



# U.S. Bank Portfolio Analytics

ACCOUNTING | COMPLIANCE | PERFORMANCE | RISK

A decorative background consisting of various shades of blue geometric shapes, including triangles and polygons, creating a modern, abstract pattern.

clearwater

# U.S. Bank's Approach

U.S. Bank partners with Clearwater Analytics to provide the infrastructure our clients need to responsibly manage investments, diversify asset classes, and scale with any data management needs that may arise in the future. Investors need to have access to the most accurate, timely, and integrated portfolio data available to make informed decisions, drive periodic reporting requirements, and maintain ongoing portfolio analysis.



## Automated Data Aggregation

Clearwater builds and maintains hundreds of connections to investment managers, fund administrators, custodians, brokers, and data vendors. This provides a centralized system for back-office and security master data.



## Data Reconciliations and Validation

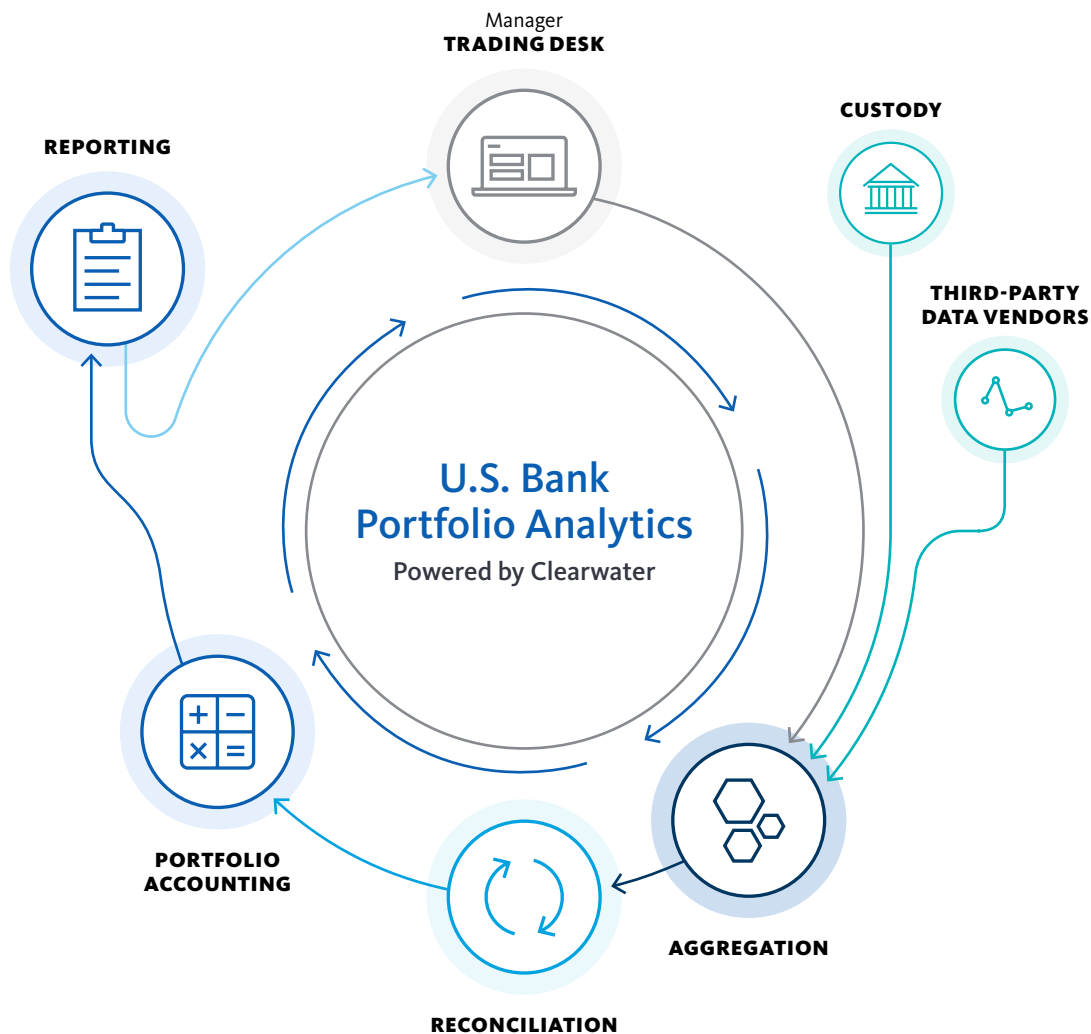
Clearwater reconciles cash, positions, and transactions between various sources (investment managers, custodians, and others). Clearwater has teams dedicated to enriching and standardizing security master data for various asset classes, including accounting and performance verifications.



## Portfolio Accounting and Reporting

These processes feed Clearwater's multi-asset class, multi-currency, multi-basis investment accounting and performance system, which produces accruals, book values, market values, and other accounting data needed to drive both the daily trading cycle, as well as the other reporting and analysis functions.

### DATA MANAGEMENT SOLUTION



# Configurable Reporting for Your Needs

U.S. Bank Portfolio Analytics is a dynamic web-based solution that enables you to create and modify reports and dashboards. Tailor both high-level and in-depth portfolio views, powered by clean, validated investment data for your portfolio book-of-record accounting, compliance monitoring, performance metrics, and risk analytics.

## Reporting Features

- › Add, remove, sort, group, and filter columns
- › Share reports with team members and save for easy reuse
- › Download customized reporting packages

## Dashboard Features

- › Monitor trends, measure performance, and track critical investment information at a high level
- › Easily add, move, and customize widgets
- › Create and save as many dashboards as desired



# Accounting

## Sample Reports

- › Roll-Forward
- › Multi-Basis Tie-Outs (GAAP, STAT, Tax, etc.)
- › Tax Lot Holdings
- › Transaction Detail
- › Payables and Receivables
- › Net Income Detail
- › Impairment Analysis
- › Amortization/Accretion
- › Custom Footnotes and Disclosures
- › Historical Financials
- › Trial Balance

Account	Identifier	Description	Maturities and Redemptions	Paydowns	Net Trade Gain/Loss	Book Val
DEM Life-Swaps	317U346V7-SWOP	IRO USD SY C 1.20000 M 05/18/20...	0.00	0.00	0.00	
DEM Life-Swaps	SWU00QZ88-FLOAT	SWP:IRS USD 2.60000 09/26/18-SY...	0.00	0.00	0.00	
DEM Life-Swaps	SWU00RX10-FLOAT	SWP:IRS USD 2.70000 12/14/18-SY...	0.00	0.00	0.00	
DEM Life-Swaps	SWU010I49-FLOAT	SWU010I49 IRS USD P Y 03MLIBOR ...	0.00	0.00	0.00	
DEM Life-Swaps	SWU010I05-FLOAT	IRS USD 0.74239 06/30/20-18Y* CME	0.00	0.00	0.00	
DEM Life-Swaps	SWU010L78-FLOAT	IRS USD 0.80780 06/30/20-18Y* CME	0.00	0.00	0.00	
DEM Life-Swaps	SWU00KJ11-FIXED	IRS USD 1.50000 06/21/17-10Y LCH	0.00	0.00	-219,853.61	
DEM Life-Swaps	SWU00INA1-FIXED	IRS USD 1.75000 12/21/16-10Y CME	0.00	0.00	34,674.16	
DEM Life-Swaps	SWPC0JGK6-PREMIUM	CDX HY34 SY ICE	0.00	20,500.00	98,378.55	
DEM Life-Swaps	SWPC0JGK6-PREMIUM	CDX HY34 SY ICE	0.00	20,500.00	99,823.28	
DEM Life-Swaps	SWPC0JGK6-PREMIUM	CDX HY34 SY ICE	0.00	19,500.00	94,998.99	
DEM Life-Options	70W99V390W	CALL ON BLK 04/17/2020 @ 390.0	0.00	0.00	-925,979.71	
DEM Life-Swaps	SWU00KJ11-FIXED	IRS USD 1.50000 06/21/17-10Y LCH	0.00	0.00	-96,938.80	
DEM Life-Options	90J99QQQ3W	CALL ON SPY 03/19/2021 @ 195.0	0.00	0.00	-914,926.10	
DEM Life-Options	40M99M6W0W	CALL ON HON 01/15/2021 @ 95.0	0.00	0.00	-797,174.04	
DEM Life-Options	70W9999U2W	CALL ON CVX 03/19/2021 @ 52.5	0.00	0.00	-708,501.40	
DEM Life-Swaps	SWPC0JGK6-PREMIUM	CDX HY34 SY ICE	0.00	74,591.65	23,527.66	
DEM Life-Swaps	SWU00Y961-FIXED	IRS GBP 1.00000 06/17/20-5Y LCH	0.00	0.00	-34,565.47	
DEM Life-Options	80N99CV90W	CALL ON GLW 01/15/2021 @ 20.0	0.00	0.00	-894,251.00	
DEM Life-Options	20J999J96W	CALL ON MSFT 10/16/2020 @ 135.0	0.00	0.00	-904,081.17	
DEM Life-Swaps	SWPC0M38-CREDIT	RUSSIA EM SP GST	0.00	0.00	0.00	
DEM Life-Options	7YN999U61W	CALL ON NUE 01/17/2020 @ 45.0	0.00	0.00	-241,493.72	
DEM Life-Options	30L99LVN6W	CALL ON CMCSA 03/20/2020 @ 37.5	0.00	0.00	-512,859.37	
DEM Life-Swaps	SWPC0M38-CREDIT	RUSSIA EM SP GST	0.00	0.00	0.00	
DEM Life-Forw...	99MSCR268	SWAP BROKER OWND CASH COLL ...	0.00	0.00	0.00	
DEM Life-Options	68P999CE0W	CALL ON SPY 01/17/2020 @ 320.0	0.00	0.00	-350,262.10	

Account	Identifier	Description	Holding Period	TAX Base Book Value	STAT Base Book Value	GAAP Base Book Value	TAX vs STAT Book Value	TAX vs GAAP Book Value	TAX vs GAAP Original Cost	TAX vs GAAP Accumulated Amortization	TAX vs GAAP Accumulated Accretion	TAX Base Wash Sales Deferred Loss	TAX Base Tax Adjustment	Base Net Accumulated OTTI
DEM Life-Bank Loans	LX169002	Numericable-SFR S.A.	LT	980,068.75	981,590.80	981,590.80	-1,522.05	1,522.05	-980,068.75	0.00	981,590.80	0.00	0.00	0.00
DEM-Core Fixed USD	012873AH8	ENCANA CORP	LT	9,939,900.00	9,967,289.86	7,875,961.53	-27,389.86	-2,063,938.47	-2,455,850.00	0.00	391,711.53	0.00	0.00	0.00
DEM-Core Fixed USD	505848A02	MARATHON OIL CORP	LT	5,129,576.40	5,129,576.40	4,041,451.97	0.00	-1,088,124.43	-1,327,065.00	71,923.60	17,923.60	0.00	0.00	0.00
DEM-Core Fixed USD	85207UAE5	SPRINT CORP	LT	784,680.99	784,680.99	713,585.42	0.00	-71,095.57	-263,162.01	36,481.02	155,585.42	0.00	0.00	0.00
DEM-Core Fixed USD	85207UAE5	SPRINT CORP	LT	784,680.99	784,680.99	713,585.42	0.00	-71,095.57	-263,162.01	36,481.02	155,585.42	0.00	0.00	0.00
DEM-Core Fixed USD	6677484F4	NORTHWEST PIPELINE LLC	LT	3,984,000.00	3,994,989.58	3,742,962.55	-10,989.58	-241,037.45	-381,216.00	0.00	140,178.55	0.00	0.00	0.00
DEM-Core Fixed USD	03251IAN7	ANADARKO PETROLEUM	LT	7,716,649.92	7,716,649.92	6,790,218.31	0.00	-926,431.61	-822,001.12	120,748.08	131,759.36	0.00	0.00	0.00
DEM-Core Fixed USD	494590AL0	KINDER MORGAN ENE...	LT	10,288,366.84	10,288,366.84	9,330,933.19	0.00	-957,433.65	-1,221,888.37	160,105.32	123,989.41	0.00	0.00	0.00
DEM-Core Fixed USD	58509YQZ5	MEDSTAR HEALTH INC	LT	6,140,000.00	6,140,000.00	5,762,119.98	0.00	-377,880.02	-497,929.44	0.00	120,045.42	0.00	0.00	0.00
DEM-Core Fixed USD	58509YQZ3	MEDSTAR HEALTH INC	LT	3,800,000.00	3,800,000.00	3,411,032.83	0.00	-388,967.17	-494,433.20	0.00	105,466.03	0.00	0.00	0.00
DEM-Core Fixed USD	85207UAE5	SPRINT CORP	LT	482,118.06	495,863.03	460,377.69	-13,744.86	-21,740.37	-120,625.00	0.00	98,884.63	0.00	0.00	0.00
DEM-Core Fixed USD	85207UAE5	SPRINT CORP	LT	484,882.08	498,863.03	460,377.69	-10,880.85	-24,504.39	-120,625.00	0.00	98,020.61	0.00	0.00	0.00
DEM-Core Fixed USD	38148YAA6	GOLDMAN SACHS GROUP...	LT	18,148,556.01	18,241,511.93	18,241,511.93	-92,955.93	92,955.93	0.00	0.00	92,955.93	0.00	0.00	0.00
DEM-Core Fixed USD	03251IAN7	ANADARKO PETROLEUM...	LT	5,409,607.30	5,409,607.30	4,594,042.09	0.00	-815,565.21	-923,858.12	260,641.45	89,144.12	0.00	0.00	0.00
DEM-Core Fixed USD	8635760J0	SASC 2005-WF4 M4	LT	471,318.75	555,800.91	555,081.12	-84,482.16	83,762.37	0.00	0.00	83,762.37	0.00	0.00	0.00
DEM-Core Fixed USD	70088FFL6	PPSI 2009-WF4 M4	LT	520,828.93	603,732.28	602,945.33	-82,826.35	82,119.39	0.00	0.00	82,119.39	0.00	0.00	0.00
DEM-Core Fixed USD	85207UAE5	SPRINT CORP	LT	375,269.86	375,269.86	345,283.27	0.00	-29,986.59	-105,937.50	667.64	75,283.27	0.00	0.00	0.00
DEM-Core Fixed USD	85207UAE5	SPRINT CORP	LT	375,269.86	375,269.86	345,283.27	0.00	-29,986.59	-105,937.50	667.64	75,283.27	0.00	0.00	0.00
DEM Life-High Yield	23311VAD9	DCP MIDSTREAM OPERAT...	LT	475,992.30	445,257.13	445,257.13	29,742.87	-29,742.87	0.00	0.00	67,840.63	0.00	0.00	-97,583.50
DEM Life-High Yield	23311VAD9	DCP MIDSTREAM OPERAT...	LT	475,992.30	445,257.13	445,257.13	30,685.17	-30,685.17	0.00	0.00	67,908.33	0.00	0.00	-98,208.90
DEM-Core Fixed USD	58509YAP7	MEDSTAR HEALTH INC	LT	4,400,000.00	4,400,000.00	4,219,163.95	0.00	-180,836.05	-247,368.00	0.00	66,531.95	0.00	0.00	0.00
DEM Life-High Yield	0367APAL7	ANTERO RESOURCES CO...	LT	501,399.05	471,960.24	471,960.24	29,438.82	-29,438.82	0.00	-87,937.43	58,499.61	0.00	0.00	0.00
DEM-Core Fixed USD	03716AW5	RIO TINTO ALCAN INC	LT	9,088,999.09	9,315,807.92	9,597,931.89	-226,814.90	508,538.86	450,620.00	0.00	57,918.86	0.00	0.00	0.00
DEM-Core Fixed USD	03716AW5	RIO TINTO ALCAN INC	LT	3,554,108.58	3,554,108.58	3,437,353.17	0.00	-116,755.40	-247,351.55	72,844.47	97,651.67	0.00	0.00	0.00
DEM-Core Fixed USD	03716AW5	RIO TINTO ALCAN INC	LT	3,554,108.58	3,554,108.58	3,437,353.17	0.00	-116,755.40	-247,351.55	72,844.47	97,651.67	0.00	0.00	0.00

## OVERVIEW

U.S. Bank Portfolio Analytics provides accounting for multiple asset classes and currencies to accommodate clients' needs across the globe. The system can be configured to any accounting basis including GAAP, Statutory, Tax, IFRS, and others.

Easily customize disclosure reports and other standard balance sheets, income statements, and roll-forward reports. You can group data on multiple levels, write formulas, pivot,

and add or remove non-module-specific data points. Accounting information can be pulled into varying types of reports, like risk and performance, to allow for a more comprehensive analysis.

Powerful automation provides standardized investment-related disclosures such as Fair Value Hierarchy and Level 3 Roll-Forward.

# Compliance

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Status: DEM-AGG (164916) as of 06/30/2020

Compliant	Account	Policy Name	Total Rules	Compliant Rules	Violating Rules	Policy Download
✓	DEM-AGG	Minnesota DOI Policy (2019)	14	14	0	
⚠	DEM-Core Fixed USD	Demo-Insurance	31	25	6	
✓	DEM-Core Fixed USD	New York P&C State Policy	23	23	0	
⚠	DEM-Equities	Demo-Equity	15	8	7	

Footnotes: none

Status	Account	Policy Name	Category Name	Rule Name	Days In Violation	View Contributors	Actual Value	Actual Value without Resolutions	Limit Value	Edit Limit	Notes	View/Edit Notes	Resolutions	View/Edit Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.1 The percentage of the portfolio with ratings of AAA plus secu...	0	View	11,455	11,455	0.200	Limit	Y	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.2 The percentage of the portfolio with ratings of AA or better	69	View	18,323	19,492	35,000	Limit	Y	Notes	Y	Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.3 The percentage of the portfolio with ratings of A or better	1	View	49,953	49,953	50,000	Limit	Y	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.4 The percentage of the portfolio with ratings of BBB or better	0	View	94,166	94,166	75,000	Limit	N	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.5 List any fixed income investments that have a rating other...	7	View	60,000	60,000	40,000	Limit	Y	Notes	Y	Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.5 The percentage of the portfolio with ratings of less than BBB	0	View	14,995	14,995	23,000	Limit	N	Notes	N	Resolutions

Footnotes: none

- ⚠ A) Credit Rating
- ⚠ B) Fixed Income Diversification
- ⚠ C) Investment Fund Diversification
- ⚠ E) Short Term Fixed Income
- ⚠ F) Long Term Fixed Income
- ⚠ H) International Investments

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Contributors: DEM-AGG (164916) as of 09/09/2020

Status	Account	Policy Name	Category Name	Rule Name	Days In Violation	Actual Value	Actual Value without Resolutions	Limit Value	Edit Limit	Notes	View/Edit Notes	Resolutions	View/Edit Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.1 The percentage of the portfolio with ratings of AAA plus securities issued or guaranteed by U.S.	0	11,508	11,508	0.200	Limit	Y	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.2 The percentage of the portfolio with ratings of AA or better	117	19,581	19,581	35,000	Limit	Y	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.3 The percentage of the portfolio with ratings of A or better	0	50,088	50,088	50,000	Limit	Y	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.4 The percentage of the portfolio with ratings of BBB or better	0	93,726	93,726	75,000	Limit	N	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.5 List any fixed income investments that have a rating other than 1 or 2 issued by the SVO	0	---	60,000	40,000	Limit	Y	Notes	Y	Resolutions
⚠	DEM-Core Fixed USD	Demo-Insurance	A) Credit Rating	A.5 The percentage of the portfolio with ratings of less than BBB	0	14,731	14,731	23,000	Limit	N	Notes	N	Resolutions

Footnotes: \* Grouped by: Policy Name -> Account \* Groups Sorted by: Policy Name

Compliant	Account	Identifier	Description	Value	Portfolio Percent	Rating	Base Net Total Unrealized Gain/Loss	Base Market Value - Accrued	Notes	View/Edit Notes	Resolutions	View/Edit Resolutions
⚠	DEM-Core Fixed USD	001807A44	AMSR 2020-SFR3 A	0.034	0.026%	AAA	174.05	1,481,184.00	N	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	00900LAH7	AIMCO 2015-A BR	0.099	0.075%	AA+	-49,179.86	4,294,847.26	Y	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	02007MAE0	ALLYA 2018-1 A3	0.004	0.003%	AAA	958.07	176,743.82	N	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	02007RAC3	ALLYA 2019-3 A3	0.049	0.038%	AAA	60,922.21	2,198,079.24	N	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	025300A44	ACAR 2019-2 A	0.001	0.001%	AAA	4.25	36,232.76	Y	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	02665UA33	AH4R 2014-SFR2 A	0.019	0.015%	AAA	44,768.86	872,104.88	N	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	02665AAA6	AH4R 2015-SFR1 A	0.020	0.017%	AAA	75,299.42	965,997.27	N	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	03066LAD0	AMCAR 2018-2 A3	0.013	0.010%	AAA	7,431.17	565,553.32	N	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	03769CAC3	APID XXX A1A	0.025	0.019%	AAA	-1,906.42	1,092,432.39	N	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	037833A59	APPLE INC	0.031	0.024%	AA+	44,219.77	1,396,834.38	N	Notes	N	Resolutions
⚠	DEM-Core Fixed USD	037833CG3	APPLE INC	0.038	0.031%	AA+	139,101.42	1,788,147.90	N	Notes	N	Resolutions

## OVERVIEW

U.S. Bank Portfolio Analytics provides actionable, up-to-date information regarding portfolio compliance on a daily basis. The compliance module is fully integrated with your accounting book of record data and can track any data point on the Portfolio Analytics system, across multiple accounts, managers, or business units.

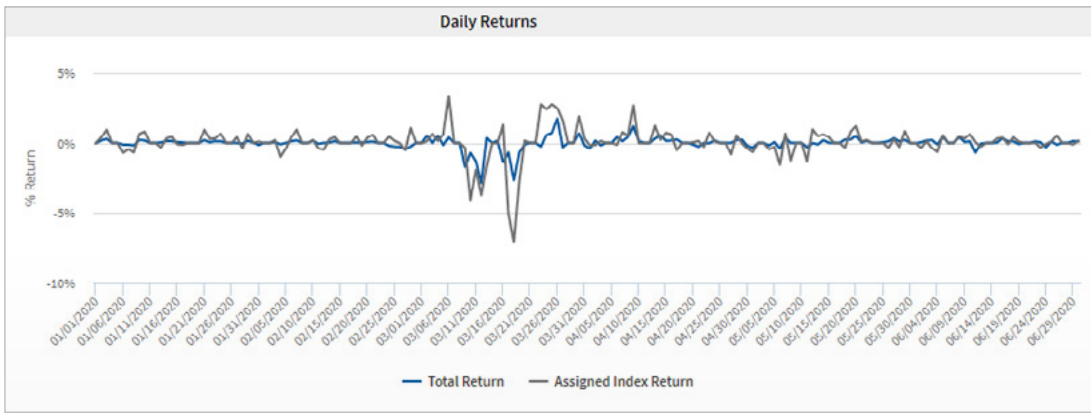
This independent monitoring proactively sends you compliance status notifications, including:

- › Internal investment policy and state policy monitoring
- › Automatic email notifications
- › Complete history and analysis

## Sample Reports

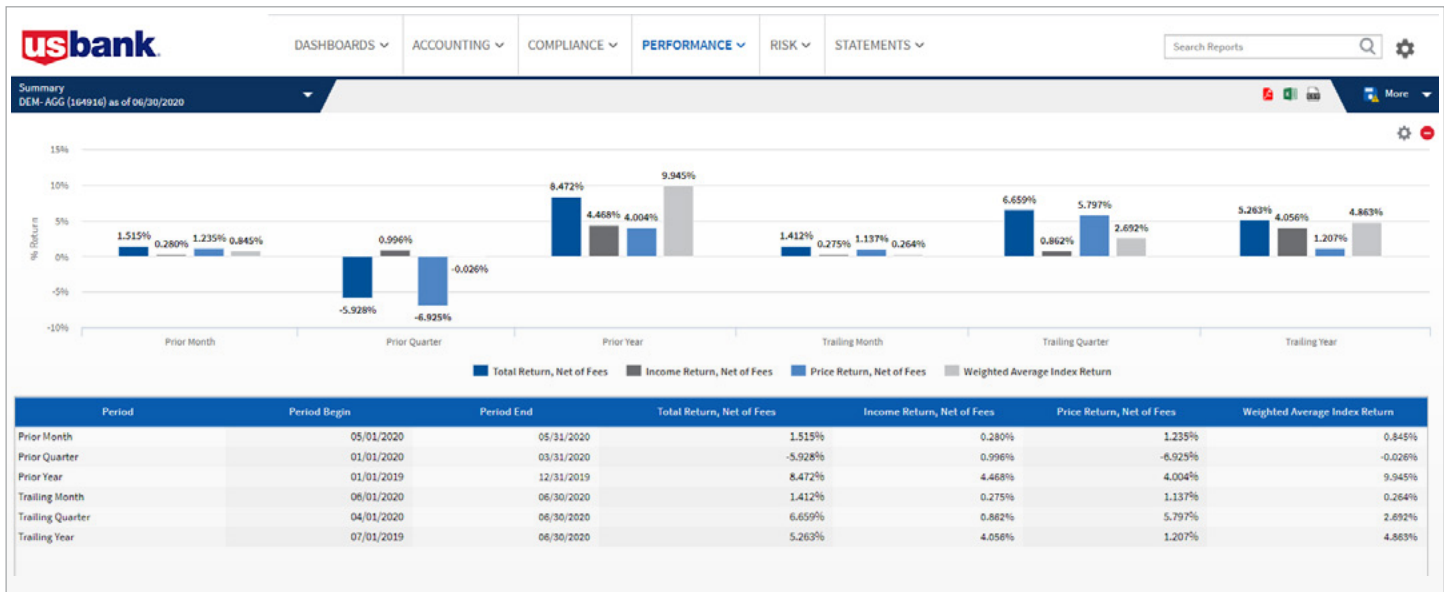
- › Status
- › Contributors
- › History by Date
- › History by Rule
- › Audit

# Performance



## Sample Reports

- › Performance Summary
- › Performance Returns
- › Performance Details
- › Performance Comparison
- › Benchmark Comparison
- › Risk-Adjusted Comparison
- › Contribution
- › Equity Attribution
- › Fixed Income Attribution



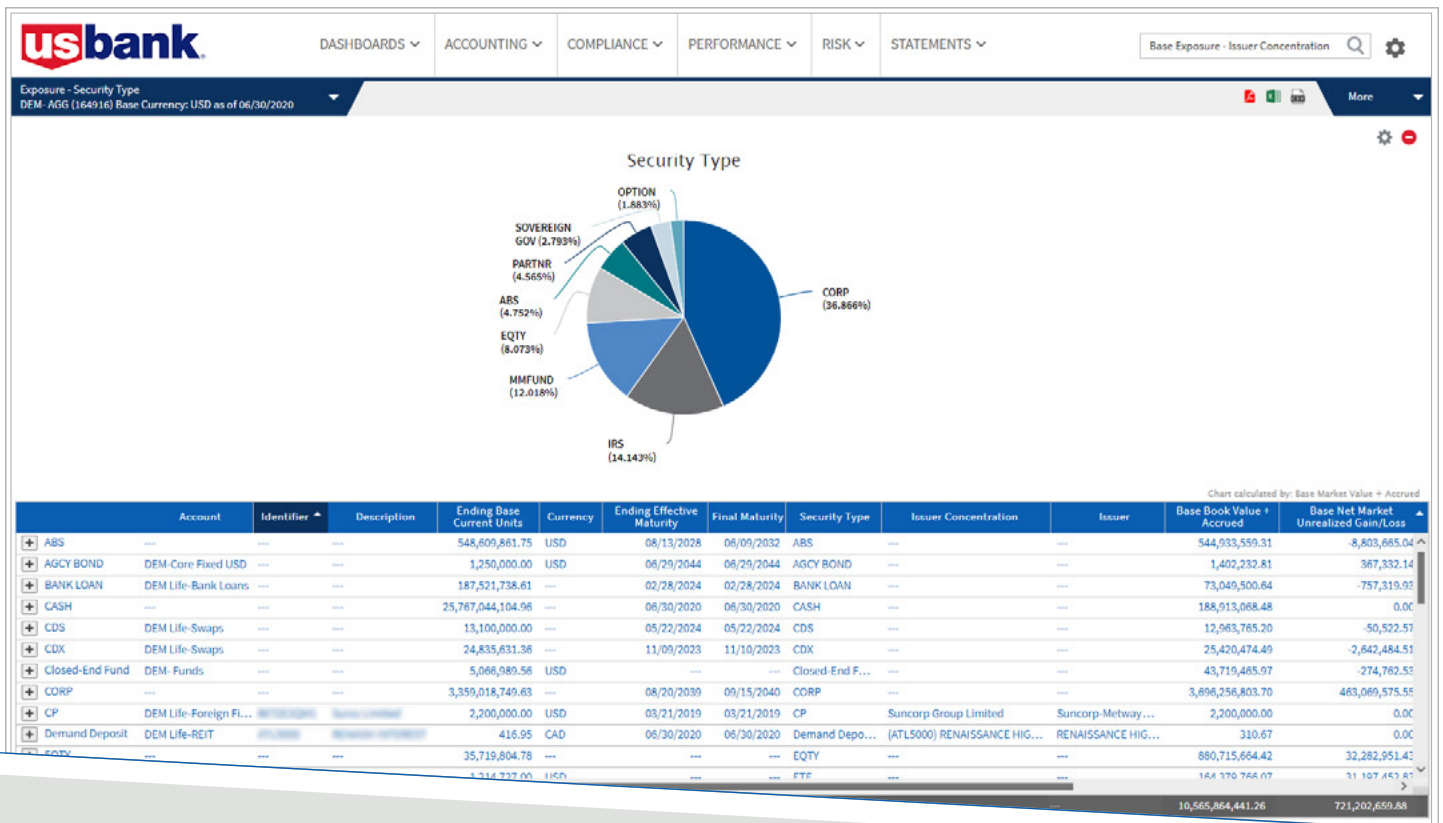
## OVERVIEW

U.S. Bank Portfolio Analytics provides versatile performance reports that offer users the most valuable, accurate, and relevant information for performance measurement. Additionally, these reports are integrated with the accounting module, which provides daily reconciled data. This integration enables clients to have in-depth insight into the underlying factors contributing to a portfolio's market value.

- › Analyze different return types: time-weighted returns, money-weighted returns, book returns, price returns, and income returns
- › Incorporate multiple time range selection, gross up/gross down tax methodology, and different fee types for comparative analysis

## Sample Reports

- › Issuer Exposure
- › Security Type Exposure
- › Currency Exposure
- › Country Exposure
- › Duration Exposure
- › Industry Sector Exposure
- › Credit Rating Exposure
- › Index Comparison
- › Credit Events
- › Shock Analysis
- › VaR
- › Historical Trends
- › Historical Exposure
- › Cash Flow Forecast



### OVERVIEW

U.S. Bank Portfolio Analytics provides insightful risk analytics on-demand to ensure investment teams have access to their clients' portfolio exposures. Utilize timely and actionable data to analyze by issuer, currency, country, duration, credit rating, and more. Risk summary reports have drill-down capabilities to display the underlying data at the tax lot level.

With U.S. Bank, you'll have access to data for better portfolio analysis, including:

- › Multiple and blended benchmark comparisons
- › Credit rating monitoring and downgrade notifications
- › Cash flow forecasting
- › Value at risk (VaR)

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