



## Adjustments to Convert Total Shareholders' Equity (Accounting Book Value) to Adjusted Book Value (Invested Capital)

This backtest data set contains the adjustments we make to convert Total Shareholders' Equity (Accounting Book Value) to [Invested Capital](#). This data set contains point-in-time data. See below.

This data is available through our [API](#) in the [Accounting Book Value to Invested Capital Reconciliation 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.

### Backtest Dataset General Information

See our [detailed documentation](#) explaining the fields in a backtest dataset file.

### Economic Rationale for Invested Capital - Why Invested Capital Matters

Invested Capital is the sum of all cash that has been invested in a company over its life with no regard to financing form or accounting name. It's the total investment in the business from which operating profit is derived. Average Invested Capital is the denominator in the return on invested capital calculation ([ROIC](#)), which is considered the most robust measure of profitability by fundamental researchers. We did not invent Invested Capital. While the Invested Capital concept has been part of fundamental research for centuries, it has failed to enter more mainstream areas of equity research because of the difficulty in calculating it consistently and accurately across large numbers of companies. Our [Robo-Analyst technology](#) allows us to scale the most sophisticated calculation of Invested Capital across thousands of companies. More [details](#).

### Total Shareholders' Equity (Accounting Book Value) to Invested Capital Adjusted Calculation

In general, we make 17 types of adjustment to convert Total Shareholders' Equity (Accounting Book Value) to Invested Capital:

#### Total Shareholders' Equity (Accounting Book Value)

- + Short-Term Debt and Long-Term Debt
- Total Reported Operating Lease Assets Less Operating Lease Liabilities
- + Off-Balance-Sheet Operating Leases
- + Total Non-Current Other Liabilities Less Reported Deferred Tax Liabilities
- + Total Reserves
- + Accumulated Goodwill Amortization
- + Accumulated Asset Write-Downs After-Tax
- + Accumulated Unrecorded Goodwill
- Unconsolidated Subsidiary Assets (non-operating)
- Net Assets from Discontinued Operations
- Total Reported Deferred Tax Assets Less Deferred Tax Liabilities
- Hidden Deferred Tax Assets Less Deferred Tax Liabilities



- Total Reported Deferred Compensation Assets Less Deferred Tax Liabilities
- Hidden Deferred Compensation Assets Less Deferred Compensation Liabilities
- Excess Cash
- Over Funded Pensions
- Accumulated OCI (Other Comprehensive Income), Including Quarterly Estimates
- = **Invested Capital**

Short-Term Debt and Long-Term Debt is the sum of short term and long term debt reported on the balance sheet. More [details](#).

Total Reported Operating Lease Assets Less Operating Lease Liabilities are operating leases where the associated asset and liability are recorded on the balance sheet at the present value of future lease payments, post adoption of FASB's ASU 2016-02. We remove the company's operating lease estimate and replace it with our own. More [details](#).

Off-Balance-Sheet Operating Leases are not recognized on the balance sheet, unlike capital leases or debt-financed purchases. We add the discounted present value of all required operating lease payments to Invested Capital. This adjustment ensures that each company is held responsible for earning returns on all the capital invested in the business, not just the assets on the balance sheet. More [details](#).

Total Non-Current Other Liabilities Less Reported Deferred Tax Liabilities are non-current liabilities reported on the balance sheet. An example an Other Non-Current Liability is a minority interest. More [details](#).

Total Reserves are contra asset accounts that reduce asset values for probable future losses (in the case of inventory reserves or loan-loss provisions) or resolve the difference in accounting treatments (in the case of LIFO reserves). Since probable losses are calculated at management's discretion, companies can use reserve accounts to manipulate earnings and the carrying values of the assets to which the reserves apply. More [details](#).

Accumulated Goodwill Amortization is the gross amount of goodwill amortization that has been expensed over a company's lifetime. This adjustment ensures that each company is held responsible for earning returns on all the capital invested in the business, not just the goodwill and other assets on the balance sheet. More [details](#).

Accumulated Asset Write-Downs After-Tax are reductions in the book value of an asset that occur when the fair value of an asset has declined significantly below its carrying value. The value of the asset is reduced on the balance sheet, and the write-down is charged against income. We add back asset write-downs (after tax) to our measure of invested capital. Examples of Asset Write Downs are goodwill impairments and losses on sale. More [details](#).

Accumulated Unrecorded Goodwill is the premium paid for the company over its book value (as opposed to its market value) as part of a "pooling of interests method" acquisition, where only the book value of the acquired firm is recorded on the balance sheet. This acquisition method ended in 2002. We added Accumulated Unrecorded Goodwill to Invested Capital to ensure that all capital invested in the business is accounted for. More [details](#).

Unconsolidated Subsidiary Assets (non-operating) are 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](#).

Discontinued Operations Assets are assets that are 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](#).

Reported Deferred Tax Assets 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](#).

Hidden Deferred Tax Assets (Net of Current) are net deferred tax assets (current deferred tax assets - current deferred tax liabilities + fixed deferred tax assets) that are not presented directly on the balance sheet and can only be found in the Management Discussion & Analysis (MD&A) or footnotes to the financial statements. We treat these hidden net tax assets the same way we treat the reported net tax assets. More [details](#).

Reported 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](#).

Hidden Deferred Compensation Assets Less Deferred Compensation Liabilities (Net of Current) are net deferred compensation assets (current deferred compensation assets - current deferred compensation liabilities + fixed deferred compensation assets) that are not presented directly on the balance sheet and can only be found in the Management Discussion & Analysis (MD&A) or footnotes to the financial statements. We treat these hidden net compensation assets the same way we treat the reported net compensation assets. 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](#).

Over Funded Pensions 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](#).

Accumulated OCI (Other Comprehensive Income), Including Quarterly Estimates are gains and losses that have yet to be recognized, and are excluded from net income. We remove OCI from our Invested Capital calculation to (1) better represent the actual capital on hand for management to generate a return on and (2) avoid the noise from the fluctuations of OCI. An example of OCI is unrealized gains/losses on for-sale securities. More [details](#).

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

Datapoints that are impacted by stock price changes are marked with an asterisk (\*) in the table below.

***Total Shareholders' Equity (Accounting Book Value) to Invested Capital Adjustments***

<b>Name</b>	<b>Datapoint</b>	<b>Example (AAN 2016)</b>
Total Shareholders' Equity (Accounting Book Value)	EQUITY_SHAREHOLDER	\$1,481,598,000
Short-Term Debt and Long-Term Debt	DEBT	\$497,829,000
Total Reported Operating Lease Assets Less Operating Lease Liabilities	TOTAL_REPORTED_OPERATING_LEASES_NET	\$0
Off-Balance-Sheet Operating Leases	LEASES_OPERATING_OBLIGATION_NET_PRESENT_VALUE	\$426,041,792
Total Non-Current Other Liabilities Less Reported Deferred Tax Liabilities	TOTAL_LIABILITIES_NON_CURRENT_OTHER_NET	\$0
Total Reserves	RESERVES_TOTAL	\$6,624,000
Accumulated Goodwill Amortization	GOODWILL_AMORTIZATION_ADJUSTED_ACCUMULATED	\$2,607,000
Accumulated Asset Write-Downs After-Tax	WRITE_DOWNS_AFTER_TAX_TOTAL_ACCUMULATED	\$249,179,860
Accumulated Unrecorded Goodwill	GOODWILL_UNRECORDED_ACCUMULATED	\$0
Unconsolidated Subsidiary Assets (non-operating)	ASSETS_FIXED_UNCONSOLIDATED	\$0
Net Assets from Discontinued Operations	ASSETS_DISCONTINUED_NET	\$8,866,000
Total Reported Deferred Tax Assets Less Deferred Tax Liabilities	TOTAL_REPORTED_DEFERRED_TAXES_NET	-\$270,204,000
Hidden Deferred Tax Assets Less Deferred Tax Liabilities	TOTAL_HIDDEN_DEFERRED_TAXES_NET	\$0
Total Reported Deferred Compensation Assets Less Deferred Tax Liabilities	TOTAL_REPORTED_DEFERRED_COMPENSATION_NET	\$0
Hidden Deferred Compensation Assets Less Deferred Compensation Liabilities	TOTAL_HIDDEN_DEFERRED_COMPENSATION_NET	\$3,600,000
Excess Cash	EXCESS_CASH	\$168,694,200
Over Funded Pensions	PENSION_FUNDED_STATUS_LIMITED	\$0
Accumulated OCI (Other Comprehensive Income),	OCI_ADJUSTED	-\$531,000



Including Quarterly Estimates		
Invested Capital	CAPITAL_INVESTED	\$2,753,454,452
Invested Capital (Financing Approach)	CAPITAL_INVESTED_FINANCING	\$2,753,454,452



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### ***Value Investing 2.0: Diligence Matters: Technology is Key to Value Investing With Scale***

Accounting data is only the beginning of fundamental research. It must be translated into economic earnings to truly understand profitability and valuation. This translation requires deep analysis of footnotes and the MD&A, a process that our [robo-analyst technology](#) empowers us to perform for thousands of stocks, ETFs and mutual funds.



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