Valuation 101

There is only one true way to value stocks (or any financial assets) – as has been stated by the top investing minds over the ages:

The value of an asset equals the present value of the future cash flows available to the owner(s) of the asset.

There are two ways to measure the PV of future cash flows:

1. Intrinsic value approach: enter your forecast into a DCF model and determine your target price
2. Expectations quantification approach: reverse engineer the future cash flows required to justify the market price.

I prefer option #2 b/c it relieves me of the onus of predicting the future. Instead, I use my dynamic discounted cash flow model to quantify the expectation in every stock we cover. Then, I assess those expectations for reasonableness.

I am not interested in market expectations that may be close to reasonable. I focus on the extremely high and low expectations: Buy low expectations and sell/short abnormally high expectations.

That is the best way to make money in the stock market over any meaningful amount of time.

Economic Versus Accounting Earnings

Proper diligence on any equity investment begins with economic earnings analysis.

Accounting data was not designed for equity investors, but for debt investors. It is, by itself, not reliable for diligent investment decision-making.

"[Accounting] Earnings, earnings per share and earnings growth are misleading measures of corporate performance." (from page 66 in The Quest For Value by Bennett Stewart, Harper Collins 1991).

Much due diligence goes into studying disclosures and making **numerous footnotes adjustments** for proper derivation of economic earnings.

Formulas for Economic Earnings

NOPAT – WACC*Invested Capital or

(ROIC – WACC)*Invested Capital = economic earnings.

Key Concept Behind Economic Earnings:

Though accounting rules may change from company to company or country to country, the basic economics of business are always the same.

The basic economics of a business are: (1) how much real cash flow does the business generate relative to (2) how much capital has gone into the business over its life. All financial statement data must be gathered to get an accurate measure of these basic drivers, which we call (1) the NOPAT and (2) Invested Capital.

We think of the economic model (details below**) as the organic and natural analysis of business performance as it is free of accounting distortion, management bias and Wall Street salesmanship. Economic earnings play a key role in our stock ratings, which drive our mutual fund and ETF ratings.

How To Use Accounting Data (Accounting 101)

Accounting data must be translated, through rigorous analysis of the footnotes and the MD&A, into economic earnings in order to understand the profitability and valuation relevant to equity investors. More details are in Finance 101.

Why Economic Earnings Are Better

Respected investors (e.g. Adam Smith, Warren Buffet and Ben Graham) have repeatedly emphasized that accounting results should not be used to value stocks. Economic earnings are what matter because they are:

1. Based on the complete set of financial information available
2. Standard for all companies
3. A more accurate representation of the true underlying cash flows of the business

Therefore, the economic model based on all relevant financial information is required to asses the economic earnings of companies.

Numerous academic studies and loads of empirical evidence also also support the merits of economic earnings. The prior links are just a few samples. You can find much more by doing a quick internet search on accounting loopholes, accounting tricks, etc. There are many excellent books, a few are listed below, that delve deeply into this topic as well.

1. Valuation: Measuring and Managing the Value of Companies by McKinsey and Co.
2. Creating Shareholder Value by Alfred Rappaport
3. The Quest For Value by Bennett Stewart
4. Financial Shenanigans: How to Detect Accounting Gimmicks & Fraud in Financial Reports by Howard Schilit.

Challenges In Deriving Economic Earnings

In addition to gaining expertise in accounting rules and economic theory, gathering all the relevant data to build a comprehensive economic model is quite time consuming and difficult. Our patented system and proprietary technology enabled us to build a Research Platform that, for the first time, allows investors to rely on a comprehensive economic model when making investment decisions. No longer must investors rely on the accounting data that Corporate America and Wall Street publish. Now, investors have, via New Constructs, an alternative source of unbiased, complete information on the economic profitability and valuation of companies.

Deriving economic earnings from accounting data is a difficult and time-consuming task, primarily **because it requires analyzing and extracting critical information from the Financial Footnotes. The Help Section of New Constructs website walks you through ever step of the process. The first step is to create economic financial statements, which are comprised of:

1. NOPAT (Net Operating Profit After Tax)
2. Invested Capital calculation and definition
3. WACC (Weighted-Average Cost of Capital)

Once you have your economic financial statements, then you can derive the economic value drivers that we use to measure the true, underlying profitability of companies.

1. ROIC (ROIC stands for Return on Invested Capital)
2. Economic Profit/earnings (note EVA is same as Economic Profit)
3. Free Cash Flow
4. NOPAT Margin
5. Invested Capital Turns

The Help Section of New Constructs website shows how to calculate NOPAT, Invested Capital, WACC, ROIC, Free Cash Flow, NOPAT Margin, Invested Capital Turns, EVA and Economic Profit/earnings and perform rigorous stock analysis yourself.

The Methodology Section of our Help Section gives you the inside-scoop on how to uncover the truth. For example, see

1. List of Problems with the Old Construct for equity research
2. Learn the differences between accounting earnings and economic earnings
3. Learn the dangers of using P/E multiples
4. Understand why the distinctions between growth and value investing styles are misleading
5. Understand why cash is king and how to value stocks as Warren Buffet does

And much more on how to perform rigorous stock analysis yourself.

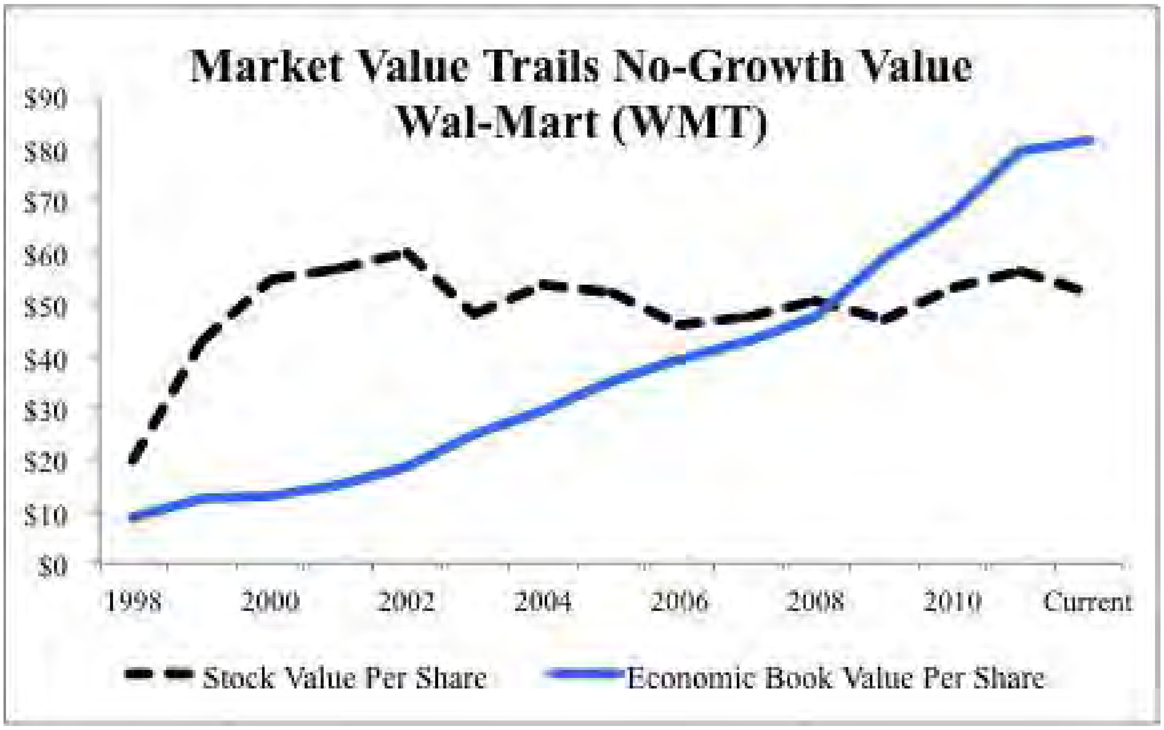
Definition: Price to Economic Book Value (EBV)

The price-to-economic book value ("Price-to-EBV") ratio measures the difference between the market's expectations for future profits and the no-growth value of the stock. Economic book value ("EBV") is our measure of the no-growth value of a stock.

When stock prices are much higher than EBVs, the market predicts the economic profitability (as distinct from accounting profitability) of the company will meaningfully increase. When stock prices are much lower than EBVs, the market predicts the economic profitability of the company will meaningfully decrease. If the stock price equals the EBV, the market predicts the company's economic earnings will stay the same into perpetuity.

EBV measures the no-growth value of the company based on the current Net Operating Profit After Tax(NOPAT) of the business. It is also known as the "pre-strategy value" of the company because it focuses only on the perpetuity value of the current NOPAT or cash flows.

As an example, in Blue Light Special on WMT, I explain how Wal-Mart's valuation went from Very Dangerous in the late 1990s to Very Attractive recently. This change occurred as the stock remained flat while the cash flows (NOPAT) increased substantially. Figure 1 from my article, below, compares the EBV per share of Wal-Mart to its stock price.



The Formula for EBV is:

(NOPAT / WACC)

- Adjusted total debt (including off-balance sheet debt)

+ Excess cash

+ Unconsolidated Subsidiary Assets

GAAP Opinion versus Economic Fact

As stated in The Disconnect Between Investment Theory and Practice section, GAAP financial statements fail to meet equity investors' analytical needs.

Gathering all the correct data is the first step in translating GAAP reporting into economic truth.

Using critical information from the Financial Statements in 10Ks, 10Qs, and press releases and the *Notes to Financial Statements*, New Constructs accounting and finance experts translate reported GAAP financials into economic earnings analysis. This process requires expert knowledge and interpretation of accounting rules and economic principles. Here is a summary of footnotes adjustments and their impact.

Economic Financial Statements
New Constructs focuses on the economics of businesses rather than pro-forma or GAAP earnings. The economic profitability of a business can be derived from the calculation of three key values:

1. **NOPAT (Net Operating Profit After Tax):** The after-tax operating cash generated by the business, excluding non-recurring losses and gains, financing costs, and goodwill amortization and including the compensation cost of employee stock options (ESOs).
2. **Invested Capital:** The sum of all cash that has been invested in a company's net assets over its life without regard to financing form or accounting name. It is the total of investments in the business from which revenue is derived. Common adjustments to this value include the addition of: accumulated goodwill amortization, unrecorded goodwill, asset write-offs, unrealized gains and losses in investment securities, loan loss reserves, and capitalizing operating leases. See Appendix A for a detailed explanation of how we calculate this value.
3. **Weighted-Average Cost of Capital (WACC):** The average of debt and equity capital costs that all publicly traded companies with debt and equity stakeholders incur as a cost of operating. The cost of debt capital is equal to the long-term marginal borrowing rate of the business. The cost of equity is calculated using the Capital Asset Pricing Model. Though there are many other more complicated approaches for arriving at a firm's cost of equity, we do not feel their additional complexity offers commensurate accuracy. CAPM is simple, gets us close enough and it is easy to implement consistently across all companies we analyze. See WACC Definition for a detailed explanation of how we calculate this value.

The Economic Financial Statements capture the comprehensive financial picture of a business and are the foundation for an economic assessment of the profitability of any business.

Economic Value Drivers- from the Economic Financial Statements we derive the following:

1. **Revenue CAGR**: Measures the growth of a business by calculating the Compounded Annual Growth Rate of Revenue.
2. **ROIC (Return on Invested Capital)**: The best measure of a business' cash return on cash invested. It represents the cash flow derived from all capital invested in the business. It is equal to NOPAT divided by Invested Capital. It can also be calculated by multiplying the *NOPAT Margin* by*Average Invested Capital Turns*.
3. **Economic Earnings Margin = ROIC – WACC:** the truest measure of a business' profitability. This metric accounts for the cash flow returns adjusted for the risk associated with the business model employed to achieve those returns. Economic Earnings Margin precisely measure a firm's ability to create value for its stakeholders.
4. **Free Cash Flow:** Reflects the amount of cash free for distribution to both debt and equity shareholders. It is calculated by subtracting the change in Invested Capital from NOPAT.
5. **Economic Earnings:** Quantifies the amount of shareholder value a company creates or destroys. It can be calculated two mathematically equivalent ways:
    1. Residual income approach: (ROIC – WACC) * Invested Capital = Economic Earnings
    2. Refined earnings approach: NOPAT – (Invested Capital * WACC) = Economic Earnings

Footnotes Adjustments for Earnings & Valuation Diligence

This report summarizes our series of reports on how to convert GAAP data to economic earnings and derive true shareholder value in a discounted cash flow model as well as more accurate measures of economic book value, and enterprise value.

As a former accountant and member of FASB's Investor Advisory Committee, I know first hand that reported earnings don't tell the whole story of a company's profits. GAAP accounting rules are designed for debt investors, not equity investors. They are frequently manipulated by companies to manage earnings.

Finance 101: Only economic earnings that incorporate due diligence in the financial footnotes provide a complete and unadulterated measure of profitability.

Converting GAAP data into economic earnings should be part of every investor's diligence process. Meeting the challenge of performing detailed analysis of footnotes and the MD&A is part of an advisor's fiduciary responsibilities.

Each of the following reports explain each adjustment we make along with how many times we make each adjustment across the 3,000+ companies we cover.

A) Adjustments for NOPAT: to convert reported GAAP income to net operating profit after tax (NOPAT):

1. Remove asset write-downs hidden in operating expenses
2. Remove non-operating expenses hidden in operating earnings
3. Remove non-operating income hidden in operating earnings
4. Add back change in reserves
5. Remove income and loss from discontinued operations (except for REITs)
6. Add back implied interest for the present value of operating leases
7. Adjust for non-operating tax expenses
8. Historical adjustments: Add back goodwill amortization prior to 2002 and include employee stock option expense prior to 2006
9. Remove reported non-operating items

B) Adjustments for Invested Capital: to convert reported assets to invested capital (new reports made available daily):

1. Add back off-balance sheet reserves
2. Add back off-balance sheet debt due to operating leases
3. Remove discontinued operations
4. Remove accumulated Other Comprehensive Income
5. Add back asset write-downs
6. Remove deferred compensation assets and liabilities
7. Remove deferred tax assets and liabilities
8. Remove under or over funded pensions
9. Remove excess cash
10. Prior to 2002: Add back unrecorded and accumulated goodwill
11. Adjust for midyear acquisitions
12. Remove non-operating unconsolidated subsidiaries

C) Adjustments for our Discounted Cash Flow Model, Economic Book Value, and Enterprise Valuecalculations:

1. Employee stock option liabilities
2. Preferred stock
3. Minority interests
4. Adjusted total debt (including off-balance sheet debt)
5. Pension net funded status
6. Net deferred tax assets or liabilities
7. Net deferred compensation assets or liabilities
8. Discontinued operations
9. Excess cash
10. Unconsolidated Subsidiaries

We've performed unrivaled due diligence on over 55,000 annual reports over the past decade. This diligence enables us to provide unrivaled earnings quality and valuation research.

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