Investment Performance Management

Oracle FLEXCUBE Private Banking

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1. Preface

1.1   Introduction

The objective of the current user manual is to clearly describe the functions available for performance of investment products.

This module includes the following capabilities:

- Multi-level ROR performance across investment products
- Benchmark Performance for Regular/Composite Benchmarks .
- Risk adjusted returns

Though this manual covers performance for all products available in FCPB, only those specific products or modules licensed to the bank, would have performance features available to the bank.

1.2   Scope

The intention of this User Manual is to provide a comprehensive guide to the RM and Customers of the system. It can also be used as a trouble-shooting guide.

1.3   Audience

The potential readers of this document include but not limited to

1. The Relationship Manager, customers and other users of the system.
2. Top and middle management executives.
3. Developers, database designers of the system for their reference.
4. Product and Functional teams

1.4   Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

1.5   Organization of the Document

The Manual is organized into the following 2 chapters:

Chapter 1	Introduction – Helps the user to understand the purpose and scope of the document.
Chapter 2	Performance – Helps the user to understand the investment performance, which is primary benefit of FCPB.

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1.6   Conventions Used

This sub-section explains the conventions followed in the preparation of the manual.

Text	Description
Example	Illustration of the concept
Bold Letters	Command buttons or important text The command button titles appear as they appear on the screen.

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2. Performance

Description:

One of the primary benefits of FLEXCUBE Private Banking is that, it enables the user to monitor investment performance. This is important because, over a long period of time, only a small difference in performance can mean a large difference in wealth. As an example, an investment earning 14% over 25 years will have almost double the ending value then the one earning 11%. It is important for the user to understand that FCPBs/investors who adequately monitor investment performance will consistently out-perform those who do not.

Monitoring of investment performance is not as simple as watching returns reported to you for your mutual fund company. The reason for this is that such period –to-period returns do not take into account your investment timing decisions. Stocks, bonds and other investment holdings complicate the issue since dividend often may not be easily reinvested. Also, once one has multiple holdings, the combined performance of all investments is not readily apparent even if you know the performance of the individual holdings.

FLEXCUBE Private Banking resolves all of these performance monitoring issues by computing and reporting True Time Weighted Rate of Return (TTWR) for annual and monthly returns inclusive of Year To Date, Month to Date returns and TTWR/XIRR only for since inception based on configuration at bank parameter level using PERF_IND flag as the measure for investment performance. The performance returns reported for includes that for security, portfolio, asset class, instrument analysis group and customer (by grouping of all the portfolios and their corresponding securities).

FCPB also supports the computation of performance at Household level. Performance ROR computation at Household level will consider holdings and transactionsfrom the date of household creation for all tenor buckets, irrespective of the date of creation and transactions of the individual customers forming part of the household in using True Time Weighted Rate of Return for annual and monthly returns inclusive of Year To Date, Month to Date and TTWR/ XIRR only for since inception based on configuration at bank parameter level using PERF_IND flag computation method.

The performance results are customized to include performance figures along with the performance benchmark results.

True Time Weighted Average Methodology:

The TTWR performance computation is the most accurate method to calculate the time weighted rates of return as it removes the effects of timing and magnitude of cash flows into or out of the portfolio which are generally client-driven and not in control by the portfolio manager.

By removing the timing effects of cash flows, a true time-weighted rate of return best reflects the firm's ability to manage the assets according to a specified strategy or objective and is the basis for the comparability of composite returns across different asset managers. Using the TTWR as a measure of the manager's performance presumes that the addition or withdrawal of moneys under his/her control does not change the manager's stock selection, timing, and asset allocation strategy. Thus it can be said that the TTWR measures the manager's performance and not the performance of the group of assets.

Formula to calculate true time-weighted portfolio return for a sub-period (between 2 consecutive Cashflow dates, whenever cash flows occur is:

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R = (EMV-BMV)/BMV

Where,

EMV is the market value of the portfolio at the end of the sub-period, excluding the cash-flows on the period end date, but including accrued income for the period.

BMV is the market value at the end of the previous sub-period (i.e., the beginning of the current sub-period)

Note

The BMV is the EMV as defined above of the previous sub-period plus cash-flows on the end date of the previous sub-period and including accrued income up to the end of the previous period.

Since in FCPB, we are storing EMV values as end-of-day valuation which includes the Cashflows for that date, hence for computing the sub-period returns we use the formula:

R = (EMV – C – BMV)/BMV

Where,

BMV is the EMV for the previous cashflow date

C is the Net Cashflow on the end-date of that sub-period

The sub-period returns are then geometrically linked according to the following formula:

R = ((1+R1)X(1+R2)..(1+Rn))-1

Where, RTR is the total return and R1, R2… Rn are the sub-period returns for sub-period 1 through n respectively.

Sub-period 1 extends from the first day of the period up to and including the date of the first cash flow. Sub-period 2 begins the next day and extends to the date of the second cash flow, and so forth. The final sub-period extends from the day after the final cash flow through the last day of the period.

TTWR method assumes that the cash flow is not available for investment until the beginning of the next day. Therefore when the portfolio is revalued on the date of a cash flow, the cash flow is not reflected in the Ending Market Value, but is added to the Ending Market Value to determine the Beginning Market Value for the next day.

Note

The FCPB displays the TTWR ROR computation for ALL Levels and Periods of ROR, except for Since Inception ROR. Since inception ROR displays XIRR/TTWR depending on the Bank Parameter PERF_IND. If XIRR is chosen as the Bank Parameter, then Since inception value is shown annualised as XIRR always is annualised.

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An example of ROR computation using TTWR is given below:.

Example 1

Assume a Market Value of a Fund for the month of June as follows:

Date	Valuation
31-May	1000
9-Jun	1100
19-Jun	1200
30-Jun	1200

And there were two cash flows during the month:

Date	Cashflow
10-Jun	200
20-Jun	-100

TTWR Sub period returns are as follows:

	Subperiod	BMV	EMV at end of day	pre cashflow EMV	TTWR ROR Subperiod
SubPeriod1	5/31 to 6/10	1000	1300	1100	0.1
SubPeriod2	6/10 to 6/20	1300	1100	1200	-0.076923077
SubPeriod3	6/20 to 6/30	1100	1200	1200	0.090909091

TTWR for June =	0.107692308
TTWR in Percentage terms=	10.77%

Example 2

	Date	BMV	EMV	Cashflow
	30-May	100000		
	9-Jun		101000	
	10-Jun			20000
	30-Jun		123000	

		BMV	EMV at end of day	pre cashflow EMV	TTWR ROR Subperiod
Subperiod1	30thMay-10thJune	100000		101000	0.01
	10thJune-30thJune	121000	123000	123000	0.016528926

TTWR for June =	0.026694215
TTWR in Percentage terms=	2.67%

Portfolio_CCY=EUR   There are 3 Instruments A, B & C in this Potrfolio in multi-currency EUR,SGD,USD

TRAN_DATE	TRAN_DESC	Instru_CCY	BIDASK_IND	QTY	PRICE	AMOUNT	Portfolio_Currency_Amt	FXRate	EMV_PF_CCY_On_CashflowDate
5/15/2009	BUY Instrument A	EUR	B	100	12	1200	1200	1	1630
6/22/2009	BUY Instrument B	USD	B	50	500	25000	18047.25	0.7219	18047.2500
6/24/2009	BUY Instrument C	SGD	B	1000	10	10000	4900.9	0.49009	5000

TTWR for May
There was 1 instrument A in May having Buy Txn on 15th (First ever Buy)

	Date	Txn	Units		Buy/Sell Price	Amount		Instrument_Price	EMV_PF_CCY
	15-May	Buy	100.00		12.00	1200		12.00	1200
	31-May		100.00					16.3	1630

TTWR Sub period returns are as follows:

	Subperiod	BMV	EMV at end of da	Cashflow	Pre CashFlow EMV	TTWR ROR Subperiod
SubPeriod1	05/15 to 05/31	1200	1630	0.00	1630.00	0.358333333

TTWR for May =	0.358333333
TTWR in Percentage	35.833%

TTWR for June
There were 2 more Instruments B & C traded in June, both of currencies different from PF_CCY
We need to find out the EMVs for all 3 Instruments on each of the traded dates of any of the instruments, plus on End-Of-Month dates

	Date	Txn	Units	Buy/Sell Price	PFCCY_Amount	Instrument_price	EMV_PF_CCY
Instrument A	31-May		100.00		0	16.30	1630
Instrument A	22-Jun		100.00		0	14	1400
Instrument B	22-Jun	Buy	50.00	500.00	18047.25	500	18047.2500
Instrument A	24-Jun		100.00		0	17	1700
Instrument B	24-Jun		50.00		0	515	18588.6675
Instrument C	24-Jun	Buy	1000.00	10.00	4900.9	10.20220776	5000
Instrument A	30-Jun		100.00		0	11.3	1130
Instrument B	30-Jun		50.00		0	498	17975.061
Instrument C	30-Jun		1000.00			8.52	4175.5668

TTWR Sub period returns are as follows: All figures are in PF_CCY

	Subperiod	BMV	EMV at end of da	CashFlow	Pre CashFlow EMV	TTWR ROR Subperiod
SubPeriod1	05/31 to 06/22	1630	19447.2500	18047.25	1400.0000	-0.141104294
SubPeriod2	06/22 to 06/24	19447.2500	25288.6675	4900.9	20387.7675	0.048362493
Subperiod 3	06/24 to 06/30	25288.6675	23280.6278	0	23280.6278	-0.079404725
TTWR for June =	-0.171064675					
TTWR in Percentage	-17.106%					

XIRR Computation Methodology: An internal rate of return is the effective rate of return on an investment consisting of a series of payments and incomes that occur over the life of the investment. The XIRR function in Excel is used to determine the annualized IRR when the payments and income are varying and are made at different periods.

$$0 = \sum_{j=1}^{N} \frac{P_j}{(1+rate)^{\frac{(d_j - d_1)}{365}}}$$

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Where,

di = the ith, or last, payment date.

d1 = the 0th payment date.

Pi = the ith, or last, payment

This implies that the net present value of all cash-flows (which should have at least one positive and one negative value) in the series will be zero when discounted at the XIRR rate.

As XIRR produces the annualized returns, the specific MTD period returns are calculated using the formula given below:

ROR for MTD = $R1 = [\{(1 + XIRR)^{(n/365)}\} - 1]$

ROR for YTD done through Linking of all MTD RORs:

$\{(1+R1) \times (1+R2) \times (1+R3) ... (1+R12)\} - 1$

An example of ROR computation using XIRR is given below:

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XIRR computation methodology (as per function XIRR in excel)

A worked example of returns computed for a portfolio in a month

No of days in the month :	30
Description	Amount
Mkt Value at beginning of mth/ portfolio start date if within the month), MVB	100
Sold part of holdings	-10
Bought additional	15
Sold another part of holdings	-7
Ending Market Value MVE	102
Total of Weighted Cashflows	

For the above example, the XIRR is computed as below :

		MVB = Market value at the beginning of the period, where the market value for the beginning of the period is the market value
31-May-08	-100	at the end of the immediately preceding period.
10-Jun-08	10	Sell
15-Jun-08	-15	Buy
25-Jun-08	7	Sell
30-Jun-08	102	MVE = Market value at the end of the period.
ROR using XIRR (annualized) =	61.41%	

Converting this annualized rate to monthly rate using the formula $[\{1+xirr\}^n -1]$ where n is the period in years for the return computation

In this example, the period is 30/365 years, hence this transalates | 4.01%

2.1 Performance by Portfolio
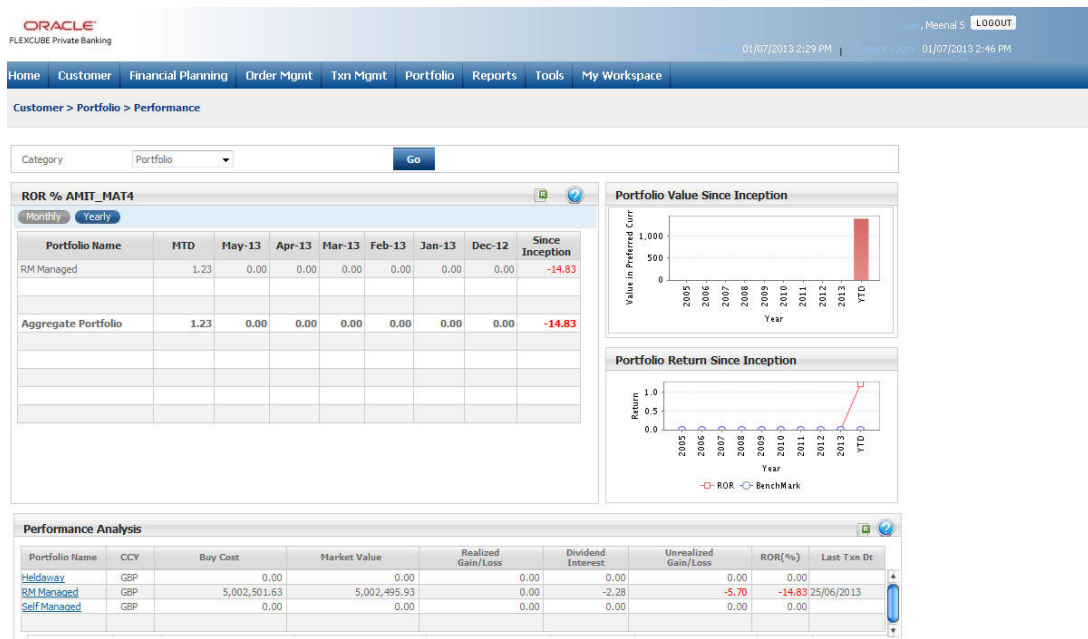
Screen:

Figure 2.1: Performance By Portfolio Screen

2.2 Performance by Instrument

Click on the appropriate hyperlink under the Portfolio Name column to view the Performance by Instrument.
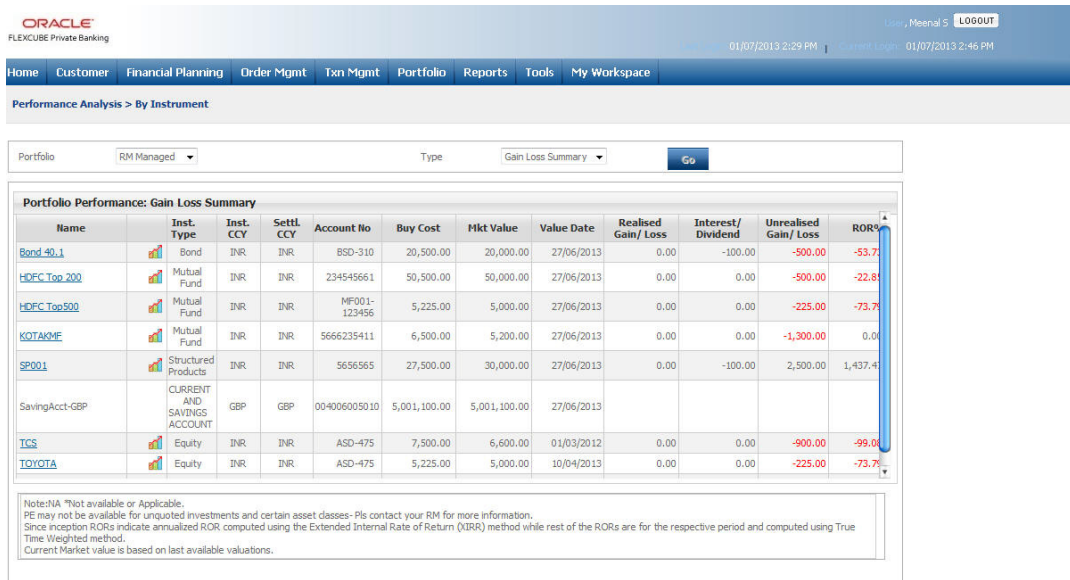
Screen:.

Figure 2.2: Performance By Instrument Screen

How to Read the Screen:

Performance by Portfolio

The performance screen is split into three sections.

1. The first section 'ROR%' is designed to contain two tabs namely MTD & YTD along the lines of which the user can analyze and examine into the performance of the portfolios for the selected customer.

Note

The returns are not annualized.

The two tabs are described below:

Monthly	Using the performance formula mentioned in the above section, the system will compute the monthly performance. This tab will display the current month to date (MTD) performance along with each month's performance for the past six months and the performance since inception. As explained earlier, the performance reports are displayed for each of the portfolios of the customer in case portfolio is selected as a category along with a consolidated customer level report. The corresponding currency for each portfolio will be considered for computing the performance at the portfolio level whereas the customer associated currency will be considered for displaying the results at customer level. Beneath the results for each portfolio or the customer level, the associated benchmark results are displayed. The MVB will be as of the first date of the month and the MVE will be as of the last date of the month or the evaluation date in case of MTD. For example, while computing the performance for the month of April, considering 30th April had been declared a holiday, then the performance for April would be computed from April 1st to April 29th.
Yearly	This tab displays the current year to date performance, the past five years performance as well as the performance since inception of the portfolio. The financial year considered to compute the yearly performance will be as defined in the bank's master table. The calculated monthly performances as explained earlier are linked geometrically to compute yearly returns. As explained earlier, the performance reports are displayed for each of the portfolios of the customer along with a consolidated performance customer level report. Below the performance result for each portfolio or the customer level, the associated benchmark results are displayed.

Note

The system always defaults to the monthly performance tab for all the categories: Portfolio, Asset Class, and Instrument Group.
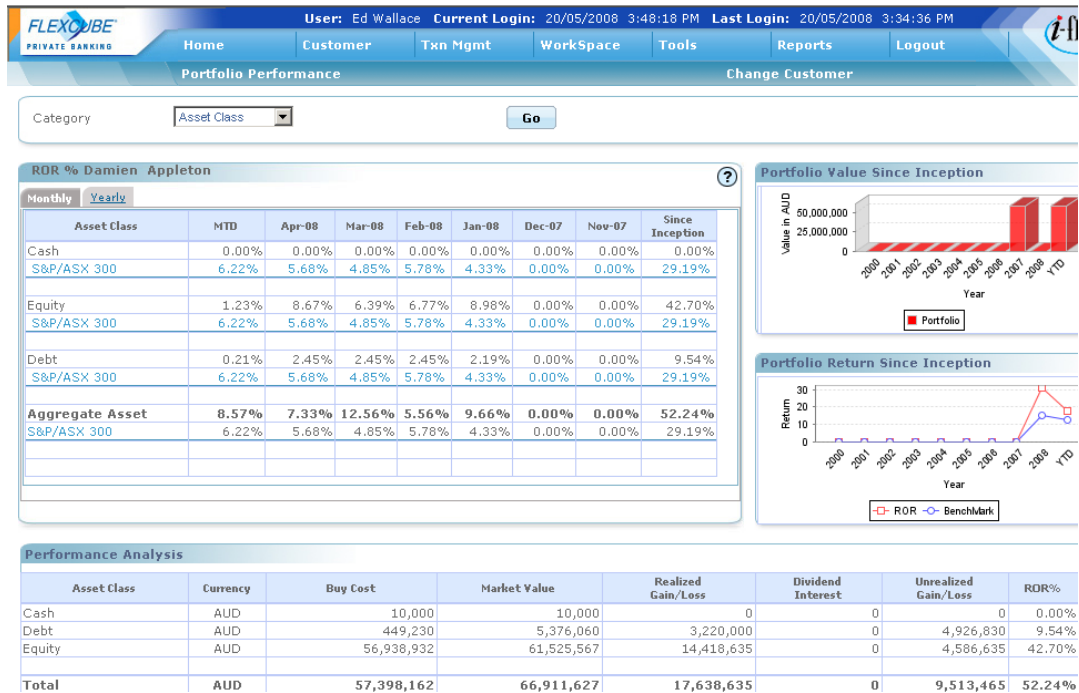

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To view the transaction details, click on the appropriate instrument name hyperlink. The transaction pop up appears as shown below:

Screen:

Figure 2.3: Equity: Transaction Details Pop up

Note

For CASA and TD Instruments, Quantity, Price and Fees columns remains blank. As CASA does not have any transactions, the Transaction Details popup for CASA will show no data.

Note

For TDs with Dual Currency deposit feature, the system displays few more fields in the Transaction pop up like Alternate Currency, Fixing Date, Strike Rate and Amount in Alternate Currency.

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2.3   Performance by Asset Class

Screen:

Figure 2.4: Performance By Asset Class Screen

In case where the functionality for decomposition of Mutual funds and Structured products is turned off using parameterization, it would be possible to compute ROR based on Asset class, Each instrument will be linked to one Asset class in the system. This analysis should be done both at a customer level as well as Household level.

The Display would be by Asset Class, instead of by Portfolio; A benchmark would be assigned at Asset class level; there will be a Radio button to indicate whether the view should be at Individual or Household level.

The performance screen is split into three sections.

1.   The first section 'ROR%' is designed to contain two tabs namely MTD & YTD along the lines of which the user can analyze and examine into the performance of the asset class.

> **Note**
>
> The returns are not annualized.

The two tabs are described below:

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Monthly	Using the performance formula mentioned in the above section, the system computes the monthly performance. This tab displays the current month to date (MTD) performance along with each month's performance for the past six months and the performance since inception. For computing the Inception to date ROR % using True Time Weighted Rate of Return or XIRR method as configured at bank/entity level, the cash-flows will be considered by the asset class to which each instrument is linked.
	Based on this, the cash-flows occurring in each asset class from inception to date is considered in the formula. This is done at 2 levels, one for the individual members of the household defined for the customer as leader and another for the overall household.
	The customer associated currency is considered for displaying the results at asset as well as customer level. Beneath the results for each asset class or the customer level, the associated benchmark results are displayed.
Yearly	This tab displays the current year to date performance, the past five years performance as well as the performance since inception of the asset class. The financial year considered to compute the yearly performance will be as defined in the bank's master table. The calculated monthly performances as explained earlier are linked geometrically to compute yearly returns.
	As explained earlier, the performance reports are displayed for each of the asset class along with a consolidated performance customer level report. Below the performance result for each asset class or customer level, the associated benchmark results are displayed.

Note

Holding details for CASA accounts whose status is closed are not displayed in the Portfolio Performance screen. Similarly for TD without transactions, TD accounts with 'Closed' status are not displayed in Portfolio Performance screen. However for TD with transactions, even after TD has matured/closed it continues to be displayed till zero holding days mentioned in the bank parameters.

2.4   Risk Measures

Description:

The Risk Measures feature of FCPB system enables the user to view the risk measures in terms of computation of weekly ROR, Standard Deviation, and Sharpe Ratio. The system also displays the Portfolio Level YTM and Duration in the Risk Measures screen.

Note

Risk Measures are available for only those portfolios that have completed 52 weeks in existence

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Note

At any point of time the Risk Measures are computed and available for last 1 year period only.

User Access Levels:

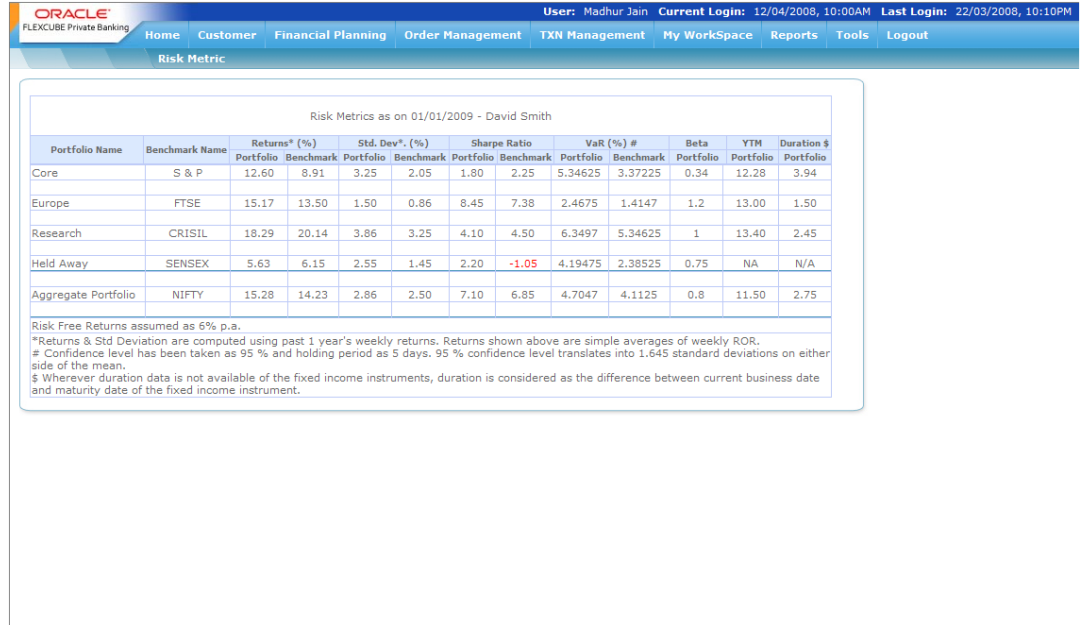**RM:** only the person designated as an Relationship Manager of the system can access this screen.

Screen:

Risk Metrics as on 01/01/2009 - David Smith

Portfolio Name	Benchmark Name	Returns* (%)		Std. Dev*. (%)		Sharpe Ratio		VaR (%) #		Beta	YTM	Duration $
		Portfolio	Benchmark	Portfolio	Benchmark	Portfolio	Benchmark	Portfolio	Benchmark	Portfolio	Portfolio	Portfolio
Core	S & P	12.60	8.91	3.25	2.05	1.80	2.25	5.34625	3.37225	0.34	12.28	3.94
Europe	FTSE	15.17	13.50	1.50	0.86	8.45	7.38	2.4675	1.4147	1.2	13.00	1.50
Research	CRISIL	18.29	20.14	3.86	3.25	4.10	4.50	6.3497	5.34625	1	13.40	2.45
Held Away	SENSEX	5.63	6.15	2.55	1.45	2.20	-1.05	4.19475	2.38525	0.75	NA	N/A
Aggregate Portfolio	NIFTY	15.28	14.23	2.86	2.50	7.10	6.85	4.7047	4.1125	0.8	11.50	2.75

Risk Free Returns assumed as 6% p.a.
*Returns & Std Deviation are computed using past 1 year's weekly returns. Returns shown above are simple averages of weekly ROR.
Confidence level has been taken as 95 % and holding period as 5 days. 95 % confidence level translates into 1.645 standard deviations on either side of the mean.
$ Wherever duration data is not available of the fixed income instruments, duration is considered as the difference between current business date and maturity date of the fixed income instrument.

Figure 2.5: Risk Metric Screen

Screen Navigation:

After you login as an RM, select Customer →Portfolio → Performance from the top menu.

The user can view the Risk Measures details by clicking on the ℝ icon located at top right hand side corner the Portfolio Performance screen.

The fields which are all Display fields have been briefly described below:

Field	Description
Portfolio Name	Displays the portfolio name
Benchmark Name	Displays the benchmark name for the corresponding portfolio
Returns (%)	
Portfolio	Displays the portfolio returns for the corresponding portfolio
Benchmark	Displays the benchmark returns for the corresponding portfolio
Std. Dev.(%)	Std. Dev represents risk associated with a given security (stocks, bonds, property, etc.), or the risk of a portfolio of securities (actively managed mutual funds, PMSs etc).

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Field	Description
Portfolio	Displays the standard deviation of weekly return of portfolio
Benchmark	Displays the standard deviation of weekly return of benchmark
Sharpe Ratio	It is calculated as Sharpe Ratio = (Investment Return – Risk free return)/ Standard Deviation of the investment returns
Portfolio	Displays portfolio Sharpe Ratio details
Benchmark	Displays benchmark Shape Ratio details
YTM Portfolio	The system receives the instrument level YTM from the external world which is used by the system to calculate the YTM of the portfolio.
Duration Portfolio	The system receives the instrument level Duration from the external world which is used by the system to calculate the Portfolio Duration.

Note

If there is no instrument in the portfolio where the 'Include in YTM & Portfolio Duration' field is marked as 'Yes' in the Product Master screen, the system displays 'N/A' against that portfolio under YTM & Duration column.

2.5　Performance Analytics Graph

The system also enables the user to view a graph of instrument performance Vs Standard

deviation by clicking on the ⓡ icon located at the top right hand corner or Performance Analysis tab of Portfolio Performance screen. This graph is displayed for all the instruments which are part of a particular customer or household's holdings in any or all of his portfolio types (depending on the portfolio type selection)

Screen:.

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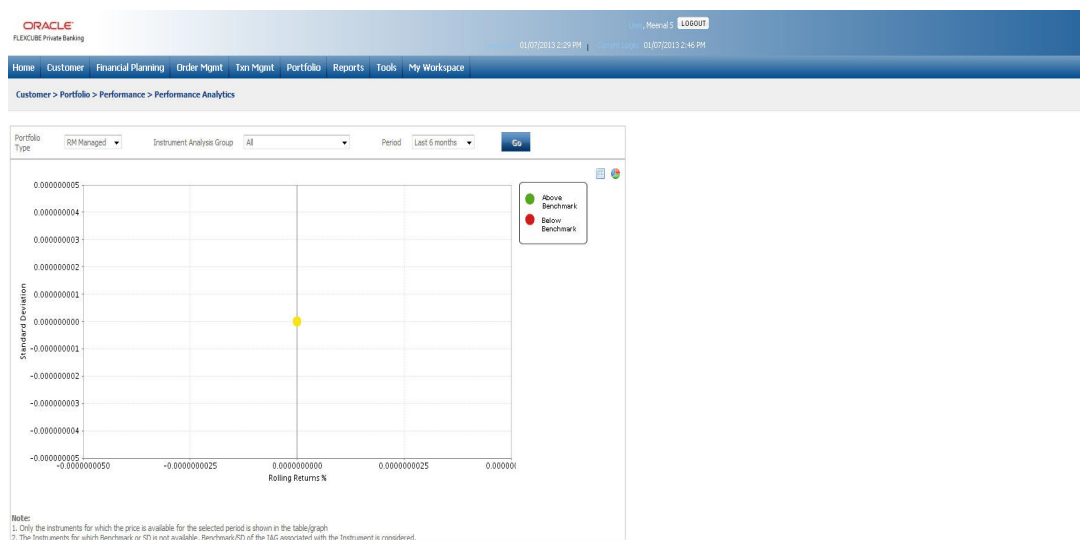
Figure 2.6: Performance Analytics Graph

The instruments for which the performance graph is to be plotted can be filtered based on:

1. Individual/ Group/ Household
2. Portfolio Type
3. Instrument analysis Group
4. Time period, Values: 1 Month, 3 Months, 6 Months, 12 Months

2.6 Performance by Instrument Group
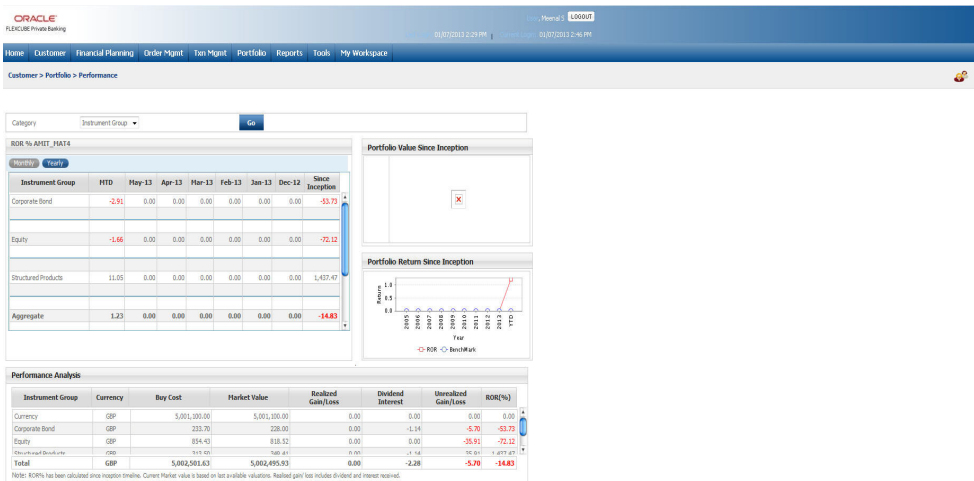
Screen:

Figure 2.7: Performance By Instrument Group Screen

Instrument Analysis group is another attribute of each instrument defined in the master table. Performance will also be computed based on this group for individual members of household as well as for the overall household

The Display would be by Instrument Analysis Group, instead of by Portfolio; A benchmark would be assigned at instrument group level.

The performance screen is split into three sections.

1. The first section 'ROR%' is designed to contain two tabs namely MTD & YTD along the lines of which the user can analyze and examine into the performance of the instrument group.

Note

The returns are not annualized.

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The two tabs are described as below:

Monthly	Using the performance formula mentioned in the above section, the system will compute the monthly performance. This tab will display the current month to date (MTD) performance along with each month's performance for the past six months and the performance since inception. For computing the Inception to date ROR % using True Time Weighted Rate of Return or XIRR method as configured at bank/entity level, the cash-flows will be considered by the instrument group to which each instrument is linked.
	Based on this, the cash-flows occurring in each instrument group from inception to date will be considered in the formula. This will be done at 2 levels, one for the individual members of the household defined for the customer as leader and another for the overall household.
	The customer associated currency will be considered for displaying the results at instrument group as well as customer level. Beneath the results for each instrument group or the customer level, the associated benchmark results are displayed.
	For example, while computing the performance for the month of April, considering 30th April had been declared a holiday, then the performance for April would be computed from April 1st to April 29th.
Yearly	This tab displays the current year to date performance, the past five years performance as well as the performance since inception of the instrument group. The financial year considered to compute the yearly performance will be as defined in the bank's master table. The calculated monthly performances as explained earlier are linked geometrically to compute yearly returns.
	As explained earlier, the performance reports are displayed for each of the instrument group along with a consolidated performance customer level report. Below the performance result for each instrument group or customer level, the associated benchmark results are displayed.

2. The second section displays since inception portfolio value and portfolio returns as two separate graphical illustration. Both the value and returns displayed are at the customer level and consequently are for the entire holdings of the customer spanning across all the portfolios.

Portfolio Value since Inception: is a bar chart wherein the y axis represents the value of the customer holdings in the customer preferred currency. The x axis represents the years beginning from the year of first funding to the current year. The values considered for the years demarcated in the graph, are as per the financial years defined in the bank's master table. This graph also displays the benchmark value for each year. This helps the user to compare the value of the customer's holdings in comparison with the value of the benchmark. The benchmark associated at the customer level is taken into account for displaying the results.

Portfolio Returns since Inception: is an area graph wherein the y axis represents the returns on customer holdings and the x axis represents the years beginning from the year of first funding to the current year. The returns considered for the years demarcated in the graph, are for the financial year as defined in the bank's master table. The area graph displays an evaluation between the customer's returns and the benchmark returns for each year. The benchmark considered is the one which has been associated at the customer level.

3. Beneath the first section is a section displaying the performance analysis for each portfolio if portfolio is selected, each asset class if asset is selected and instrument analysis group if instrument group is selected as well as the performance analysis at the customer level. To recap, the corresponding currency of each portfolio will be considered for computing the results at the portfolio level whereas the customer associated currency will be considered for displaying the results at asset class, instrument analysis group and customer level. The distinguishing factor about this section from the first section is that it displays additional information on the realized /unrealized gain /loss and the interest or dividend received. All the figures displayed in this section are computed from the first funding date.

4. For further performance analysis of the holdings in each portfolio, the user can click on the hyper link under each portfolio. An additional pop-up screen will appears imparting further information and performance results on each security held in the selected portfolio. In case of asset class and instrument analysis group there will not be any further analysis at instrument level only in case of portfolio that a hyperlink is provided under portfolio name.

Understanding the Screen: The performance results displayed are independent of the type of login (customer or RM). Blank tabs will be displayed if the customer is yet to make any investments.

The detailed descriptions of fields are given below:

ROR%

Field	Description	Manda tory
Portfolio Name	Portfolio: The performances for all the portfolios associated to the customer are displayed. Aggregate Portfolio: The consolidated customer level performance report is displayed Benchmark: The performances for each benchmark associated to each portfolio as well as the one associated for the customer are displayed.	Dis-play only
MTD/ Monthly	The methodology used for computing the performance for each portfolio or for the aggregate portfolio is substantially the same. Before we proceed to understand the process of computing returns, it is essential for us to be aware of some basic conventions followed by FCPB to derive the returns: The system would have stored the returns for each month starting from January to September. However the returns for the current month will be computed daily and will continue to overwrite the previous days return till the month end. The same rule is applicable to returns being computed for the portfolio, asset class, instrument analysis group or at the customer level. FCPB reports performance on a non-annualized basis.	Dis-play only

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Field	Description	Manda tory
YTD / Yearly	The financial year considered to compute the yearly performance will be as defined in the bank's master table. The formula enumerated below calculates the "Year to date" performance by taking the monthly performances: Year To Date Performance = $((1 + R\,Apr) * (1 + R\,May) * (1 + R\,Jun)\ldots * (1+Rn) - 1)$ "n" – is the nth month's performance. "R Mon" is the Period performance for the month In other words, to compute the annual rate of return for portfolio returns calculated yearly, all the monthly returns for the corresponding year are linked geometrically. To recap, for the YTD computation the market value on the current business day will be considered for computing the MVE. Note: It is interesting to note that an investment gaining 10% over a 365 day non-leap year will show an ROI of slightly more than 10%, whereas an investment gaining exactly 10% over a 366 day year (leap year) will show an ROI of slightly less than 10% for the year.	Dis-play only
Since inception	The since inception returns illustrates the returns from the first funding date of the portfolio till the current business day. The computation methodology is identical to the one elucidated earlier.	
Aggregate Portfolio	The objective in calculating the aggregate returns is to produce the same returns value as if the holdings of all the individual portfolios in the composite were aggregated and a return is calculated for one master portfolio. However it is essential to note that the MVE, MVB, F and FW will all be denominated in the customer preferred currency. To recap, in case of nonconformity with the above condition, the closing exchange rate on the date of transaction across all those securities will be made use of.	

The customer holds IBM shares in Portfolio 1 (currency of portfolio is also $)

Date	Market value ($)	Cash Flow ($)	Market value Post Cash Flow ($)
12/31/06	100000		
1/10/07	103000	20000	123000
1/22/07	130000		
1/31/07	133000		

Field	Description	Manda tory
	The customer holds I-Flex shares in Portfolio 2 (currency of the portfolio is INR)	

Date	Market Value (INR)	Cash Flow (INR)	Market value post Cash Flow (INR)
12/31/06	500000		
1/10/07	512000		
1/22/07	530000	-70000	
1/31/07	470000		

The holdings statement in the customer preferred currency for computing aggregate portfolio would be as given below:

Date	Market Value ($)	Cash Flow ($)	Market value post Cash Flow ($)
12/31/06	100000+ (500000 x 44.76)		
1/10/07	103000 + (512000 / 47.23)	20000	133840.57
1/22/07	130000 + (530000 / 43.78)	-70000 / 43.78	140507.08
1/31/07	133000 + (470000 / 43.65)		

Please note the divisors used for the I-Flex transactions denote the closing exchange rate for the corresponding business days.

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Performance Analysis: By Portfolio

Field	Description	Mandatory
Portfolio Name	The performances for all the portfolios associated to the customer are displayed along with the consolidated customer level performance report While the above tab reported the return measures in investments in a portfolio as a percentage of initial investment across various periods, this tab intends to report the user with an extensive evaluation of your portfolio performance and an in-depth break-down of your portfolio from different perspectives, such as realized Gain/Loss, interest/dividend, unrealized Gain/Loss analysis.	Display only
Currency	All the figures associated to the portfolio are displayed in the portfolio currency. To recap, the system converts and stores all the transaction amounts from the security currency to the portfolio currency for all the securities in the portfolio.	Display only
Buy Cost	This is the sum of the buy costs of all the securities, across all the instrument types, in the portfolio, denominated in the portfolio currency. This buy cost at the security level is arrived at by using the weighted average cost methodology. However, the important point to be noted is that the weighted average cost methodology is pertinent only for the remaining purchase transactions in the portfolio subsequent to application of the first-in, first-out (FIFO) rule for all the sale transactions in the portfolio. The average cost requires you to determine the average cost per share – total amount invested divided by the total number of shares held. A FIFO rule is an accounting methodology wherein if if the user holds a security of the same class which has been acquired on different dates, the security acquired at the earlier time is deemed to be disposed off first. In other words, it is assumed that for the securities of the same class, the securities purchased first are sold first. For further details on the computation of buy cost please refer to the section Portfolio Analysis – By Portfolio.	Display only
Market Value	Similar to the buy cost, the market value at the portfolio level represent the sum of the market values for all the securities across all the instrument types in the portfolio, denominated in the portfolio currency. Market value at the security level is computed as a product of quantity and market price.	Display only

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Field	Description	Mandatory
Realized Gain / Loss	It is the sum of the gain/loss of all the securities, across all the instrument types, in the portfolio, denominated in the portfolio currency. The important point to note that the realized gain/loss figure displayed here, is inclusive of all the gain/loss figures across all the securities accounting from the earliest sale transaction in the portfolio after the first funding date. Any gain/loss that has already occurred when a security position was closed is a realized gain/loss. Let's take an example to illustrate capital gain and capital loss. Assume the customer has purchased 10 shares of XYZ AT $20.00/share. The buy cost = $200 There are two possible scenarios: He/she decides to sell the 10 shares of XYZ at $25.00 per share. In this case his realized gain from this transaction = $250 (sell cost) - $200 (buy cost) = $50 He/she decides to sell the 10 shares of XYZ at $10.00 per share. In this case he had a loss from this transaction = $100 (sell cost) - $200 (buy cost) = -$100.00 When selling securities, System uses FIFO (First in, First out), which automatically pairs a sale of security with the first transaction that was bought. Here's an example: Your customer purchased 100 shares of FZ Steel co. at $5 / share in January. Three months later you purchased another 100 shares of FZ Steel at $7/share. Purchase 1 = $5 x 100 = 500 Purchase 2 = $7 x 100 = 700 If he/she decides to sell 150 shares of FZ Steel Co. when the price reached $10/share, the 150 shares he/she is selling includes the combination of shares from his first purchase and subsequent purchase. Let us calculate what the realized gain for the 150 shares is. Take 100 shares from the $5 lot and 50 shares from the $7 lot (FIFO): (150 X 10) - ((100 X 5) + (50 X 7)) = 1500 – 850 = $650 Using the FIFO method, a realized gain of $ 650.00 Note: Realized gain/loss excludes the dividend/ interest received.	Display only

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Field	Description	Mandatory
Unrealized Gain /Loss	This is the sum of the unrealized gain/loss of all the securities, across all the instrument types, in the portfolio, denominated in the portfolio currency. Unrealized gain/loss is the hypothetical value of the gain or loss that would be realized if the security were sold at the market price. A realized loss occurs when a security's market price decreases after an investor buys it, but he or she has yet to sell it. If the market price of the security rose back above the buy price, then the investor would have an unrealized gain for the time he or she still holds on to the security. An example, the customer buys shares in TSJ Sports at $10 per share and then shortly afterwards the stock price plummets to $3 per share but you do not sell. At this point, you have an unrealized loss on this stock of $7 per share, because the value of your position is $7 dollars less than when you first entered into the position. Let's say the company's fortunes then shift and the share price soars to $18. Since you have not sold the stock, you will now have an unrealized gain of $8 per share. Note: Important point to be remembered while computing unrealized gain/loss is the consideration of accrued interest for the securities under the instrument type 'bonds'.	Display only
Interest / Dividend	The summation of all the dividend/interest received across all the securities in the portfolio, right from the first funding day of the portfolio are represented here in the portfolio currency.	Display only
ROR%	The performance figures computed as explained in the previous table using the True Time Weighted Rate of Return methodology are displayed here. The returns computed from the first funding date of the portfolio (since inception) are displayed here.	Display only
Last Txn Dt	Displays the last transaction date for the corresponding portfolio. If the portfolio has zero value i.e. if the current market value AND current buy cost is zero, then the user can exclude the corresponding portfolio from the portfolio maintenance and portfolio performance screens. This is done by setting the Number Of Days for Last Transaction for zero Holding Portfolio field in Portfolio & Order Related tab of Bank Parameters.; and whenever the Portfolio has zero values beyond this period, it will stop being shown in the Portfolio Maintenance and Performance screens	Display only

Performance Analysis: By Asset Class

Field	Description	Mandatory
Asset Class Name	Performances of all the asset class associated to the customer are displayed along with the consolidated customer level performance report. While the above tab reported the return measures in investments in an asset class as a percentage of initial investment across various periods, this tab intends to report an extensive evaluation of asset class performance and an in-depth breakdown of asset class from different perspectives, such as realized Gain/Loss, interest/dividend, unrealized Gain/Loss analysis.	Display only
Currency	All the figures associated to the asset class are displayed in the customer currency. To recap, the system converts and stores all the transaction amounts from the security currency to the customer currency for all the securities categorized in the asset class.	Display only
Buy Cost	Is the sum of the buy costs of all the securities categorized in the particular asset class, denominated in the customer currency. This buy cost at the security level is arrived at by using the weighted average cost methodology. However, the important point to be noted is that the weighted average cost methodology is pertinent only for the remaining purchase transactions in the security subsequent to application of the first-in, first-out (FIFO) rule for all the sale transactions in the asset class. The average cost requires you to determine the average cost per share – total amount invested divided by the total number of shares held. A FIFO rule is an accounting methodology wherein if you hold a security of the same class which has been acquired on different dates, the security acquired at the earlier time is deemed to be disposed off first. In other words, it is assumed that for the securities of the same class, the securities purchased first are sold first. For further details on the computation of buy cost please refer to the section Portfolio Analysis – By Portfolio.	Display only

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Field	Description	Mandatory
Market Value	Similar to the buy cost, the market value at the asset class level represent the sum of the market values of all the securities categorized in the selected asset class, denominated in the customer currency. Market value at the security level is computed as a product of quantity and market price. The market price for securities defined under the instrument type equity, mutual fund, traded bonds, PMS, CASA, TD, Specialized Product and structured product will come from downloads and or imports. For the securities under the instrument type insurance, others and non traded bonds the price is as per the last manual update. The surrender value would be considered as market price for the securities under the instrument type insurance. Note: In the absence of market price, for the securities requiring market price to be manually updated, the system considers the acquisition price as the market price.	Display only
'Realized Gain /Loss	Is the sum of the gain/loss of all the securities, categorized in the selected asset class, denominated in the customer currency. The important point to bear in mind is that the realized gain/loss figure displayed here, is inclusive of all the gain/loss figures across all the securities accounting from the earliest sale transaction in the asset class after the first funding date. Any gain/loss that has already occurred when a security position was closed is a realized gain/ loss.	Display only
Unrealized Gain /Loss	This is the sum of the unrealized gain/loss of all the securities, categorized in the asset class, denominated in the customer currency. Unrealized gain/loss is the hypothetical value of the gain or loss that would be realized if the security were sold at the market price. A realized loss occurs when a security's market price decreases after an investor buys it, but he or she has yet to sell it. If the market price of the security rose back above the buy price, then the investor would have an unrealized gain for the time he/she still holds on to the security.	Display only
Interest / Dividend	The summation of all the dividend/interest received across all the securities categorized in the selected asset class, right from the first funding day of the asset class are represented here in the customer currency.	Display only

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Field	Description	Mandatory
ROR%	The performance figures computed as explained in the previous table using the True Time Weighted Rate of Return methodology are displayed here. The returns computed from the first funding date of the asset class (since inception) are displayed here.	Display only

Performance Analysis: By Instrument Analysis Group

Field	Description	Mandatory
Asset Class Name	Performances of all the instrument analysis group associated to the customer are displayed along with the consolidated customer level performance report. While the above tab reported the return measures in investments in an instrument analysis group as a percentage of initial investment across various periods, this tab intends to report an extensive evaluation of Instrument analysis group performance and an in-depth break-down of instrument analysis group from different perspectives, such as realized Gain/Loss, interest/dividend, unrealized Gain/Loss analysis.	Display only
Currency	All the figures associated to the instrument group are displayed in the customer currency. To recap, the system converts and stores all the transaction amounts from the security currency to the customer currency for all the securities categorized in the instrument analysis group.	Display only
Buy Cost	This is the sum of the buy costs of all the securities, categorized in the particular instrument analysis class, denominated in the customer currency. This buy cost at the security level is arrived at by using the weighted average cost methodology. However, the important point to be noted is that the weighted average cost methodology is pertinent only for the remaining purchase transactions in the security subsequent to application of the first-in, first-out (FIFO) rule for all the sale transactions in the instrument analysis group. The average cost requires you to determine the average cost per share – total amount invested divided by the total number of shares held. A FIFO rule is an accounting methodology wherein if the user holds a security of the same class which has been acquired on different dates, the security acquired at the earlier time is deemed to be disposed off first. In other words, it is assumed that for the securities of the same class, the securities purchased first are sold first. For further details on the computation of buy cost please refer to the section Portfolio Analysis – By Portfolio.	Display only

Field	Description	Mandatory
Market Value	Similar to the buy cost, the market value at the instrument analysis group level represent the sum of the market values of all the securities categorized in the selected instrument analysis group, denominated in the customer currency. Market value at the security level is computed as a product of quantity and market price.	Display only
'Realized Gain / Loss	This is the sum of the gain/loss of all the securities, categorized in the selected instrument analysis group, denominated in the customer currency. The important point to bear in mind is that the realized gain/loss figure displayed here, is inclusive of all the gain/loss figures across all the securities accounting from the earliest sale transaction in the instrument analysis group after the first funding date. Any gain/loss that has already occurred when a security position was closed is a realized gain/loss.	Display only
Unrealized Gain /Loss	This is the sum of the unrealized gain/loss of all the securities, categorized in the instrument analysis group, denominated in the customer currency. Unrealized gain/loss is the hypothetical value of the gain or loss that would be realized if the security were sold at the market price. A realized loss occurs when a security's market price decreases after an investor buys it, but he or she has yet to sell it. If the market price of the security rose back above the buy price, then the investor would have an unrealized gain for the time he or she still holds on to the security.	Display only
Interest / Dividend	The summation of all the dividend/interest received across all the securities categorized in the selected instrument analysis group , right from the first funding day of the instrument analysis group are represented here in the customer currency.	Display only
ROR%	The performance figures computed as explained in the previous table using the True Time Weighted Rate of Return methodology are displayed here. The returns computed from the first funding date of the instrument analysis group(since inception) are displayed here.	Display only

Portfolio Performance: Holding Details

Holding details at instrument level is only available when View by Portfolio is selected. For view by Asset Class and Instrument Analysis Group, there will not be any further decomposition of data at instrument level

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Field	Description	Mandatory
Name	Displays the names of all the securities across all the instrument types in the portfolio.	Display only
Instrument	Displays the instrument type for each of the securities in the portfolio. The instrument type is displayed as per the data captured in the instrument master table in the database.	Display only
Currency	Security currency is displayed. Again, the currency displayed is, as captured in the instrument master table.	Display only
Buy Cost	To recap what we comprehended in the earlier table, the buy cost at the security level is arrived at by using the weighted average cost methodology for the balance transactions in the portfolio subsequent to application of the first-in, first-out (FIFO) rule for all the sale transactions in the portfolio. For further details on the computation of buy cost please refer to the section Portfolio Analysis – By Portfolio.	Display only
Market Value	The market value at the security level is computed as a product of quantity and market price.	Display only
Value date	This is the date on which the market value was either received or manually updated by the user.	Display only
Realized Gain / Loss	This is the sum of the gain/loss of the security from the earliest sale transaction in the portfolio after the first funding date. Please refer to the previous table for further details on realized gain/loss. Note: Realized gain/loss excludes the dividend/interest received.	Display only
Unrealized Gain /Loss	Unrealized gain/loss is the hypothetical value of the gain or loss that would be realized if the security were sold at the market price.	Display only
Interest / Dividend	Is the summation of all the dividend/interest received from the first funding day of the security.	Display only
ROR%	The performance figures computed as explained in the earlier table using the True Time Weighted Rate of Return methodology are displayed here. The returns computed from the first funding date of the security (since inception) are displayed here.	Display only

At the end of the tab, the last row displays the sum of all the above fields in the portfolio preferred currency (computed as explained earlier).

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On clicking on any of the securities in the earlier tab, displays the entire transaction details of the security in a pop up screen. This table has been explained in the section on Portfolio Valuation.

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3. Performance Benchmark Indices

FCPB allows the user to compare performance versus user selectable benchmark indices. The indices specified are standard market indices of the type widely reported e.g. S&P 500.The composition and values of these indices are regularly reported in the financial media. The user may specify a benchmark for each portfolio of the customer, for asset class and instrument analysis group as well as a unique benchmark for the customer. FCPB provides a consolidated performance report for the customer which is generated by combining the holdings across all the portfolios of the selected customer. This consolidated performance report will here after be referred to as the customer level report.

The Benchmark ROI is computed as the difference between index values at the beginning and end of the measurement period. The beginning period considered is generally the beginning of the measurement period with the exception when the evaluation is being computed for the first time, where the beginning period considered will be the first funding date of the portfolio. The first funding date of the portfolio is when the security which was first or earliest funded into the portfolio. Any positive or negative deviation of the portfolio/group of all portfolios of the customer's performance from this benchmark can generally be attributed to the securities in the portfolio/s which under or over performed.

The benchmark returns will be displayed as blank fields if the customer fails to associate a benchmark to a portfolio/s or to the customer.

Screen Navigation:

1. After you login, select a customer by through the Customer -> Customer List from the top menu.

2. Once the customer has been selected, the portfolio analysis screen can be accessed through the Portfolio and Performance sub menu.

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