



Detailed Adjustments to Convert Reported Net Income to NOPAT

This backtest dataset contains the detailed classification of adjustments featured in the [HBS & MIT Sloan paper “Core Earnings: New Data and Evidence”](#) that we use to convert reported net income to [NOPAT \(Net Operating Profit After Tax\)](#). This data set contains point-in-time data. See below.

This data is available through our [API](#) in the [Detailed Net Income to NOPAT 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 common fields in a backtest dataset file.

Economic Rationale for NOPAT - Why NOPAT Matters

NOPAT represents the unlevered, normalized, recurring after-tax cash flows of the business. Also known as NOPLAT, NOPAT is the numerator in the return on invested capital calculation ([ROIC](#)), which is considered the most robust measure of profitability by fundamental researchers. We did not invent NOPAT. While the NOPAT concept has been part of fundamental research for decades, 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 NOPAT across thousands of companies. More [details](#).

Reported Net Income to NOPAT Detailed Adjustment Calculation

Our detailed adjustments to convert reported Net Income to NOPAT includes a more detailed classification of the data in our basic Net Income to NOPAT reconciliation. In general, we classify hidden and reported pre-tax and after-tax adjustments. We calculate NOPAT as follows:

Reported GAAP Net Income

Total Net Non-Operating Expenses Hidden in Operating Earnings

- + Hidden Total Restructuring Expenses, net
- + Hidden Foreign Currency Expenses, net
- + Hidden Other Real Estate Owned Expenses, net
- + Hidden Acquisition and Merger Expenses, net
- + Hidden Legal, Regulatory and Insurance Expenses, net
- + Hidden Derivative Related Expenses, net
- + Hidden Other Financing Expenses, net
- + Hidden Other Non-Recurring Expenses, net
- + Hidden Recurring, Non-Operating Pension Expenses, net
- + Hidden Non-Recurring Pension Expenses, net
- + Hidden Company Defined Other Expenses, net

Reported Net Non-Operating Expenses

- + Reported Derivative Related Expenses, net



- + Reported Other Financing Expenses, net
 - + Reported Company Defined Other Non-Operating Expenses, net
 - + Reported Acquisition and Merger Expenses, net
 - + Reported Legal, Regulatory, and Insurance Related Expenses, net
 - + Reported Interest Expense/(Income), net
 - + Reported Expenses/(Income) from Discontinued Operations, net
 - + Reported Losses/(Income) from Unconsolidated Subsidiaries, net
 - + Reported Foreign Currency Loss/(Gain), net
 - + Reported Non-Operating Other Real Estate Owned Expenses/(Income), net
 - + Reported Other Non-Operating Expenses/(Income), net
 - + Reported Write-Downs, net
 - + Reported Restructuring Expenses, net
 - + Reported Other Non-Recurring Expenses/(Income), net
- Derived Datapoints
- + Change in Total Reserves
 - + Goodwill Amortization Expenses, net
 - ESO Expense (Employee Stock Options), net
 - + Interest for PV of Operating Leases
 - + Quarterly/Annual Classification Disclosure Adjustments, net
 - + Non-Operating Tax Adjustment
- Net After-Tax Non-Operating Expense/(Income)
- + Reported Minority Interest Expenses, net
 - + Reported Loss/(Gain) from Discontinued Operations, net
 - + Reported Preferred Stock Dividends, net
 - + Reported Redeemable Preferred Stock Dividends, net
 - + Reported Other After-tax Charges, net
- = **NOPAT (Net Operating Profit After Tax)**

Total Net Non-Operating Expenses Hidden in Operating Earnings are the net of losses and gains that do not appear directly on the income statement. These items are bundled inside other line items that appear on the income statement. Hidden items are found only in the Management Discussion & Analysis (MD&A) or in the footnotes to the financial statements. More [details](#). We classify Net Non-Operating Expense Hidden in Operating Earnings into the following types:

Hidden Total Restructuring Expenses, net are the net of non-operating expenses related to the reorganization of a business that does not appear directly on the income statement and is hidden in operating earnings.

Hidden Foreign Currency Expenses, net are the net of non-operating expenses related to the changes in the value of foreign currency that does not appear directly on the income statement and is hidden in operating earnings.

Hidden Other Real Estate Owned Expenses, net are the net of non-operating expenses associated with foreclosed assets owned or controlled by a bank. This expense does not appear directly on the income statement and is hidden in operating earnings.

Hidden Acquisition and Merger Expenses, net are the net of non-operating expenses related to an acquisition or merger that does not appear directly on the income statement and is hidden in operating earnings.



Hidden Legal, Regulatory and Insurance Expenses, net are the net of non-operating expenses related to legal, regulatory, and insurance costs that do not appear directly on the income statement and is hidden in operating earnings.

Hidden Derivative Related Expenses, net are the net of non-operating expenses related to derivatives that does not appear directly on the income statement. This item is hidden inside other line items that appear on the income statement and is hidden in operating earnings.

Hidden Other Financing Expenses, net are the net of non-operating expenses related to the cost of financing that does not appear directly on the income statement and is hidden in operating earnings.

Hidden Other Non-Recurring Expenses, net are the net of non-operating expenses related to costs that do not recur, and do not appear directly on the income statement and is hidden in operating earnings.

Hidden Recurring, Non-Operating Pension Expenses, net are the net of non-operating expenses related to recurring pension costs that do not appear directly on the income statement and is hidden in operating earnings.

Hidden Non-Recurring Pension Expenses, net are the net of non-operating expenses related to one-time pension costs that do not recur. This item is hidden inside other line items that appear on the income statement and is hidden in operating earnings.

Hidden Company Defined Other Expenses, net are the net of non-operating expenses for costs specifically defined as “other” that do not appear directly on the income statement and is hidden in operating earnings.

Reported Net Non-Operating Expenses are the net of non-operating charges and gains that appear directly on the income statement. More [details](#). We classify Reported Net Non-Operating Expenses into the following types:

Reported Derivative Related Expenses, net are the net of non-operating expenses related to derivatives that appear directly on the income statement.

Reported Other Financing Expenses, net are the net of non-operating expenses related to the cost of financing that appear directly on the income statement.

Reported Company Defined Other Non-Operating Expenses, net are the net of non-operating expenses for costs specifically defined as “other” that appear directly on the income statement.

Reported Acquisition and Merger Expenses, net are the net of non-operating expenses related to an acquisition or merger that appear directly on the income statement.

Reported Legal, Regulatory, and Insurance Related Expenses, net are the net of non-operating expenses related to legal, regulatory, and insurance costs that appear directly on the income statement.

Reported Interest Expense/(Income), net is a non-operating expense related to the cost of financing that appears directly on the income statement.



Reported Expenses/(Income) from Discontinued Operations, net are non-operating expenses associated with businesses or subsidiaries that are held for sale. These expenses appear directly on the income statement.

Reported Losses/(Income) from Unconsolidated Subsidiaries, net are non-operating expenses associated with subsidiaries that are not consolidated within the parent company's financial statements. These expenses appear directly on the income statement.

Reported Foreign Currency Loss/(Gain), net is a non-operating expense related to the changes in the value of foreign currency that appears directly on the income statement.

Reported Non-Operating Other Real Estate Owned Expenses/(Income), net are non-operating expenses associated with foreclosed assets owned or controlled by a bank. These expenses appear directly on the income statement.

Reported Other Non-Operating Expenses/(Income), net are non-operating expenses for other costs that appear directly on the income statement.

Reported Write-Downs, net are non-operating expenses related to the impairment in value of a company's assets. These expenses appear directly on the income statement.

Reported Restructuring Expenses, net are the net of non-operating expenses related to the reorganization of a business that appear directly on the income statement.

Reported Other Non-Recurring Expenses/(Income), net are non-operating expenses for other costs that appear directly on the income statement. These costs should not recur in the future.

Derived Datapoints are values calculated from other reported items in SEC filings. More details about how we calculate each of these datapoints is available below.

Change in Total Reserves captures changes in LIFO reserves, other inventory reserves, and loan loss reserves. More [details](#).

Goodwill Amortization Expenses, net is a gradual, formulaic reduction in goodwill asset value using any of the several GAAP amortization methods. In 2002, FASB did away with Goodwill amortization and replaced it with the practice of goodwill impairment. This adjustment only appears in historical filings prior to adoption of the new accounting standards. More [details](#).

ESO Expense (Employee Stock Options), net is the cost of issuing (at-the-money) employee stock options (ESOs) to employees before companies were required to expense ESOs. Prior to 2006, businesses were not required to record any cost for issuing ESOs. Using data provided only in footnotes, we charge companies for the cost of all ESO issuances long before FASB required companies to report the expense. This charge only appears in historical filings prior to adoption of the new accounting standards. More [details](#).

Interest for PV of Operating Leases is the implied interest expense added back to NOPAT for the capitalization of operating leases, a form of off-balance sheet debt. As of 2019, FASB requires [operating leases to be on balance sheet](#). In the meantime, we capitalize all operating leases to make them like capital leases to ensure apples-to-apples comparability between



companies employing different accounting techniques (i.e. capital leases vs operating leases) for the same economic activity. More [details](#).

Quarterly/Annual Classification Disclosure Adjustments, net are adjustments for irreconcilable differences in classification disclosure between quarterly and annual filings.

Non-Operating Tax Adjustment normalizes the reported income tax provision and accounts for the effects of non-operating items and deferred taxes. [More details](#).

Net After-Tax Non-Operating Expense/(Income) are the net of non-operating expenses and income that appear directly on the income statement after tax. We classify Non-Operating After-Tax Expenses into the following types:

Reported Minority Interest Expenses, net are the net of non-operating expenses associated with significant but non-controlling ownership of a company’s voting shares. The portion of the parent company’s income attributed to minority interest is subtracted from reported profits.

Reported Loss/(Gain) from Discontinued Operations, net is the after-tax expense from assets or subsidiaries that are held for sale.

Reported Preferred Stock Dividends, net are the dividends that must be paid out to preferred equity owners before common stock owners can receive any money.

Reported Redeemable Preferred Stock Dividends, net are the dividends that must be paid out to redeemable preferred equity owners before common stock owners can receive any money.

Reported Other After-tax Charges, net are other non-operating expenses and income that appear directly on the income statement after tax.

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.

Detailed Reported Net Income to NOPAT Adjustments

Name	Datapoint	Example (AAP 2004)
Reported GAAP Net Income	INCOME_NET	\$187,988,000
Hidden Total Restructuring Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_ALL_RESTRUCTURING	\$447,000
Hidden Foreign Currency Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_FOREIGN_CURRENCY_PRE_TAX_TOTAL	\$0



Hidden Other Real Estate Owned Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_OREO_PRE_TAX_TOTAL	\$0
Hidden Acquisition and Merger Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_ACQUISITION_MERGER_PRE_TAX_TOTAL	\$0
Hidden Legal, Regulatory and Insurance Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_LEGAL_REGULATORY_INSURANCE_PRE_TAX_TOTAL	\$0
Hidden Derivative Related Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_DERIVATIVE_PRE_TAX_TOTAL	\$0
Hidden Other Financing Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_OTHER_FINANCING_PRE_TAX_TOTAL	\$0
Hidden Other Non-Recurring Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_OTHER_NON_RECURRING_PRE_TAX_TOTAL	\$0
Hidden Recurring, Non-Operating Pension Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_PENSION_RECURRING	\$1,254,000
Hidden Non-Recurring Pension Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_PENSION_NON_RECURRING	-\$436,000
Hidden Company Defined Other Expenses, net	HIDDEN_NOPAT_ADJUSTMENT_COMPANY_DEFINED_OTHER_PRE_TAX_TOTAL	\$0
Reported Derivative Related Expenses, net	EXPENSES_NON_OPERATING_DERIVATIVE	\$0
Reported Other Financing Expenses, net	EXPENSES_NON_OPERATING_OTHER_FINANCING	\$0
Reported Company Defined Other Non-Operating Expenses, net	EXPENSES_NON_OPERATING_COMPANY_DEFINED_OTHER	-\$289,000



Reported Acquisition and Merger Expenses, net	EXPENSES_NON_OPERATING_ACQUISITION_MERGER	\$0
Reported Legal, Regulatory, and Insurance Related Expenses, net	EXPENSES_NON_OPERATING_LEGAL_REGULATORY_INSURANCE	\$0
Reported Interest Expense/(Income), net	EXPENSES_NON_OPERATING_INTEREST	\$20,069,000
Reported Expenses/(Income) from Discontinued Operations, net	EXPENSES_NON_OPERATING_DISCONTINUED_OPERATIONS	\$0
Reported Losses/(Income) from Unconsolidated Subsidiaries, net	EXPENSES_NON_OPERATING_SUBSIDIARY_UNCONSOLIDATED	\$0
Reported Foreign Currency Loss/(Gain), net	EXPENSES_NON_OPERATING_FOREIGN_CURRENCY	\$0
Reported Non-Operating Other Real Estate Owned Expenses/(Income), net	EXPENSES_NON_OPERATING_OREO	\$0
Reported Other Non-Operating Expenses/(Income), net	EXPENSES_NON_OPERATING_OTHER	\$0
Reported Write-Downs, net	EXPENSES_NON_RECURRING_WRITE_DOWN	\$0
Reported Restructuring Expenses, net	EXPENSES_NON_RECURRING_RESTRUCTURING	\$0
Reported Other Non-Recurring Expenses/(Income), net	EXPENSES_NON_RECURRING_OTHER	\$3,230,000



Change in Total Reserves	RESERVES_YOY_DELTA	- \$5,294,000
Goodwill Amortization Expenses, net	GOODWILL_AMORTIZATION_ADJUSTED	\$0
ESO Expense (Employee Stock Options), net	ESO_EXPENSE	\$14,265,352
Interest for PV of Operating Leases	LEASES_OPERATING_OBLIGATION_INTEREST_IMPLIED	\$52,886,828
Quarterly/Annual Classification Disclosure Adjustments, net	CLASSIFICATION_DISCLOSURE_ADJUSTMENT	\$0
Non-Operating Tax Adjustment	NON_OPERATING_TAXES	- \$24,393,869
Reported Minority Interest Expenses, net	EXPENSES_INTEREST_MINORITY	\$0
Reported Loss/(Gain) from Discontinued Operations, net	CHARGE_AFTER_TAX_DISCONTINUED_OPERATIONS	\$39,000
Reported Preferred Stock Dividends, net	DIVIDENDS_PREFERRED	\$0
Reported Redeemable Preferred Stock Dividends, net	DIVIDENDS_PREFERRED_REDEEMABLE_MANDATORILY	\$0
Reported Other After-tax Charges, net	CHARGES_AFTER_TAX_OTHER	\$0
NOPAT (Net Operating Profit After Tax)	NOPAT	\$221,235,607
NOPAT (Net Operating Profit After Tax) Financing Approach	NOPAT_FINANCING	\$221,235,607



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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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