

# 1 BarraOne<sup>®</sup>

**Composite Assets  
in BarraOne**

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# Composite Assets in BarraOne

## Overview

BarraOne 1.7 now supports the ability to create composites against any regular portfolio\* provided by you or the system. A composite is an asset representation of another portfolio where the asset exposures match the underlying index.

Composite assets give you the means to specify positions for:

- Fund of Funds / Internal Funds / Mutual Funds
- Custom benchmarks
- Proxying Index Derivatives

Where you can store a history of holdings over time within BarraOne.

Please note that composites are considered user assets by the system. As such, the composite assets are shared by all users within your clientid and only client administrators may create, modify and delete them.

This document outlines the mechanics of working with composites along with the new look through feature available in the BarraOne 1.7 positions report. This document is organized into the following sections.

*\* By “regular portfolios” we refer to home portfolios or system benchmarks that only contain asset positions. Thus composite are not available for tree portfolios and dynamic portfolios.*

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## Setup Composites

As with other user assets that you create in BarraOne, you can define composites by importing Microsoft Excel spreadsheets that provide the composite attributes and specify the underlying portfolio. The following example shows a sample user asset import worksheet for composites. When importing this file into BarraOne remember to make sure that:

- 1) The worksheet is named "Composites"
- 2) The column labels are as described below.
- 3) On the BarraOne import tab, add the file and set the Data Type as "BarraOne User Assets"

## Composite Worksheet

	A	B	C	D	E	F	G	H	I	J	K
	ID	Asset Name	Portfolio	Owner	Default Price	Default Price Currency	Contract Size	Asset Priority	CUSIP	ISIN	SEDOL
1											
2	Equity1	Equity Large Cap	EQ1		1	EUR	1	USER	99EQ1XXXZ	US31093613	1441153
3	Equity2	Equity Large Momentum	EQ2		1	EUR	1	USER	99EQ2XXXZ	US58841744	2003106
4	Equity3	Equity Large Value	EQ3		1	EUR	1	USER	99EQ3XXXZ	US56700407	1706937
5	Equity4	Equity Enhanced Sectors	EQ4		1	EUR	1	USER	99EQ4XXXZ	US73185757	9178772
6	Fixed1	Government Bonds	FI1		1	EUR	1	USER	99FI1XXXZ	US76117844	7404216
7	Fixed2	Corporate Bonds	FI2		1	EUR	1	USER	99FI2XXXZ	US11259397	3601089
8	Private	Private Equity	PE1		1	EUR	1	USER	99PEXXXZ	US61091131	0483995
9	INDEX1	SP Index Fund1	SAP500D	SYSTEM	1	USD	1	USER	999SP0001	US82208160	3405599
10	INDEX2	SP Index Fund2	SAP500D	SYSTEM	1	USD	1	USER	999SP0002	US78660480	8932324
11	INDEX3	SP Index Fund3	SAP500D	SYSTEM	1	USD	1	USER	999SP0003	US45478390	2133842
12											
13											
14											

The following reference table describes each of the columns in the composites worksheet.

Col#	Column Name	Description
1.	ID	Specify a unique ID for the asset that will not conflict with other composites. You can reference this ID with idtype = "COMPOSITEID".
2.	Asset Name	Enter a text description for the composite that will appear under the Asset Name attribute for positions reports.
3.	Portfolio	Specify the underlying portfolio id. This portfolio must exist before you attempt to define the composite.
4.	Owner	Enter the owner of the underlying portfolio. You can leave this field blank if the owner matches the import job owner. Specify "SYSTEM" for Barra supplied portfolios.
5.	Default Price	Specify the default unit price for each composite asset. Alternatively you can import daily prices if you wish to specify the composite holdings using shares rather than importing holdings by value. If no value is set, BarraOne will set the default price = 100.

Col#	Column Name	Description
6.	Default Price Currency	Specify the currency corresponding to the default price. If no value is set, BarraOne will set the currency to "USD".
7.	Contract Size	Barra calculates the market value of each position = price * holdings * contract size. Adjust the contract size to synchronize with your backoffice.
8.	Asset Priority	Enter either "USER" or "BARRA" to indicate whether you wish BarraOne to give higher priority to your composite or the Barra supplied composite when overlapping IDs occur.
9.	<Other ID Types...>	You can add an optional number of additional columns to assign IDs to your composite that match the IDs used within your backoffice system. Each column header must match an existing idtype supported by BarraOne. Be careful not to assign duplicate IDs with other user assets or composites.

## Assigning Internal IDs

Backoffice systems typically assign artificial market IDs for positions representing holdings in other portfolios. You can define these artificial IDs directly to the composites so as not to have to modify your import data. Moreover, your BarraOne asset-level reports will also display the IDs as imported.

BarraOne also allows you to define multiple composites to the same underlying portfolio in case you want to proxy rejected positions with a common portfolio.

Composites serve both to create asset representations of underlying portfolios and to link them to your desired asset IDs. Therefore you can not reference a composite asset within the link proxy user asset.

## Import Sequence

Using composites will require to import files in a specific order. Create separate import jobs and import in the files in the following sequence.

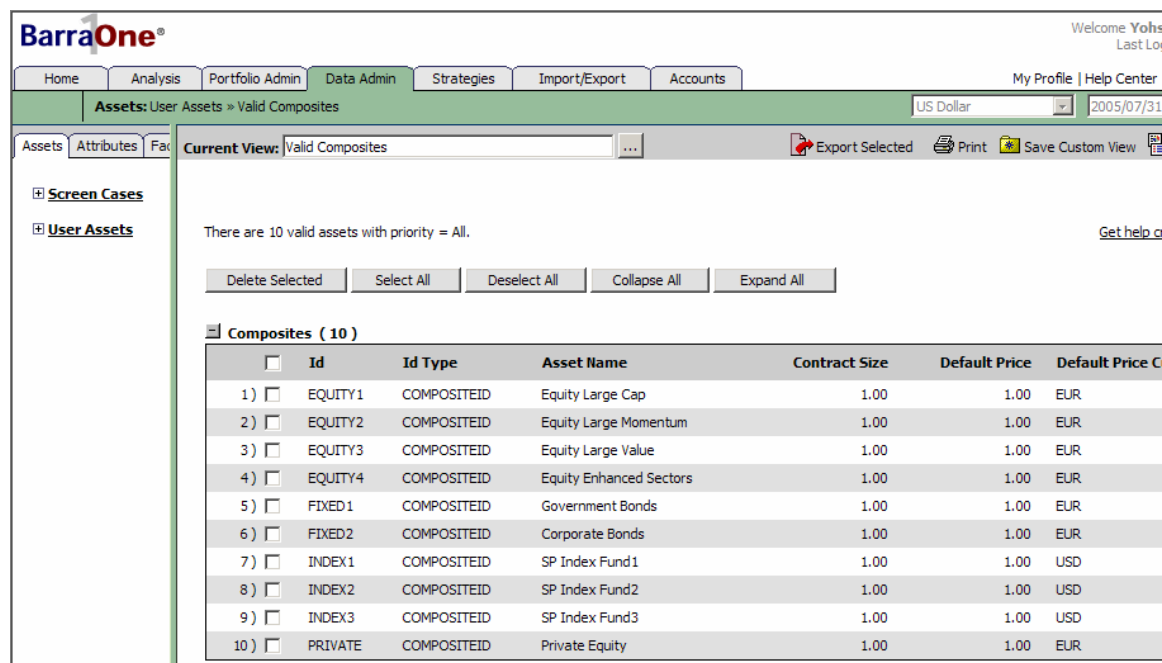
- 1) Underlying portfolios (The portfolios you wish to use as composites.)
- 2) Composite definition (The user assets import file containing "Composites" worksheet.)
- 3) Portfolios that hold composite positions.

Importing out of sequence may lead to rejected positions which set your shares to zero when importing by value or weight. Rejected positions from portfolios imported by holdings will recover automatically once the composites are defined.

## Managing Composites in BarraOne

### Composites in the User Assets View

You can view the universe of composite user assets defined for your organization by using the User Assets View which is located under the “Data Admin” tab. You can customize this view such that it only shows composites, hiding the other user asset types.



The screenshot displays the BarraOne interface for the 'User Assets' view. The top navigation bar includes tabs for Home, Analysis, Portfolio Admin, Data Admin, Strategies, Import/Export, and Accounts. The current view is 'Valid Composites'. Below the navigation, there are buttons for 'Export Selected', 'Print', and 'Save Custom View'. A message states 'There are 10 valid assets with priority = All.' Below this message are buttons for 'Delete Selected', 'Select All', 'Deselect All', 'Collapse All', and 'Expand All'. A table titled 'Composites ( 10 )' lists the following assets:

<input type="checkbox"/>	Id	Id Type	Asset Name	Contract Size	Default Price	Default Price C
1) <input type="checkbox"/>	EQUITY1	COMPOSITEID	Equity Large Cap	1.00	1.00	EUR
2) <input type="checkbox"/>	EQUITY2	COMPOSITEID	Equity Large Momentum	1.00	1.00	EUR
3) <input type="checkbox"/>	EQUITY3	COMPOSITEID	Equity Large Value	1.00	1.00	EUR
4) <input type="checkbox"/>	EQUITY4	COMPOSITEID	Equity Enhanced Sectors	1.00	1.00	EUR
5) <input type="checkbox"/>	FIXED1	COMPOSITEID	Government Bonds	1.00	1.00	EUR
6) <input type="checkbox"/>	FIXED2	COMPOSITEID	Corporate Bonds	1.00	1.00	EUR
7) <input type="checkbox"/>	INDEX1	COMPOSITEID	SP Index Fund 1	1.00	1.00	USD
8) <input type="checkbox"/>	INDEX2	COMPOSITEID	SP Index Fund 2	1.00	1.00	USD
9) <input type="checkbox"/>	INDEX3	COMPOSITEID	SP Index Fund 3	1.00	1.00	USD
10) <input type="checkbox"/>	PRIVATE	COMPOSITEID	Private Equity	1.00	1.00	EUR

### Validation

BarraOne will validate your composites when you import the “Composites” worksheet (user asset import file). Make sure to create Save Custom Views to display both Invalid and Valid composites so that you know when the system rejects a composite definition. Goto the customize dialogue in the User Assets View to control whether to view Invalid or Valid composites.

### Deleting Composites

You can delete composites directly from the User Assets View or by importing a “Deletions” worksheets as part of a user asset import file.

# Analyze your portfolio with Composites and Look-Through

## Risk by Composite

Once you define your composites you can analyze portfolios that contain both regular assets and composites. You can also analyze the impact of your allocation decisions across composites if you have a fund of funds portfolio or an externally managed plan. The following example shows the positions report of a portfolio that holds positions in four composites which represent externally managed funds.

BarraOne® Welcome Last Login: 2005

Home Analysis Portfolio Admin Data Admin Strategies Import/Export Accounts My Profile | Help Center | Contact

FundofFunds Current Settings: CASH US Dollar 2005/07/31

Zoom Level: FundofFunds

Current View: Fund of Funds Export Print Save Custom View Commands Custom

Add Positions... Apply Changes Cancel Display: 4 / 4 Assets User Asset(s): 4 / 4 Ass

Del	Asset ID	Asset Name	Weight (%)	%CR to Total Risk	MC to Total Risk	Implied Alpha (%)	Total Risk
Total	4		100.00%	100.000%	0.1253	2.3551%	12.5
<input type="checkbox"/>	99EQ1XXXZ	Equity Large Cap	25.00%	21.263%	0.1066	2.0031%	12.2
<input type="checkbox"/>	99EQ4XXXZ	Equity Enhanced Sectors	25.00%	25.238%	0.1265	2.3776%	13.2
<input type="checkbox"/>	99EQ2XXXZ	Equity Large Momentum	25.00%	28.488%	0.1428	2.6837%	15.2
<input type="checkbox"/>	99EQ3XXXZ	Equity Large Value	25.00%	25.010%	0.1254	2.3560%	13.5

## Expanding Composites with Look Through

Using BarraOne 1.7 you can also expand your composite positions to analyze your portfolio based on the underlying assets. To toggle this view, go to the customize screen in the positions report and check the **Look Through Composites** check box

https://beta.barraone.com - Customize Positions Report - Microsoft In... X

Customize Positions Report Help

Available Columns: Collapse All

- +Descriptive Data
- +Position Data
- +Valuation Data
- +Risk Model
- +Active Risk
- +Currency Detail
- +Emerging Market Detail
- +Local Market Detail
- +Portfolio Risk
- +User Data

Selected Columns:

- Asset ID
- Asset Name
- Weight (%)
- %CR to Total Risk
- MC to Total Risk
- Implied Alpha(%)
- Total Risk
- Selection Risk
- Mkt Value
- Holdings
- Price
- Inst. Type
- GICS Sector

Group By: <none>

Grouping Scheme: <none>

Expand All

Display Benchmark Assets Not Held

Look Through Composites

Apply & Close Cancel

Done Internet

You can customize the positions report to look through composites.

Once you enable look through, the composite positions are replaced by the corresponding proportion of the underlying portfolio holdings and duplicate asset IDs are aggregated allowing you to see your aggregate asset exposure across composites. This allows you to analyze the risk of your portfolio looking at your total exposure by asset.

Look-through adds up your duplicate positions across your entire portfolio so that you can see your aggregate exposure to any individual asset.

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Home Analysis Portfolio Admin Data Admin Strategies Import/Export Accounts

Fund of Funds(LookThru:ON) Current Settings: Benchmark Equities Euro 2005/07/31

Zoom Level: Fund of Funds

Current View: Total

The portfolio is not editable because Look Through Composites is turned on. More...

Add Positions... Apply Changes Cancel

Display: 54 / 54 Assets

Del	Asset ID	Asset Name	Weight (%)	%CR to Total Risk	MC to Total Risk	Implied Alpha (%)	Total
Total	54		100.00%	100.000%	0.1069	1.7153%	
<input type="checkbox"/>	UKIENL1	3I GROUP	1.25%	1.771%	0.1515	2.4301%	
<input type="checkbox"/>	SPAAD1	ACCIONA SA (ESP167)	1.43%	1.220%	0.0910	1.4598%	
<input type="checkbox"/>	ITAAAY2	BANCA INTESA N/C SAV	1.85%	2.438%	0.1410	2.2621%	
<input type="checkbox"/>	AUTALH1	BANK AUSTRIA CREDITANS	1.99%	2.117%	0.1136	1.8225%	
<input type="checkbox"/>	GERAAX1	BASF	1.27%	1.192%	0.1006	1.6138%	
<input type="checkbox"/>	BELARK1	BELGACOM	1.08%	0.421%	0.0418	0.6702%	
<input type="checkbox"/>	UKIACE2	BP	3.83%	2.876%	0.0803	1.2874%	
<input type="checkbox"/>	DENABD3	CARLSBERG B	1.36%	0.835%	0.0658	1.0558%	

## Grouping with Look Through

Once you expand your portfolio with Look Through, you can regroup assets to get an accurate exposure and risk analysis across a Barra or user-supplied classification scheme. The following example shows the previous composite portfolio expanded and regrouped by GICS Sector.

BarraOne®

Home Analysis Portfolio Admin Data Admin Strategies Import/Export Accounts

Fund of Funds(LookThru:ON) Current Settings: Benchmark Equities Euro 2005/07/31

Zoom Level: Fund of Funds »GICS Sector

Current View: Total

Collapse All Expand All

Grouping: GICS Sector

Grouping	Asset ID	Weight (%)	%CR to Total Risk	MC to Total Risk	Implied Alpha (%)	Total Risk	Selector
by: distinct	54	100.00%	100.000%	0.1069	1.7153%	10.69	
<input type="checkbox"/> Consumer Discretionary	7	12.48%	15.981%	0.1369	2.1965%	17.40	
<input type="checkbox"/> Consumer Staples	5	7.52%	5.189%	0.0738	1.1840%	11.47	
<input type="checkbox"/> Energy	5	12.73%	9.706%	0.0815	1.3077%	14.21	
<input type="checkbox"/> Financials	16	29.17%	32.392%	0.1188	1.9049%	12.99	
<input type="checkbox"/> Health Care	4	11.35%	8.556%	0.0806	1.2927%	13.13	
<input type="checkbox"/> Industrials	7	11.93%	14.202%	0.1273	2.0423%	15.50	
<input type="checkbox"/> Information Technology	1	1.30%	2.317%	0.1902	3.0515%	36.01	
<input type="checkbox"/> Materials	3	3.76%	3.707%	0.1055	1.6928%	16.25	
<input type="checkbox"/> Telecommunication Services	3	5.65%	4.971%	0.0941	1.5098%	18.90	
<input type="checkbox"/> Utilities	3	4.12%	2.980%	0.0774	1.2416%	14.72	

## Allocation Decisions with Composites

### Trade Scenario & Optimization

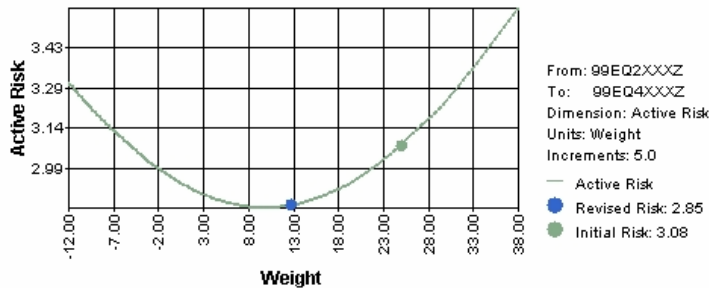
With composite you can now conduct what-if analysis by adjusting your allocation across a portfolio of composites that might represent external managers, asset classes, sectors or countries. You can use BarraOne's trade scenario tool to make trades between composite positions to control your portfolio risk. Alternatively you can use the BarraOne optimizer to create a portfolio that maximizes your expected returns while minimizing your overall risk while adhering to your mandates (constraints).\*

Lower your overall portfolio risk or tracking error by adjusting your allocation between composites.

TRADE SCENARIO							
	Asset ID	Name	Initial Holding	Initial Weight		Revised Holding	Revised Weig
FROM	99EQ2XXXZ	Equity Large Momentum	1,000	25.00 %	◆	520	13.00
TO	99EQ4XXXZ	Equity Enhanced Sectors	1,000	25.00 %		1,480	37.00

Trading Dimension  Trading Units  Trading Increments  %

Run Scen



Apply Tr

\* You can import your expect returns by composite or by asset and let BarraOne calculate the composite alphas.