lender, the sources and uses of capital funding tend to be in the form of equity (including hybrid) capital, whereas it tends to include debt for non-lenders.

Adjustments to Financial vs. Industrial

Aside from the metric adjustment (discussed below), there are three main differences between HOLT's approach to Financials versus Industrials: the treatment of debt (interest expenses), definition of gross investment and the average life of corporate projects.

Treatment of Debt (Interest Expense)

As stated above, debt is essential for a lender. Therefore interest expense can be considered a non-capital operating cash outflow, which is not added back to net income to arrive at inflation adjusted gross cash flows. Further, by focusing on the equity capital base, it is consistent to include interest expense in the numerator. This is starkly different from an Industrial, whose warranted value is calculated based on a total firm approach. This is in line with the view that operating results of an Industrial should not be effected by its capital structure. So, while interest expense is added back to an Industrial's net income to measure cash generation, it is left in to reduce a Financial's cash generation. Similarly, an Industrial's capital structure is accounted for after the firm's enterprise value is derived, but the use of debt for a Financial is viewed as part of its asset mix.

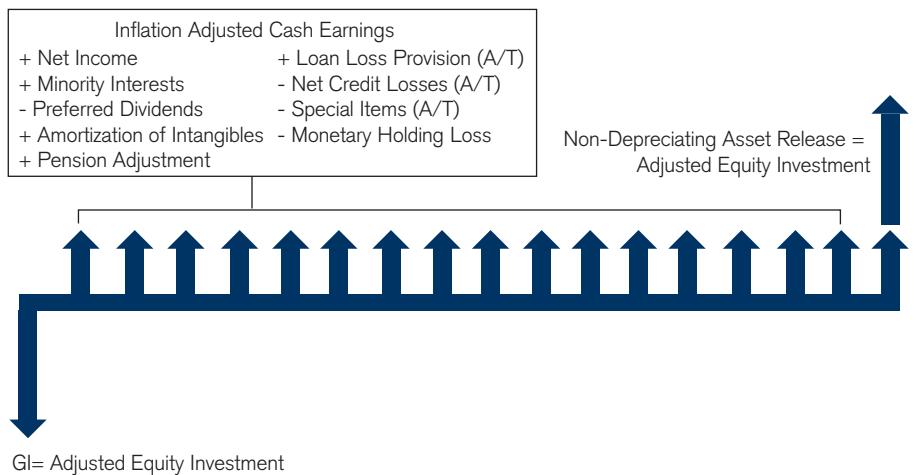
Adjusted Tangible Equity versus Gross Investment (The Denominators)

Adjusted tangible equity (denominator) in the CFROE metric is comprised of shareholders' equity, preferred stock, minority interest and loan loss reserves, which are offset by goodwill, unfunded pension liabilities and unrealized gains (losses). For CFROI, the denominator is gross investment, which is comprised of depreciating and non-depreciating assets. Because CFROE treats debt differently than does CFROI, both cash flows and invested capital are viewed from the perspective of the equity capital holders. Correspondingly, the denominator reflects the capital investment of these stakeholders.

Average Life of Projects

Since a lender's assets are predominantly non-depreciating, the concept of applying a useful life to its many financial projects is not meaningful. While tangible fixed assets of an Industrial company will depreciate over time and will need to be replaced in the future, repaid interest-earning assets of a lender can be redeployed perpetually without deterioration in their ability to generate future cash flows.

Financial (CFROE) Model



CFROE Main Adjustments

Like the CFROI calculation for Industrial firms, the CFROE metric removes accounting distortions to reflect the economics of the Financial firm. The first two adjustments (goodwill and pensions) bring CFROE more in line with the CFROI metric. The third adjustment (loan loss reserves) is specific to lending institutions and is introduced to provide a better measurement of the economic cash-generating ability of the business.

Goodwill

Adjustment to Equity: Remove goodwill from common equity.

Adjustment to Net Income: Add amortization of goodwill back to net income.

Impact on Corporate Performance: When purchase premium is included in the equity base, equity reflects both operating capital and transaction-related capital. Corporate performance signals may be distorted when a firm is highly acquisitive and goodwill fluctuates dramatically. By removing goodwill from equity, economic returns reflect operational performance, which makes it directly comparable between firms that focus on acquisitive growth and firms that focus on organic growth. Transaction CFROE, which is the return with goodwill included in the equity capital base, is also displayed in the new financial model, so that investors can assess management's skill in managing acquisitions and how much they pay for acquired assets. While HOLT focuses on the operating returns of the business through CFROE, transaction returns focus on the capital (including goodwill) used to generate cash flows.

Impact on Valuation: The first benefit of the goodwill adjustment on valuation is a better proxy for fade. Operating returns tend to offer measurable and meaningful trends in economic performance. By focusing on operating returns, empirical evidence provides better guidance for future performance trends. Secondly, the operating capital of a firm better reflects the tangible value of the capital investment. When firms have a high percentage of goodwill to total book equity, valuation can be distorted because the goodwill is included as a financial asset equivalent (at cost). The market does not always assign a consistent market value to goodwill relative to its book value.

Pensions and Other Post-Retirement Benefits

Adjustment to Equity: Remove pension-related assets (liabilities) from common equity.

Adjustment to Net Income: Add back costs associated with funding off-balance sheet pension obligations.

Impact on Corporate Performance: US GAAP and IFRS allow for pension obligations to be funded off-balance sheet. In addition, the impact of changes in the fair value of both pension obligations and the trust assets that fund them are altered in the companies' earnings so that the short-term fluctuations in net plan assets can be "smoothed" over time. The smoothing effect of pension accounting can lead to performance trends that deviate from economic reality. By removing the pension funding items from cash flows, CFROE only reflects the service costs associated with employing the current work force of the firm. This is a better proxy for the cost of maintaining the employee base necessary to run the business.

Impact on Valuation: Like the goodwill adjustment, removing accounting distortions from economic returns provides a better set of historical trends from which a forecast of future returns can be determined.

Loan Loss Reserves

Adjustment to Equity: Add the loan loss reserve (adjusted for tax to offset the presence of deferred tax assets) to total common equity.

Adjustment to Net Income: 1) add provisions for loan losses (tax adjusted) back to net income and 2) subtract actual loan losses net of cash recoveries (tax adjusted) from net income.

The Accounting for Credit Losses: Credit losses are estimated at the time of loan obligation based on management's interpretation of regulatory guidance. A provision is booked for the mean expected loss plus a conservative "cushion" for excessive losses. The accumulated balance of provisions less charge-offs is netted against gross loans as a contra-asset, which therefore reduces book equity by the total reserve.

The Economics of Credit Losses: Credit losses are a recurring event for lenders. Loans are priced to reflect the risk that the borrower may default on the obligation. Viewed in aggregate loan portfolio terms, a lender's credit losses represent a normal reduction of the cash flows that are taken from the lending spread (which risk is reflected). Future losses (or loss reserves) from credit events do not represent a known claim on the value of current capital and, therefore, reserves represent additional capital that is invested in the business. By netting loans against reserves, the accounting concept of book equity understates the amount of capital supplied by equity investors.

Impact on Corporate Performance: Adding reserves to the capital base increases the denominator and therefore has a negative impact on CFROE, all else equal. Moving from provisions to net charge-offs in the numerator removes the impact of any potential earnings smoothing (numerator impact on returns can either be positive or negative). Peer comparisons become more meaningful as management's discretion is removed from performance measurement. This adjustment also improves comparability of lenders' returns across borders markedly if we consider the significant differences of reserve accounting application across global regions.

Impact on Valuation: With this adjustment to equity and economic returns, claims for expected credit losses are now accounted for as a reduction of forecasted net cash receipts. Because CFROE is on a cash basis, historical returns better reflect the economics of the credit cycle. This provides a better basis for benchmarking expected returns and generating plausible net cash receipt forecasts.

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