



Economic Book Value Calculation

This backtest data set contains the data we use to calculate [Economic Book Value](#). This data set contains point-in-time data. See below.

This data is available through our [API](#) in the [Economic Book Value Calculation endpoint](#). Historical data provided through the API is best-available data as of today, not the point-in-time data presented in this backtest data set.

Economic Rationale for Economic Book value - Why Economic Book Value Matters

Economic Book Value is our measure of the no-growth value of a stock. Our [Robo-Analyst technology](#) allows us to scale the most sophisticated calculation of Economic Book Value across thousands of companies.

Economic Book Value Calculation

In general, we calculate Economic Book Value as:

NOPAT (Net Operating Profit After Tax)

- / Weighted Average Cost of Capital (WACC)
- + Excess Cash
- + Net Assets from Discontinued Operations
- + Fair Value of Unconsolidated Subsidiary Assets (non-operating)
- + Net Deferred Tax Liability
- + Net Deferred Compensation Assets
- Fair Value of Total Debt
- Fair Value of Preferred Capital
- Fair Value of Minority Interests
- Value of Outstanding ESO After-Tax
- + Pensions Net Funded Status
- = **Economic Book Value (EBV)**

NOPAT (Net Operating Profit After Tax) is the unlevered, after-tax operating cash generated by a business. It represents the true, normal and recurring profitability of a business. More [details](#).

Weighted Average Cost of Capital (WACC) is the weighted average of the costs of all external funding sources for a company. Our guiding principle when calculating WACC is that it is better to be vaguely right than precisely wrong. We make sure that WACCs are reasonable first and employ many rules to normalize the inputs to WACC to ensure none of them cause an abnormal WACC to occur in any of our models. More [details](#).

Excess Cash is cash that is not required for the operations of the business. For most companies, we estimate the amount of required cash to be 5% of sales. Excess Cash is the cash above the required amount. More [details](#).

Net Assets from Discontinued Operations are the net assets held for sale by a company. We remove these discontinued operations assets from invested capital for a more accurate picture of how much operating capital a business has on hand to generate NOPAT. More [details](#).

Fair Value Non-Operating Unconsolidated Subsidiaries is the fair market value (when available, otherwise, book value) of companies in which the parent company has significant control, usually owning between 20%-50% of the business and where poor disclosure forces us to treat unconsolidated subsidiary assets as non-operating and remove them from invested capital. More [details](#).



Net Deferred Tax Liabilities are the result of differences between GAAP accrual accounting and tax policy. Net Deferred Tax Assets (DTAs) artificially raise reported assets and do not help generate operating profit while Net Deferred Tax Liabilities (DTLs) are like a source of interest-free financing. We remove the impact of DTAs and DTLs from our calculation of invested capital. An example of a Reported Net Deferred Tax Asset is a tax loss carry-forward. More [details](#).

Net Deferred Compensation Assets are employee compensation delayed until a later date. The assets held for these plans are used to compensate employees in the future, not to generate profits for the company. As such, they should not be factored into the calculation of a company's return on invested capital. More [details](#).

Fair Value of Total Debt is the fair market value (when available, otherwise, book value) of all debt for the company, including off-balance sheet debt for operating leases. The fair value of a company's total debt is the current amount the company would need to pay to retire the debt and settle the claims of the creditors. This fair value of debt is subtracted from shareholder value because the firm would need to settle these claims before it could return any cash to shareholders. More [details](#).

Fair Value of Preferred Capital is the fair market value (when available, otherwise, book value) of all preferred capital for the company. More [details](#).

Fair Value of Minority Interests is the fair market value (when available, otherwise, book value) of all minority interests in the company. Minority interests (or non-controlling interests) are a significant but non-controlling ownership of a company's voting shares. We subtract the fair value of the minority interest liability from shareholder value in our DCF model as the minority interest shareholders have the rights to that portion of the cash flows. More [details](#).

Value of Outstanding ESO After-Tax is a liability based on future share dilution as employees exercise their options and add to the total number of shares outstanding. Using the Black-Scholes model, we account for the fair value of all outstanding employee stock options and subtract this value from the present value of future cash flows in our discounted cash flow model and economic book value calculation. More [details](#).

Pensions Net Funded Status are the net overfunded status of a company's pension and post-retirement plans is included on the balance sheet. When a company's pension plans are overfunded, the excess assets are not being actively used to create revenue. Overfunded pension assets are similar to excess cash, and should not be included in the calculation of return on invested capital. More [details](#).

Coverage

New Constructs covers:

~2800 currently active stocks.

~2700 currently inactive stocks that appear in the historical data.

Coverage information is updated daily and available on our website:

<https://client.newconstructs.com/nc/coverage/view.htm>

Time Frame - 1998 to Present

Our company data sets begin in 1998 when SEC filings were made available in electronic form.

Source

We source all data directly from the annual and quarterly SEC filings using our proprietary [Robo-Analyst technology](#). All calculations are our own.

Point-in-Time Data

New Constructs Economic Book Value calculation data is provided as of the data availability date presented in the data. See information on data availability dates below.

Data Fields

ticker - The ticker for the security on the file generation date. Tickers that include a colon are currently inactive stocks. They are no longer traded because they were acquired, went bankrupt, etc. We assign the last used ticker to the security following by a colon and a number that increments for each new company that becomes inactive with that ticker. For example, XYZ Corp uses ticker XYZ and goes inactive. We assign the company the



ticker XYZ:1 because it is the first company in our system to go inactive using ticker XYZ. If a different company, XYZ Technology, starts using ticker XYZ and goes inactive, it will be assigned XYZ:2.

A list of tickers and company names is available on our website at <https://client.newconstructs.com/nc/coverage/view.htm> or through the coverage endpoint of our API, see <https://client.newconstructs.com/nc/documentation/api.htm>

company_name - The name of the company on the file generation date.

cik - The Central Index Key (CIK) used by the SEC to identify corporations and individuals who have filed with the SEC. We do not provide CUSIPs or other industry identifiers for securities. CIK is provided to help map securities from New Constructs to other data sets. For active companies, the CIK is the one in use by the SEC on the data generation date. For inactive companies, the CIK is the last one in use by the company prior to its being inactivated.

figi - The Financial Instrument Global Identifier (FIGI) is an established global standard issued under the guidelines of the Object Management Group (OMG.org, an international, non-profit standards organization), founded in 1989. FIGI is provided to help map securities from New Constructs to other data sets. At this time, we only provided FIGI for active securities. Please see <https://www.openfigi.com/> and <https://www.openfigi.com/assets/local/figi-allocation-rules.pdf> for details on OpenFIGI and its use.

stock_exchange - The exchange on which a ticker trades. For active stocks, the exchange is the one on which the ticker was traded on the data generation date. For inactive stocks, the exchange is the last one on which the ticker was traded prior to its being inactivated.

company_status_current - Actively traded stocks are marked as 'live'. Inactive stocks are marked as 'inactive'. This is the status of the security on the data generation date.

fiscal_year - The fiscal year of the most recent filing used in the model.

fiscal_quarter - The fiscal quarter of the most recent filing used in the model. If the most recent filing is an annual filing, this field will be null, indicating the data belongs to an annual model. If the most recent filing is a quarterly filing, this field will show the quarter: 1, 2, or 3, indicating the data belongs to a TTM model.

filing_type - The filing type of the most recent filing used in the model - generally a 10-K or 10-Q, though other filing types are also used.

filing_date - The date the most recent filing used in the model was filed with the SEC.

period_end_date - The period end date of the most recent filing used in the model.

actual_data_availability_date - The date that New Constructs provided this data to clients on our website, in data feeds, or any other distribution method. The data availability date is the real historical date this data was available to clients. For companies added to coverage, the `data_availability_date` for all historical data will be the date we added the company to coverage. For example, we added Summit Materials, Inc. (SUM) to coverage in January 2018, so the `data_availability_date` for all SUM data prior to January 2018 is January 2018. SUM's data was made available to clients on that date. The data set includes data for SUM back to the first date we can generate a model for SUM in 2016. For backtest purposes, we also provide an implied data availability date. See below.

implied_data_availability_date - The date that New Constructs would have provided this data to clients on our website, in data feeds, or any other distribution method assuming that we covered the security at the time with our current system & [Robo-Analyst technology](#). For backtesting purposes, this date is most similar to the `data_availability_dates` for SEC filings filed today. It is provided as a reasonable data availability date for historical data to most closely match current practices and technology. See `data_availability_date` above for information.

model_date - The historical date for which the model was generated. In the data set, there is one `model_date` at the beginning of every other month for each security. New Constructs backtest data is bimonthly recalculated data. The backtest data in this file are as calculated by our system on the indicated `data_generation_date`, once for every other month on the first trading date over the historical period. Only data available on the `model_date` is used to calculate our ratings and metrics. No future data is used.

data_generation_date - The date on which the data was generated.



Data Value Data Fields - The following data fields are columns in the data set. All values are reported in ones units.

Economic Book Value Calculation

Name	Datapoint	Example (AGN 2016)
NOPAT (Net Operating Profit After Tax)	NOPAT	(\$489,633,600)
Weighted Average Cost of Capital (WACC)	WACC	5.80%
Excess Cash	EXCESS_CASH	\$12,579,170,000
Net Assets from Discontinued Operations	ASSETS_DISCONTINUED_NET	\$27,000,000
Fair Value of Unconsolidated Subsidiary Assets (non-operating)	ASSETS_FIXED_UNCONSOLIDATED_ADJUSTED	\$12,800,000
Net Deferred Tax Liability	DEFERRED_TAX_NET_ADJUSTED	(\$12,735,800,000)
Net Deferred Compensation Assets	ASSETS_DEFERRED_COMPENSATION_NET	\$111,700,000
Fair Value of Total Debt	DEBT_ADJUSTED	\$33,184,655,467
Fair Value of Preferred Capital	STOCK_PREFERRED_ADJUSTED	\$4,929,700,000
Fair Value of Minority Interests	INTEREST_MINORITY_ADJUSTED	\$7,800,000
Value of Outstanding ESO After-Tax	ESO_TRANCHE_VALUE_AFTER_TAX	\$809,934,678
Pensions Net Funded Status	PENSION_FUNDED_STATUS_ADJUSTED	(\$192,900,000)
Economic Book Value (EBV)	BOOK_VALUE_ECONOMIC	(\$47,644,992,469)

Sources: New Constructs, LLC and company filings