ICE Portfolio Analytics (IPA)

Fixed Income Portfolio Management System

ICE Portfolio Analytics (IPA) provides a web-based solution for portfolio management, analysis, and risk oversight. IPA can help asset managers and asset owners globally inform their investment decisions, analyze performance attribution, perform benchmark analysis, monitor investment guidelines, project cash flows and returns in different market environments, provide custom-tailored reports and help monitor portfolios intraday. With 40+ years of analytics expertise fueled by comprehensive fixed income data coverage, IPA can provide key analytics during an ever-changing fixed income market.

Innovative portfolio analytics platform

- Leverages ICE's comprehensive Fixed Income offering
- High quality evaluated pricing and reference data for approximately 2.8 million securities
- Intraday evaluated prices and curves to support real-time portfolio analysis
- Support for leading fixed income benchmark indices, including over 4,500 ICE BofA Fixed Income indices
- Structured finance deal library with more than 98% of all public deals
- High performance, scalable calculation engine
- Easy to use, customizable and workflow driven
- Analytics delivery through desktop, API, add-in for Excel® and file based solution

Flexible delivery options

- Delivered through our web-based modular platform
- Export custom reports with client logos and color schemes
- Request-driven programmatic API
- Access analytics data from within Microsoft® Excel
- Easy to integrate end-of-day file

Address a variety of use cases and solutions

- Portfolio management
- Performance attribution
- Benchmark comparison
- On-demand analysis with Continuous Evaluated Pricing (CEP™)
- Pre-trade what-if analyses
- Simulations and stress testing
- Bond screener
- Cash flow analysis
- Investment guideline analysis
- Risk management

Performance attribution

Performance attribution is a critical tool for asset managers/owners, asset servicers, and consultants to better analyze and monitor investment strategies. The performance attribution model available in ICE Portfolio Analytics strengthens the ability for firms to quantify returns by breaking them down into a set of intuitive investment management views. The IPA platform provides a flexible and intuitive way to calculate returns.

Flexible attribution reporting

- Pre-defined and custom buckets including duration, credit quality, country, currency, sector and industry

- Multiple return factor breakdowns, including:

    - Price, income, currency

    - Carry and change

    - Term structure and excess

- Customizable parallel shifts to better understand yield curve returns (2, 5 & 10 year)

High performance calculation engine

- Flexible distributed architecture designed to support end of day and intraday workflows

- Event based parallel processing across thousands of analytic and return calculation engines

- Data grid with custom sorting, grouping and aggregation methods with thousands of portfolio holdings within seconds

Analyze and monitor the components of relative and absolute return for portfolios and benchmarks using flexible layouts that are designed to reflect your investment process. Return elements can be viewed in multiple formats that detail carry, term structure, credit spread, and excess returns. Below is an example of how this output is displayed in IPA using a sample portfolio for illustration purposes only.

Group	Beg % Held (Mkt)			Ctr Total Return Base			Ctr Bsk Total Ret Base			Ctr Exs Total Ret Base			Ctr Total Return Local			Ctr Currency Return		
	Portfolio	Benchmark	BM Diff	Portfolio	Benchmark	BM Diff	Portfolio	Benchmark	BM Diff	Portfolio	Benchmark	BM Diff	Portfolio	Benchmark	BM Diff	Portfolio	Benchmark	BM Diff
	100.00	100.00	0	-0.287	-2.405	2.118	0.461	0.183	0.278	-0.746	-2.587	1.840	0.508	0.154	0.355	-0.795	-2.558	1.763
Utility (139)	13.07	11.07	2.00	-0.067	0.016	-0.083	0.024	-0.007	0.031	-0.091	0.023	-0.114	0.023	-0.013	0.036	-0.090	0.029	-0.119
Sovereign (11)	12.26	9.46	2.80	0.067	0.014	0.053	0.162	0.002	0.160	-0.095	0.012	-0.107	0.184	0.005	0.179	-0.117	0.009	-0.127
Sovereign (11)	12.26	9.46	2.80	0.067	0.014	0.053	0.162	0.002	0.160	-0.095	0.012	-0.107	0.184	0.005	0.179	-0.117	0.009	-0.127
Securitized (14)	0	2.31	-2.31	0	0.007	-0.007	0	-0.003	0.003	0	0.010	-0.010	0	-0.006	0.006	0	0.013	-0.013
Commercial Mortgage B...	0	0.10	-0.10	0	0.001	-0.001	0	-0.000	0.000	0	0.001	-0.001	0	0.000	-0.000	0	0.001	-0.001
ABS Utilities (4)	0	0.83	-0.83	0	0.003	-0.003	0	-0.001	0.001	0	0.004	-0.004	0	-0.002	0.002	0	0.005	-0.005
ABS Miscellaneous ABS ...	0	1.38	-1.38	0	0.004	-0.004	0	-0.002	0.002	0	0.006	-0.006	0	-0.004	0.004	0	0.008	-0.008
ABS Automobile (2)	0	0.00	-0.00	0	0.000	-0.000	0	-0.000	0.000	0	0.000	-0.000	0	0.000	-0.000	0	0.000	-0.000
Quasi & Foreign Government ...	26.57	24.69	1.89	-0.080	0.085	-0.164	0.120	-0.033	0.152	-0.199	0.117	-0.316	0.129	-0.052	0.180	-0.208	0.136	-0.344
Industrials (209)	8.65	31.72	-23.07	-0.015	0.052	-0.067	0.014	-0.020	0.034	-0.029	0.072	-0.100	0.032	-0.025	0.056	-0.046	0.076	-0.123
Financial (141)	10.92	17.47	-6.55	-0.060	0.043	-0.103	0.012	-0.012	0.024	-0.071	0.055	-0.127	0.023	-0.003	0.026	-0.083	0.046	-0.129
Cvt-Financial (1)	0.26	0	0.26	-0.002	0	-0.002	0.000	0	0.000	-0.003	0	-0.003	0.000	0	0.000	-0.003	0	-0.003
Covered (6)	0	1.25	-1.25	0	0.006	-0.006	0	-0.002	0.002	0	0.008	-0.008	0	-0.001	0.001	0	0.007	-0.007
Public Loan Covered Bo...	0	0.21	-0.21	0	0.001	-0.001	0	-0.000	0.000	0	0.001	-0.001	0	-0.000	0.000	0	0.001	-0.001
Mortgage Covered Bond...	0	1.03	-1.03	0	0.005	-0.005	0	-0.002	0.002	0	0.007	-0.007	0	-0.000	0.000	0	0.006	-0.006

Performance Attribution

Group	Beg % Held (Mkt)	Ctr Total Return Base	Ctr Bsk Carry Ret	Ctr Exs Carry Ret	Ctr Parallel Return	Ctr Non-Para Return	Ctr Convex Return	Ctr Spread Return	Ctr Vol Return	Ctr Total Return Local	Ctr Currency Return
	100.00	0.384	-0.007	0.122	-1.240	0.114	0.016	0.467	-0.000	-0.528	0.911
EUR (300)	66.45	0.339	-0.022	0.072	-0.907	0.056	0.012	0.423	0.000	-0.366	0.705
AUD (22)	2.01	0.061	0.001	0.003	-0.019	0.009	0.000	0.006	0	-0.000	0.061
Corporate (9)	0.40	0.013	0.000	0.001	-0.002	0.002	0.000	0.001	0	0.001	0.012
Quasi & Foreign Government (13)	1.61	0.048	0.001	0.002	-0.016	0.007	0.000	0.005	0	-0.001	0.049
USD (170)	23.47	-0.130	0.010	0.040	-0.246	0.037	0.003	0.025	-0.000	-0.130	0
CAD (35)	3.18	0.068	0.001	0.005	-0.034	0.001	0.000	0.010	-0.000	-0.017	0.084
JPY (11)	0.53	-0.003	0.000	0.000	-0.001	-0.000	0.000	-0.000	0	-0.002	-0.001
SEK (38)	2.28	0.027	0.000	0.001	-0.006	0.007	0.000	-0.002	0	0.000	0.026
GBP (12)	1.52	0.018	0.000	0.001	-0.025	0.005	0.000	0.006	0	-0.012	0.030
CNY (4)	0.14	0.002	0.000	0.000	-0.000	-0.000	0.000	-0.000	0	-0.000	0.003
PLN (2)	0.09	0.000	0.000	0.000	-0.000	0.000	0.000	-0.001	0	-0.001	0.001
TRY (1)	0.01	-0.000	0.000	0.000	-0.000	0.000	0.000	-0.000	0	0.000	-0.000
BRL (1)	0.01	-0.000	0.000	0.000	-0.000	0.000	0.000	-0.000	0	0.000	-0.000

Cash flow testing

The ability to efficiently project portfolio and security cash flows under multiple interest rate environments is essential for effective asset/liability risk management. The dynamic asset cash flow feature in ICE Portfolio Analytics quickly projects interest and principal cash flows invoking proprietary prepayment and option models. With ICE's high performance cash flow engine, generate analysis in minutes and hours instead hours and days.

Key benefits

- Supports 1,000+ of projected scenarios
- Customize projected monthly interest rate scenarios up to over 50 years
- Security and portfolio level values including:
  - Cash flow for interest, principal, prepayments and options
  - Market/book values and yields
  - Run-off market/book yields
  - Projected prices
  - Accrued interest
- Create synthetic bonds including private placements

Utilized by

- Insurance companies for regulatory reporting and asset/liability management
- Depository institutions for asset/liability analysis and risk management
- Broker dealers or investment managers servicing the insurance and banking industries
- Pension funds and corporations to help set investment board expectations for possible income variances
- Financial institutions with a need to forecast cashflows based on various interest rate scenarios

View and download monthly projected cash flows at the portfolio and security level. Determine call, maturity, prepayment and interest payments in customized reports. Below is an example of how this output is displayed in IPA using a sample portfolio for illustration purposes only.

Date	6 Mo Rate	30 Yr Rate	Par Value	Total Princ CF	Total Int CF	Int on Assets	Total Cashflow	YTW	Run Off YTW	Mkt Val	Accr Interest	Accr Int Chg	Princ CF-MBS/ABS	Prepay CF-MBS	CPR%	PSA%	Call CF	Maturity CF	Mod Dur
01/31/2042	3.20	4.06	7,456,133	24,088	15,272	0	39,360	3.958	4.120	7,482,084	82,170	8,710	19,679	4,410	0.668	11	0	0	1.826
02/28/2042	3.11	4.06	7,087,319	368,814	39,632	0	408,446	3.844	4.453	7,103,239	64,218	-17,952	19,592	4,222	0.674	11	345,000	0	1.844
03/31/2042	3.01	4.05	7,063,769	23,550	26,066	0	49,616	3.782	3.943	7,083,314	61,972	-2,247	19,505	4,045	0.649	11	0	0	1.773
04/30/2042	2.92	4.05	7,040,491	23,278	1,513	0	24,791	3.707	3.910	7,086,538	82,309	20,337	19,418	3,860	0.619	10	0	0	1.701
05/31/2042	2.92	4.05	7,017,483	23,008	57,401	0	80,409	3.697	3.868	7,029,841	47,669	-34,640	19,331	3,677	0.595	10	0	0	1.618
06/30/2042	2.91	4.06	6,994,742	22,741	1,372	0	24,113	3.671	3.880	7,028,036	67,910	20,241	19,244	3,497	0.565	9	0	0	1.560
07/31/2042	2.91	4.06	6,295,267	699,475	14,842	0	714,317	3.657	3.739	6,334,237	73,377	5,468	19,158	3,317	0.595	10	0	677,000	1.653
08/31/2042	2.91	4.06	6,273,058	22,209	32,178	0	54,387	3.632	3.832	6,300,000	61,059	-12,319	19,071	3,137	0.566	9	0	0	1.582
09/30/2042	2.91	4.06	5,706,113	566,945	25,646	0	592,591	3.597	3.816	5,724,989	52,883	-8,176	18,986	2,959	0.588	10	0	545,000	1.666
10/31/2042	2.90	4.06	5,684,430	21,683	1,099	0	22,782	3.590	3.784	5,719,942	69,927	17,044	18,900	2,783	0.553	9	0	0	1.592
11/30/2042	2.90	4.07	5,663,005	21,425	56,991	0	78,416	3.575	3.818	5,659,288	30,330	-39,597	18,816	2,610	0.524	9	0	0	1.514
12/31/2042	2.90	4.07	5,641,834	21,170	967	0	22,137	3.590	3.759	5,654,278	47,477	17,147	18,732	2,439	0.491	8	0	0	1.455
01/31/2043	2.89	4.07	5,620,916	20,918	902	0	21,820	3.582	3.755	5,650,066	64,415	16,938	18,648	2,270	0.457	8	0	0	1.378
02/28/2043	2.89	4.07	4,686,243	934,673	36,426	0	971,099	3.364	4.495	4,695,202	43,524	-20,891	18,565	2,108	0.511	9	381,000	533,000	1.559
03/31/2043	2.89	4.07	4,665,812	20,431	14,628	0	35,059	3.378	3.663	4,674,036	44,021	496	18,481	1,950	0.475	8	0	0	1.486
04/30/2043	2.88	4.08	4,645,622	20,190	713	0	20,903	3.372	3.748	4,666,300	57,406	13,385	18,397	1,793	0.437	7	0	0	1.412
05/31/2043	2.88	4.08	4,062,612	583,010	49,466	0	632,476	3.329	3.556	4,046,562	20,931	-36,475	16,359	1,651	0.464	8	0	565,000	1.528

Issuer/Description	Curncy Code	Date	Par Value	Price	Total Princ CF	Total Int CF	Total Cashflow	Accr Interest	YTW	Run Off YTW	PSA%	CPR%	Accr Int Chg	Princ CF-MBS/ABS	Prepay CF-MBS	Mod Dur	Loss
FHLMC 4293-LY	USD	11/30/2029	247,011	94.372	3,136	625	3,761	597	4.508	4.508	128	7.671	-28	3,136	0	3.731	
FHLMC 4293-LY	USD	12/31/2029	243,897	94.425	3,114	618	3,732	610	4.502	4.502	128	7.685	13	3,114	0	3.709	
FHLMC 4293-LY	USD	01/31/2030	240,804	94.468	3,093	610	3,703	602	4.499	4.499	128	7.699	-8	3,093	0	3.688	
FHLMC 4293-LY	USD	02/28/2030	237,732	94.520	3,072	602	3,674	535	4.491	4.491	129	7.712	-67	3,072	0	3.672	
FHLMC 4293-LY	USD	03/31/2030	234,682	94.560	3,050	594	3,645	587	4.491	4.491	129	7.725	52	3,050	0	3.645	
FHLMC 4293-LY	USD	04/30/2030	231,653	94.399	3,029	587	3,616	560	4.546	4.546	128	7.708	-27	3,029	0	3.621	
FHLMC 4293-LY	USD	05/31/2030	228,652	94.454	3,001	570	3,581	572	4.540	4.540	129	7.723	12	3,001	0	3.599	
FHLMC 4293-LY	USD	06/30/2030	225,671	94.496	2,981	572	3,552	545	4.537	4.537	129	7.738	-26	2,981	0	3.577	
FHLMC 4293-LY	USD	07/31/2030	222,711	94.542	2,960	564	3,524	557	4.533	4.533	129	7.756	11	2,960	0	3.555	
FHLMC 4293-LY	USD	08/31/2030	219,771	94.591	2,940	557	3,497	549	4.529	4.529	130	7.774	-7	2,940	0	3.533	
FHLMC 4293-LY	USD	09/30/2030	216,851	94.424	2,920	549	3,469	524	4.588	4.588	129	7.761	-25	2,920	0	3.509	
FHLMC 4293-LY	USD	10/31/2030	213,957	94.578	2,894	542	3,436	535	4.582	4.582	130	7.777	11	2,894	0	3.487	
FHLMC 4293-LY	USD	11/30/2030	211,083	94.521	2,874	535	3,409	510	4.579	4.579	130	7.793	-25	2,874	0	3.464	
FHLMC 4293-LY	USD	12/31/2030	208,230	94.578	2,854	528	3,381	521	4.573	4.573	130	7.808	10	2,854	0	3.442	
FHLMC 4293-LY	USD	01/31/2031	205,396	94.624	2,833	521	3,354	513	4.569	4.569	130	7.822	-7	2,833	0	3.419	
FHLMC 4293-LY	USD	02/28/2031	202,583	94.487	2,813	513	3,326	456	4.619	4.619	130	7.807	-58	2,813	0	3.401	
FHLMC 4293-LY	USD	03/31/2031	199,796	94.532	2,787	506	3,294	490	4.619	4.619	130	7.821	44	2,787	0	3.372	
FHLMC 4293-LY	USD	04/30/2031	197,029	94.579	2,757	499	3,267	476	4.615	4.615	131	7.835	-23	2,757	0	3.349	

Integrated analytical models and reference data

Derives various risk measures by leveraging ICE's high quality reference data and evaluated pricing and employing analytical models such as interest rate risk, prepayment, credit spreads, and option models.

U.S. structured finance deal library

Utilizes our proprietary structured deal library to generate cash flows and risk analytics. Analytics are available for more than 98% of all public deals.

Broad coverage

Delivers analytic measures such as yields, spreads and durations (including key rates) for a wide range of fixed income asset classes with over 2.8 million securities available.

Secure and easy access

Access your portfolio through our suite of web-applications where the data is stored and encrypted on the same ICE data centers utilized by the NYSE.

For more information: ice.com/portfolioanalytics