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invest suite
Software-Assisted Investment Advice

User Manual

Index

1 Introduction

invest suite is a software-assisted advisory tool for performing a scientifically-grounded analysis of portfolios of securities. Based on a risk/return analysis of the initial portfolio, reallocation recommendations are made to improve the risk/return ratio. In this process, individual client preferences can also be taken into consideration. This financial-mathematical method of analysis and optimization is based on the portfolio theory of Nobel prize-winner Harry M. Markowitz and enables the provision of comprehensive and transparent advice at a high level.

The **invest suite** application is based on five process levels. Depending on the configuration of the application in your organization, the following process levels are available:

1	**Start**	Loading/Assembly of the initial portfolio
2	**Analysis**	Analysis of the initial portfolio
3	**Parameters**	Definition of secondary conditions for calculation and recommendation
4	**Recommendation**	Recommendation and performance analysis
5	**Documentation**	Storage and automatic archiving of portfolios
		Creation and automatic archiving of the documentation of advisory as PDF files

☞ *In case an interface to the Back-Office-System of your organization is provided, the results of the advisory process will be delivered back to your system. In this case storage and archiving of contents in the invest-solutions-application might not be available. Content and extent of the delivered data is depending on the requests of your organization. Please contact the administrator in your organization if you have any questions in this regard and regarding further processing of the delivered information in your internal systems.*

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2 General Instructions for Using the Software

Tips & Hints

☞ *Texts in italics with a pointing finger next to them contain tips or hints that are intended to help you using the application.*

☞ *In the upper left corner of many application pages in invest suite, you will find a brief explanation of the options available on this page and hints on using each of these functions.*

2.1 Navigation

2.1.1 Main Navigation

You exit the application using the **logout** button in the Key Visual area. The **back** button leads you back to the client administration. If you have the right to access the tool administration then the **Administration** button is also visible and leads directly to the tool administration.

2.1.2 Navigation between Process Levels

Main Menu bar

Depending on the application configuration in your organization, you'll find the main menu bar above and/or below the content area.

The main menu bar contains all available levels of the advisory process. A color highlight indicates the level which is currently active.

You can navigate between different levels by clicking on the relevant area. **Back** and **Continue** will take you to the previous or next main menu item, respectively.

2.1.3 Navigation within a Process Level

Tabs

The tab structure provides straight-forward navigation options within a level. In order to navigate to a function or page, just click on the corresponding tab. The highlighted tab identifies the page which is currently displayed.

2.1.4 Additional Functionalities

▼ Additional functionalities	
Add new deposit	>>
Define security details	>>

Depending on the page, which is currently displayed, you'll see the field **Additional Functionalities** mainly to the right of the chart area. Clicking on the arrow opens a list of additional text links which allow you to navigate to the application page which contains the described functionality.

2.1.5 Buttons, Fields and Boxes

Buttons

Cancel	Apply

The action which is described in the field will be performed when you click on the button. Depending on the page, the field can branch to a different page within the application.

Overview of standard buttons:

„Apply"
Settings/Changes will be applied.

„Cancel"
Not applied settings/changes will be discarded.

„Default"
Not applied settings/changes will be discarded. Initial settings will be restored.

Text fields

Text fields are used to enter data which can consist of letters and/or numbers depending on the data entry requirements.

ISIN/WKN/Name	

When entering numbers (e. g. investment amount), please use the applicable input format for your input language:
- German number format: Point as thousands separator, comma as decimal separator (e.g., € 10.000,00)
- English number format: Comma as thousands separator, point as decimal separator (e.g., € 10,000.00)

You activate a text field for the desired data entry by clicking in it with the left mouse button. The keyboard is used to enter, delete and/or edit data.

☞ *Within a page, you can use the tab key to jump quickly from one text field to the next.*

Drop-Down menus

Drop-down menus allow you to select one of several alternative options. To open the drop-down menu you click on the arrow at the upper right corner.

When you move the mouse pointer over one of the available options, the option is highlighted with a colored background. When you click on the highlighted option it is selected and displayed in the selection field.

Check boxes

Check boxes are used to select one or more alternative options. The box is checked (= activated) via mouse click. A check mark appears and indicates the active state of the selected options.

Radio Button

You activate a radio button in order to select the corresponding option, such as „Bar chart" in the example above. To activate an option, you click on the radio button. When you click on it again the option will be deactivated.

2.2   Icons and Table Functions

MouseOver Function

Using the ↖-**MouseOver function** allows you to display content which is truncated or displayed in the background in order to improve the readability of table or diagram views.

Switching Table Views

Depending on the active page, the first row of the portfolio tables may contain an icon for changing the display mode. The text description next to the icon indicates which table contents will be displayed by selecting this icon.

Sort function

In every portfolio table, certain columns in the table header contain sort arrow icons which can be used to sort the contents of the table in ascending or descending order according to the criteria represented by the column. To sort the table, you click on the corresponding arrow.

Delete Function (Recycle Bin Icon)

Click on this icon to delete the corresponding items.

Data feed Icons

Security has an own price history that is sufficient for the analysis. You cannot edit it.

Security has an own price history that is sufficient for the analysis. You can edit it (click on the icon, only possible for bonds and indices) to give the security a custom name.

Security has an own price history that is not sufficient, but the price history is automatically extend by the ted algorithm so that the security is available for the analysis.

Security has an own price history that is not sufficient, but the price history is automatically extend by the ted algorithm so that the security is available for the analysis. You can edit it (click on the icon, only possible for bonds) to give the security a custom name.

Security has an own price history that is not sufficient and also basic information is missing in the data feed (like region, sector or type).The price history of this security can be manually replaced with the price history of another security. The security can be manually substituted by another security to make it available for the analysis.

Security has an own price history that is not sufficient and the price history was manually replaced with the price history of another security. The security is substituted by another security to make it available for the analysis. The ISIN of the substitute is displayed behind the name. You can edit the icon to change the substitute.

Security is not valid. In the data feed is almost no data available. The security cannot be used for the analysis. You have to delete this security or it will be automatically excluded in the next step.

3 Start page
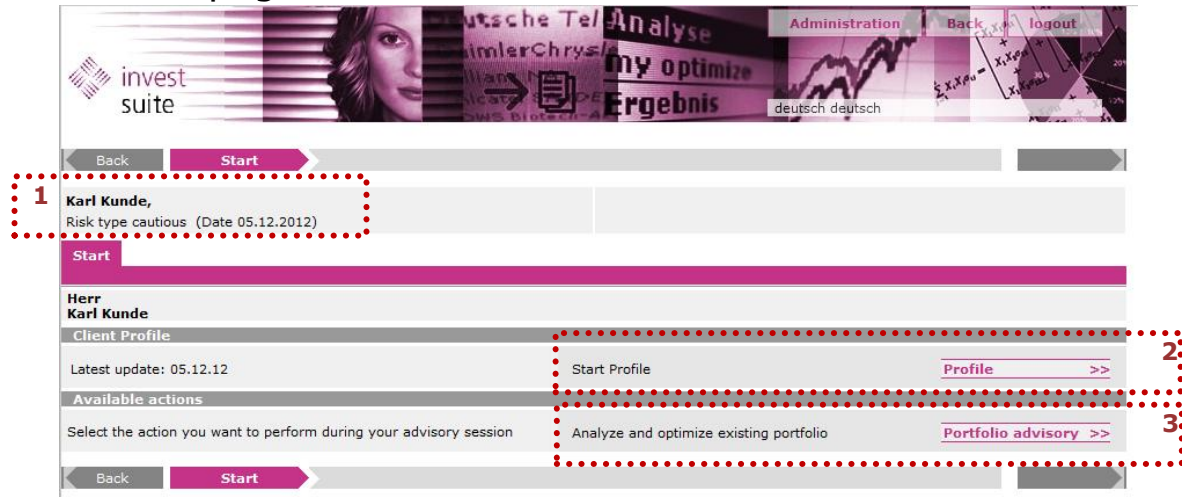
The Start page displays client information with the name of the client, the risk type or the risk class and the creation date of the profile **[1]**.
You can edit the profile of the client by clicking on the **Profile [2]** icon. There is a separate user manual for the profile part.
By clicking on the **Portfolio advisory [3]** icon you get to the Overview page of the advisory process, see chapter 4.

4 Portfolio: Defining the Portfolio

4.1 Portfolio Table and Table Functions

The **Overview** page displays the current portfolio.
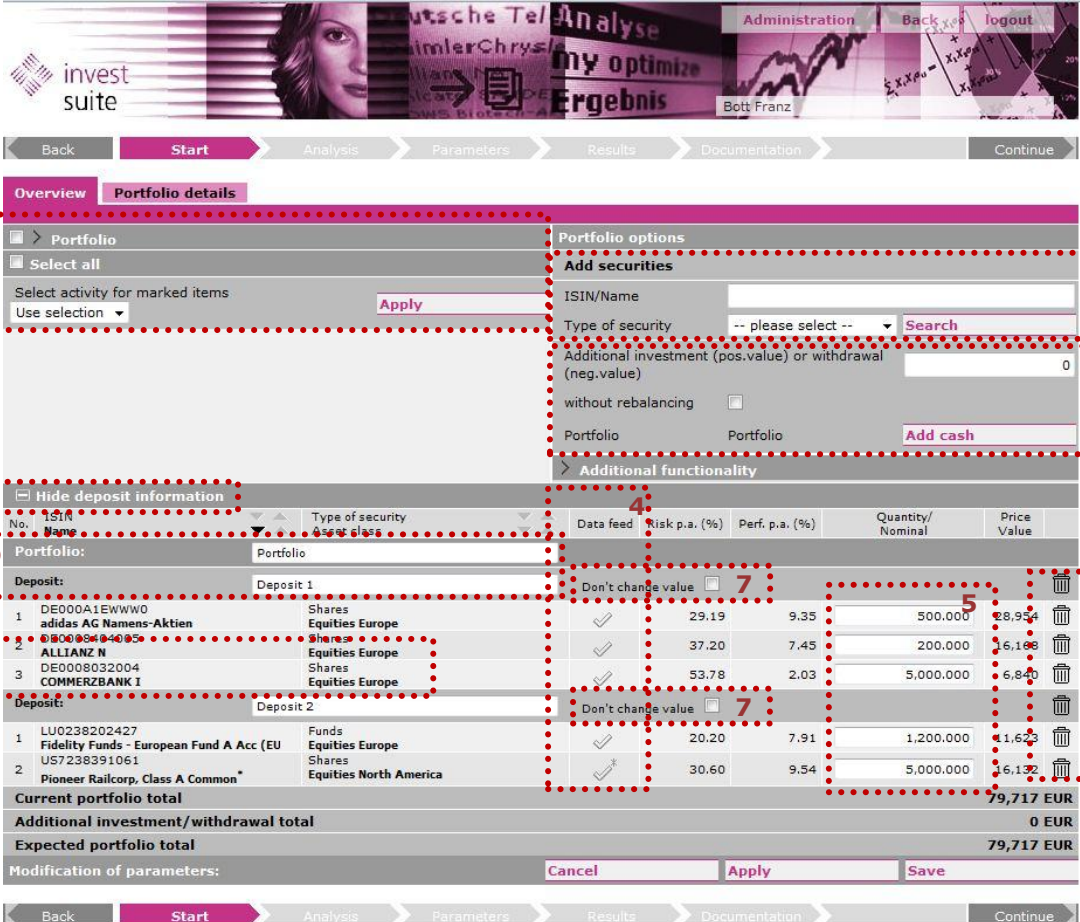You can select a portfolio from the **portfolio list [1]**. It is also possible to combine different deposits to a new portfolio or delete portfolios. All options are listed in the drop-down menu.

You can switch between the available table views by clicking on the **Show deposit information/Hide deposit information [2a]** icon.

In the differentiated view mode (**Show deposit information**), the portfolio is displayed by indicating deposit information.

In the consolidated mode (**Hide deposit information**), all portfolio items are displayed without the deposit information. Here products with the same ISIN, which occur in different deposits, are consolidated into one portfolio item.

Using the **editable text fields [2b]** for names you can change the labels for portfolios and deposits which were previously defined by you or assigned by the system. Please, save the changed name by clicking on **Save**.

☞ *Names of imported deposits can be also changed like this.*

You can use the ↖**-MouseOver function** to display the **complete contents [3]** of the ISIN and Title fields which are truncated in the name column.

Data feed [4]: Status icon indicating the validity of an item for processing.

Using the editable text fields, you can adjust the **quantity of the securities [5]**. Please confirm the changes by clicking on **Apply**.

Using the **Recycle bin icon [6]**, you can remove deposits from the current portfolio table or securities from the deposit.

It is possible to fix the value of a portfolio by ticking the **Don't change value box [7]**. If the value of a portfolio is fixed, the current total amount of the portfolio won't be lowered during the portfolio optimization process. Anyway, it is possible to add or withdraw an additional investment. If the value of a portfolio is not fixed, the optimizer possibly redeploys capital from one portfolio to another portfolio.

4.2   Security Search: Adding new Securities to Deposits

4.2.1   Adding securities to existing deposits

You can use the **Security Search** function to add securities to existing deposits or to create new deposits. The search results are weighted by an internal algorithm. The search index (called Lucene Index) allows to use a so called "boost list". All ISINs on the boost list get an additional value (score) added to the organic search result value (score). The hit list is ranked by this overall search score.

Enter the name of the security or part of the name (e.g. first letters), the ISIN (International Securities Identification Number) of the desired product in the search field. You can also search with a combination of words.

Optionally, you can also use the **Security type** drop-down menu to define the type of the required security by selecting one of the types in order to restrict the number of search results.

Add securities		
ISIN/Name		
Type of security	Funds ▼	Search
	Funds	
	Share	
	Structured Product	
	Index	
	Bond	

Then click on **Search** to display the list of search results. If the search returns more than 10 results you can click on the page numbers or the arrow icons at the bottom of the table to navigate between results pages or to move to the first (I<) or last (I>) page.

No.	ISIN / Name	Type of security / Asset class	Data feed	Quote/Price	Quantity	Market Value EUR
1	LU0535527229 DKB Europa Fonds AL	Funds Equities Europe	✓	EUR 9.70		
2	LU0490096079 BILKU 1 Carbon Efficient Bond Fonds AL	Funds Bonds International	✓	EUR 99.75		
3	LU0249656512 BayernInvest OptiMA Fonds (AL)	Funds Fund of Funds	✓	EUR 79.66		
4	DE000A0H0PG2 AL FT Wachstum	Funds Equities International	✓	EUR 50.22		
5	DE000A0H0PH0 AL FT Chance	Funds Equities International	✓	EUR 47.02		
6	DE000A0H0PF4 AL FT Stabilität	Funds Bonds International	✓	EUR 52.46		
7	LU0327386487 AL DWS GlobalAktiv+	Funds Fund of Funds	✓	EUR 97.31		
8	DE0008471798 AL Trust Euro Relax	Funds Bonds Europe	✓	EUR 49.65		
9	LU0102279501 DKB Pharma Fonds AL	Funds Equities International	✓	EUR 31.93		
10	LU0102279253 DKB TeleTech Fonds AL	Funds Equities International	✓	EUR 5.39		

Result : 30 Search result

I<	<<<	1 2 3	>>>	>I

Add securities to deposit	Deposit 2 ▼	Apply
Delete search results		New search

Now enter the desired **Quantity**. Every item with an assigned quantity will be added to the portfolio when you click on **Apply**. In this step, you can add products which are listed on different pages of the results list simultaneously.

If the **Data feed** column contains an icon showing a **no entry sign** or a **no entry sign with double**-**arrows** then this item is not valid for analysis and calculation. At least the ISINs with the no entry sign with double arrows can be substituted manually after you had added them to a portfolio.

Before you apply your changes, please select the target deposit for the selected securities in the **Add Securities to deposit** drop-down menu.

If you want to abort the search for securities and discard any entries in the results list, please select **New Search**.

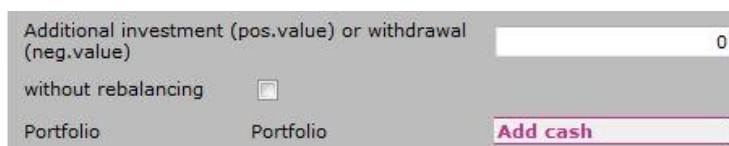*Your search request did not return any results?* This might have the following reasons:

☞ *Typing error? Please, try again.*

☞ *The security label saved in the database does not match your entry in the search field. Please, try again using a different or shorter search term (e.g. partial names). Please note, that spaces are also considered.*

☞ *The security is not in the database.*

4.2.2 Adding new Deposits

Please primarily select securities which shall be added to the new deposit via the security search as described above. For adding the new deposit the drop-down menu show the new deposit in bold letters. New deposits are added to the portfolio.

4.3   Additional Investment or Withdrawal

If your client wants to invest an additional amount, enter a positive number for the amount in the **Additional investment or withdrawal** field. If the client wants to withdraw an amount from, please enter a negative number.

Additional investment (pos.value) or withdrawal (neg.value)		0
without rebalancing	☐	
Portfolio	Portfolio	Add cash

Click on **Add cash** to confirm your entries. The amount will be displayed in the header of the portfolio.

If you want to change or remove the amount, repeat the procedure described above. Enter a new amount or zero (0) to change or remove an amount, and click on **Add cash** to confirm your changes.

4.4   Portfolio details

You can switch between the available table views by clicking on the **Show deposit information/Hide deposit information [1]** icon.

In the differentiated view mode (**Show deposit information**), the portfolio is displayed by indicating deposit information.

In the consolidated mode (**Hide deposit information**), all portfolio items are displayed without the deposit information. Here products with the same ISIN, which occur in different deposits, are consolidated into one portfolio item.

You can use the ↘-**MouseOver function** to display the **complete contents [2]** of the ISIN and Title fields which are truncated in the name column.

Using the editable text filed you can adjust the purchase price in EUR **[3]**. The purchase price / cost related to the respective position. The purchase price / cost is required for the profit / loss calculation in the analysis. If you want to save the purchase prices then save the portfolio on the overview page.

5 Analyzing the Current Portfolio

5.1 Overview

(Not in all versions available)
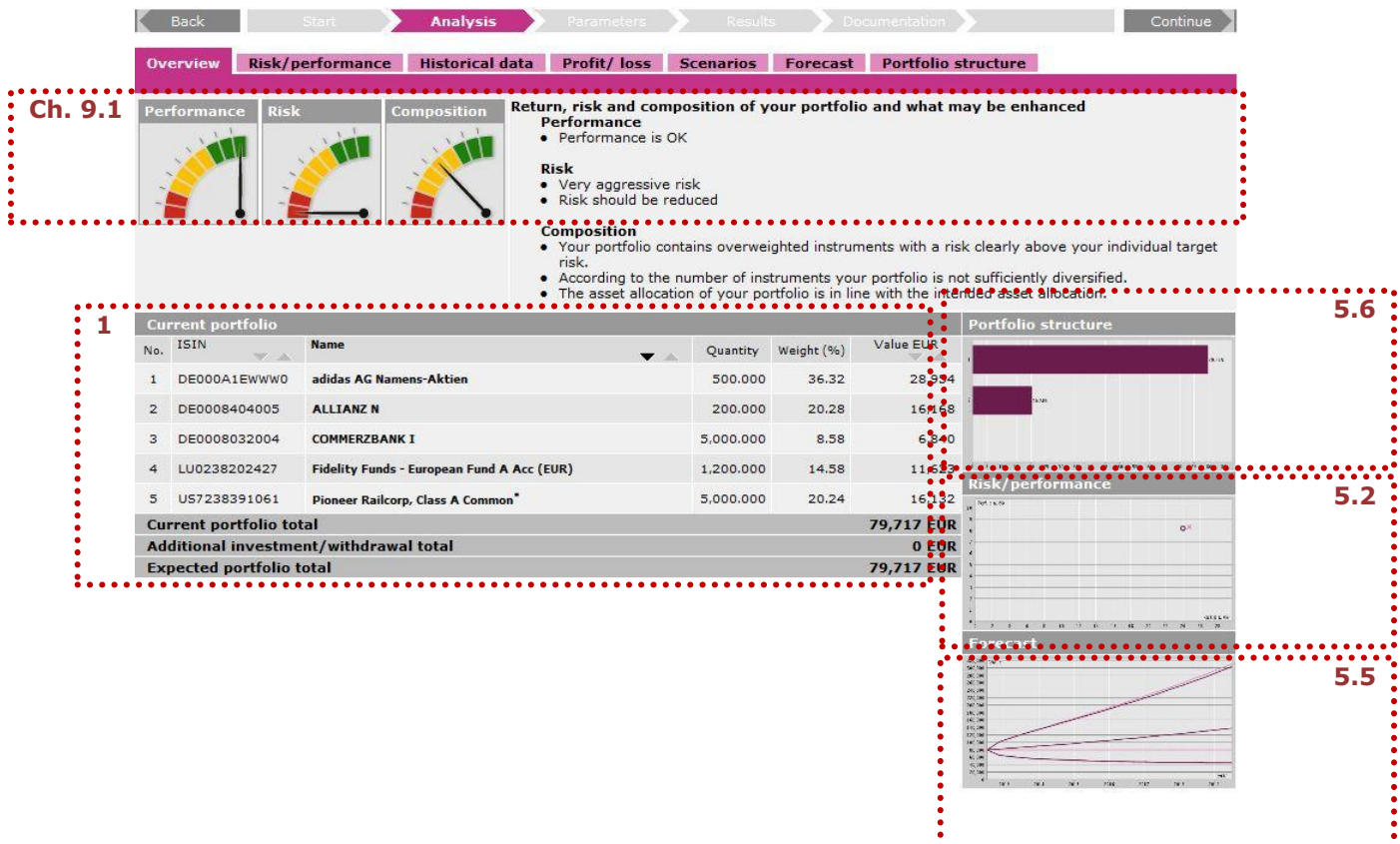
The **portfolio table [1]** shows all items of the current portfolio in the consolidated display mode. In this mode, products occurring in more than one deposit are consolidated into one portfolio item.

This page provides an overview **[Ref. Chapters 5.2 / 5.5 / 5.6]** summarizing the results of the portfolio analysis. Depending on the configuration of the application in your organization, the chart analysis might contain automatically retrieved default settings, such as a benchmarks selection for the risk/return analysis.

For background information about the various analysis procedures, please refer to the descriptions in the relevant chapter.

The current portfolio is evaluated based on various indicators **[Ref. Chapter 9.1]**. The degree to which the requirements in the areas **Return**, **Risk** and **Composition** are fulfilled is indicated by a pointer which is visualized following the color scheme of traffic lights.

Next to the indicator fields you will find a short text summary of the evaluation.

For more detailed information, please refer to the corresponding sections in the relevant Chapter.

5.2   Risk/Return
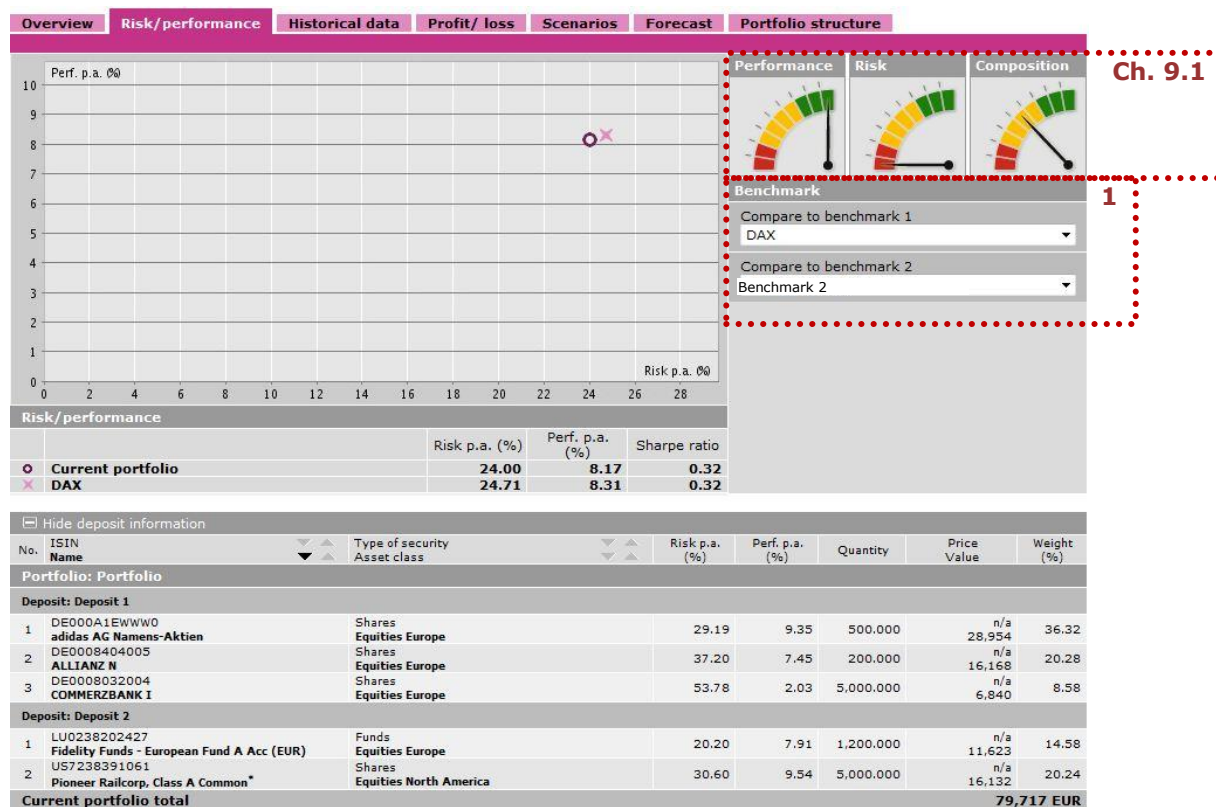
The Risk/Return chart and the related key figures table illustrate the risk/return estimates for the current portfolio and the selected benchmarks **[1]**. The portfolio table below contains the relevant details for the individual items.

The estimated risk value (volatility) represents the annualized fluctuation margin of the price history based on the overall analysis period that is available for invest suite (previous 8 years).

The return value represents the performance expectation which was calculated using the F.A.M.E.® method for the next 12 months (for detailed information see the document **F.A.M.E**.®-Future Adjusted Markowitz Estimator®).

For a meaningful evaluation of the current portfolio the benchmark comparison **[1]** can be used. The available benchmarks and/or model portfolios are managed centrally by your administrator.

5.3 Profit / Loss

On this page, you can see your profit / loss in percentage and absolute terms.

The profit / loss results **[1]** are based on the last available market prices for each item and the corresponding purchase prices. The purchase price can be entered in the "Start", see chapter 4.4.

5.4 History

(Not in all versions available)
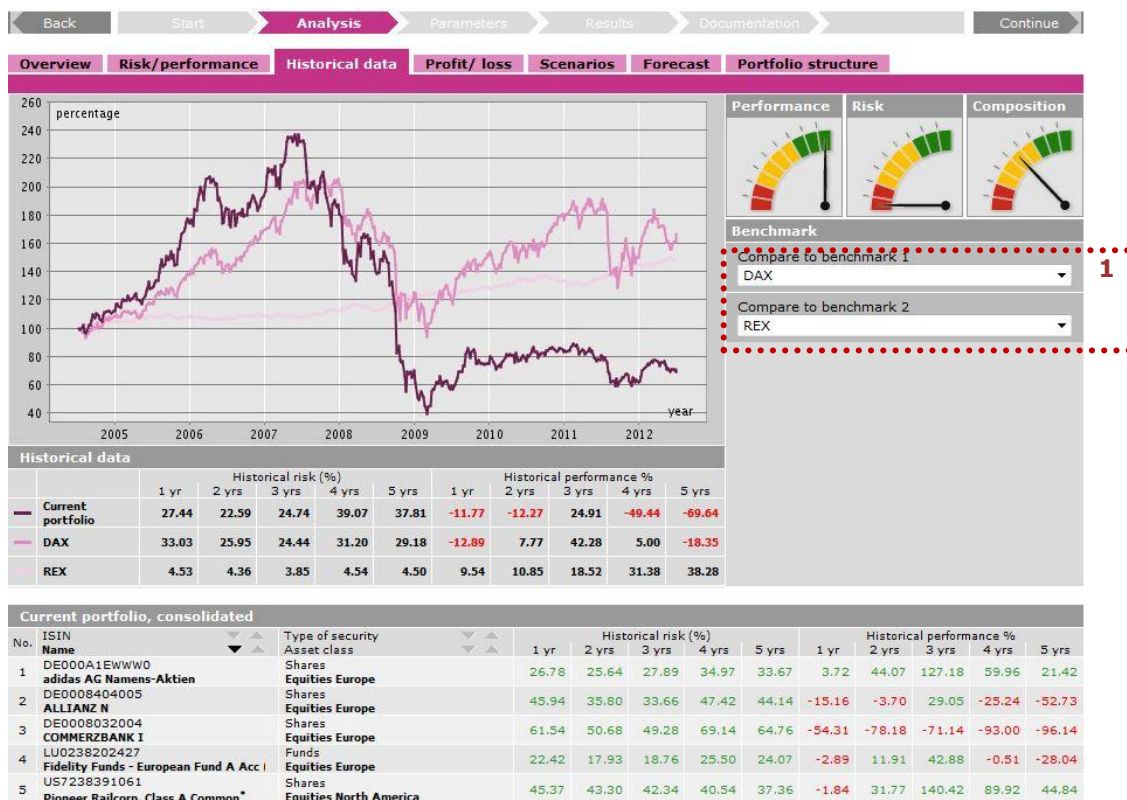
The chart shows the price history of the portfolio composition as of the date and time of the analysis over the entire review period (previous 8 years). The key figure tables show the historical key figures for volatility and return for the previous 1 to 5 years.

The **benchmark selection [1]** is adopted from the **Risk/Return** page or other pages on the process level **Analysis** and may be adjusted using the drop-down menus.

☞ *If you change the benchmark selection on this page, these changes are automatically applied to the other pages.*

5.5 Forecast (Value at Risk)

(Not in all versions available)

The Value-at-Risk analysis shows calculations within a probability range of 90%. Based on the assumptions of the Value-at-Risk approach, there is a probability of 90% that the performance of the analyzed portfolios will be within the lower and the upper limits in the review period, i.e., there is a probability of 95% that the maximum loss (lower limit) will not be exceeded. The model calculation assumes a consistent performance expectation and a constant volatility. Of course, these model calculations do not represent a warranty for the future performance.

The **Value-at-Risk analysis [1]** shows the maximum loss potential of the existing portfolio for a freely selectable review period. The key indicators show the maximum loss as absolute amount.

The line in the middle visualizes the target volume with the highest probability. The lower line indicates the maximum loss value.

The analysis **review period [2]** can be defined individually. Enter the number of years
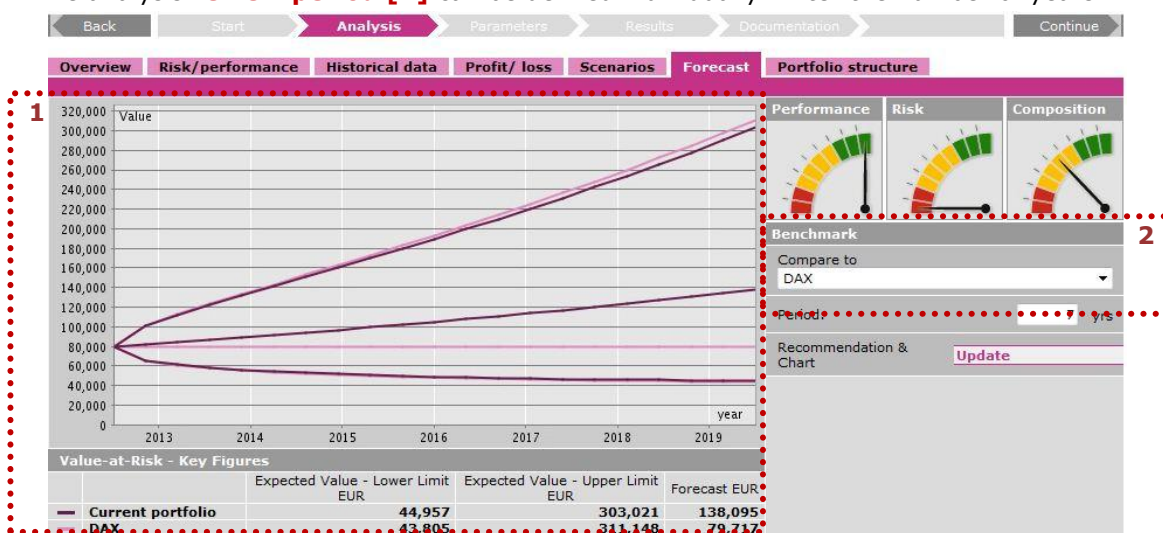
(max. 50 years) in the relevant text field as desired review period in the future. If you change the review period, you must confirm your change by clicking on update.

5.6 Portfolio Structure

(Not in all versions available)

The **Structure** page of the process level **Analysis** shows the portfolio structure by asset classes, regions, and currencies.
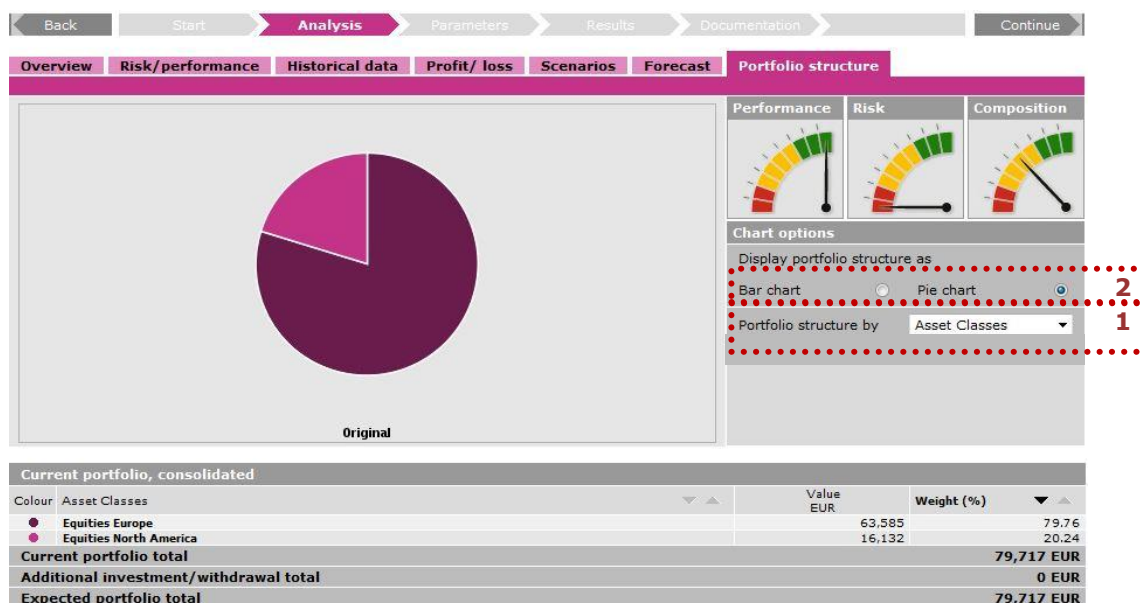
Select the **radio button [2]** for **Bar chart** or **Pie chart** to choose the corresponding display form.

When you hold the mouse pointer over a bar or pie segment the ↘-**MouseOver function** indicates the corresponding area and its weight percentage in the current portfolio.

The **drop-down menu [1]** allows you to select one of the categories which are available for the structure analysis.

The table below the chart provides an overview of the individual weight percentages and the absolute amounts for the selected category in the current portfolio. In a bar chart, matching chart and table elements are identified by numbers, and in a pie chart, matching chart and table elements are identified by the same color.

☞ *Regardless of your selection, the PDF report for the client contains the analysis for every available category if the module for the structure analysis is activated on page **Documentation**.*

☞ *The values for volume are always – for the category **Currency**, as well – entered in the default currency specified for the application.*

5.7   Scenario Analysis and Return Fluctuations
(Not in all versions available)

On this page, you can select between the historical analyses on return fluctuations and the portfolio performance, which includes the analysis of the maximum drawdown, over different scenario periods.

Use the **radio buttons [1]** to determine the desired analysis method – Return fluctuations (1 to 5 years) or Historical scenario and drawdown .

☞ *Regardless of your selection, the PDF report for the client contains the contents of both analysis types, if the related module is activated on the **Documentation** page.*

In the **drop-down menu [2]** select a benchmark comparison for analysis.

5.7.1 Historical Scenario and Maximum Drawdown

The scenario analysis reviews the historical trend and the maximum drawdown of the current portfolio and the selected benchmark for the defined scenario review period.

Use the drop-down menu to select the required scenario.

For centrally defined scenarios, the start and end dates of the review period is automatically retrieved. The respective text fields cannot be edited.

If you want to define an individual review period for the scenario, please select the category **Individual Scenario** and enter the start and end dates in the relevant text fields. Please, confirm your input by clicking on **Refresh**.

Except for the maximum review period, the review period of the scenario is always marked in the chart by a corridor.

The chart table shows the performance and the maximum drawdown of the current portfolio and the selected benchmark for the specified review period in percent. The maximum drawdown indicates the maximum relative loss following a peak.

☞ *The scenario **Max. review period** encompasses the possible maximum review period over the past 8 year.*

5.7.2 Return Fluctuations

Activate the **corresponding radio button [1]** to switch to the analysis type **Return fluctuations**.
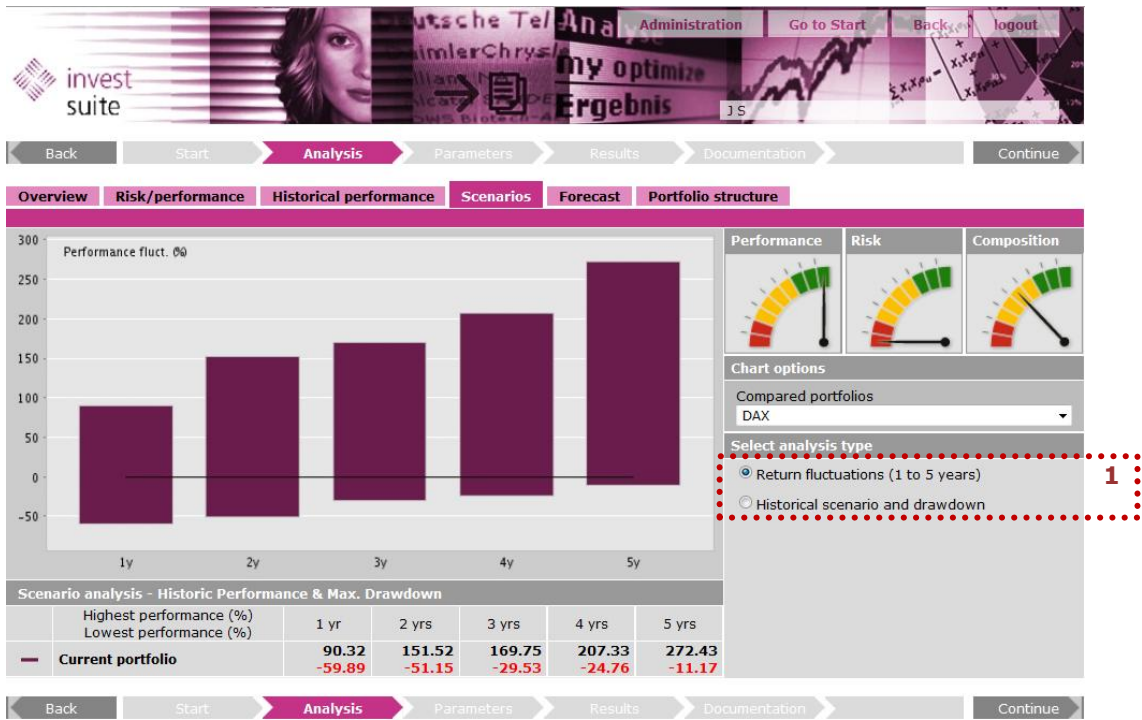

Chart and chart table show the return fluctuations for the current portfolio and the selected benchmarks which occurred over the past 1 to 5 years, providing the highest and the lowest values for each item based on rolling periods.

6 Parameters: Defining Secondary Conditions

On the **Parameters** process level, central and/or individual secondary conditions for the advisory process are defined and displayed.

The summary page **Parameters** displays an overview of the settings which were defined on the various functional pages on this level or the secondary conditions which were automatically retrieved for a client (e.g. based on the client profile).

☞ *Depending on the application configuration in your organization, the default settings for fixed minimum/maximum values, favorite lists, asset allocations, and performance estimations may be imported and automatically displayed.*

☞ **Conflicting settings**
When you leave the **Parameters** *process level the individual specifications and settings are checked for consistency and feasibility. Depending on the application configuration in your organization, if conflicting settings are found, you are asked to check and change the settings or asked if you want to run the calculation ignoring secondary conditions. If you accept the second option by clicking on* **OK**, *the calculation will be performed ignoring some or all of the secondary conditions.*

This area shows the secondary conditions for the **asset allocation [1]** which is set on the **Structure** page or automatically retrieved from the administration (see Chapter 6.3).

If secondary conditions are set and you did not make an individual selection, then the invoked allocation was either defined by your administration as default allocation or it is the default allocation for the client profile of the client. Please, contact your central administrator if you have any questions in this regard.

Portfolio Table [2]

In the portfolio table all items of the existing portfolio are displayed in the consolidated display mode (i.e., without deposit information). The lower part of the table shows any favorite titles which were already selected. In the consolidated display mode, products with the same ISIN which are part of more than one deposit are consolidated into one portfolio item.
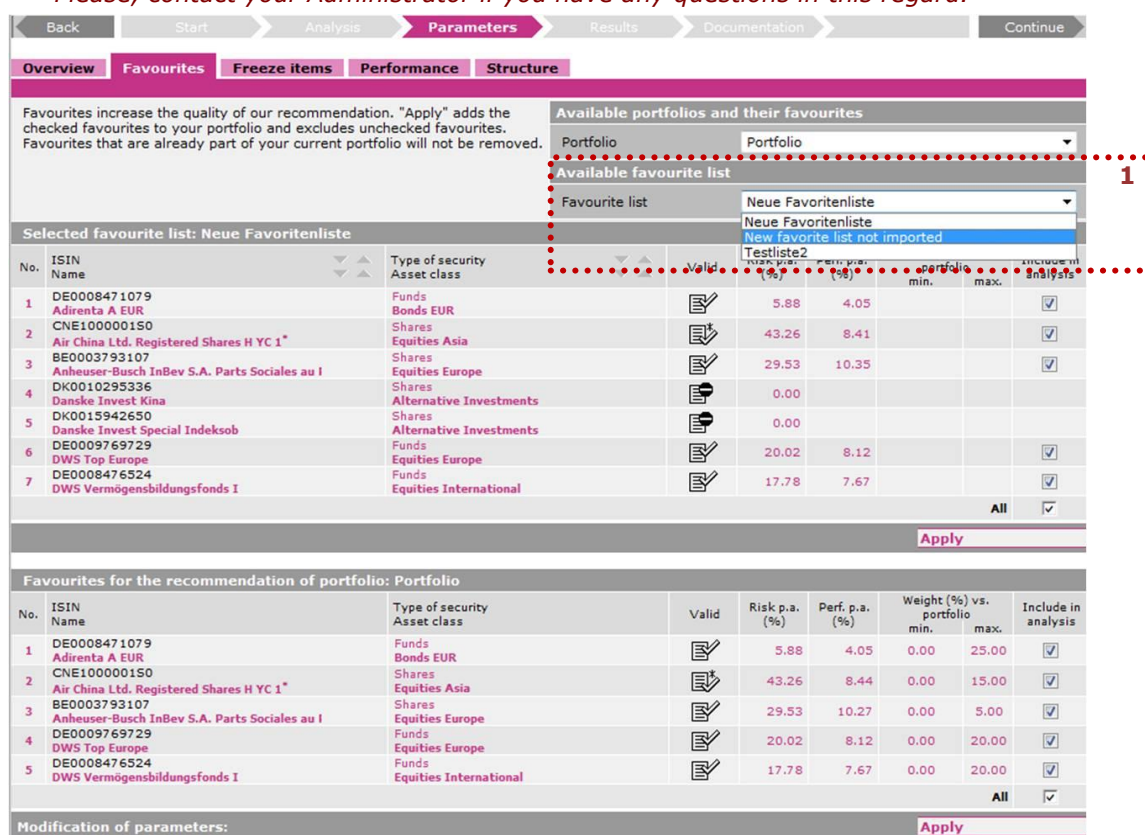
You can tell from the entries in the table columns and the column headings whether secondary conditions were defined for an item and which secondary conditions were defined. For detailed information about the column contents, please refer to the following chapters containing descriptions of the functional pages available on this process level.

☞ *If the check marks in the **Don't sell**/**Don't buy** columns are in parentheses, then the corresponding title is listed in different deposits with different fixations. In the differentiated table view (**Show deposit information**) the fixations are shown per deposit on the **Freeze items** page.*

☞ *When you define secondary conditions which deviate from the default settings by your administration or system-defined settings then these secondary conditions are highlighted in bold font.*

6.1 Favorites

On this page you can select the favorite products for recommendation. Choose a set of desired products from the available favorite lists.

☞ *If there are already favorite products selected before you made a choice, then this favorite list is either the default list defined by your administration or the default list for the risk profile and/or investment goal of the client.*

☞ *Depending on the configuration of the application in your organization, the choice of favorites might be predefined and fixed.*

☞ *Please, contact your Administrator if you have any questions in this regard.*

Using the **Available favorite lists [1]** drop-down menu you can display all available favorite lists.

In addition to ISIN, name and optimization status of the item, you'll find the risk and return expectation, which will be used in the pending calculations.

Furthermore, the table shows the **maximum weight limit** which is defined by the central administration or the settings; in the recommended portfolio, the item is not allowed to exceed this limit. If no customized value has been set by yourself or your organisation, the maximum values are displayed which were calculated by the system to prevent extreme portfolios.

For all securities in the favorite list that are to be included in the portfolio, click on the check box. When you click **Add**, these items are added to the list in the lower part of the page. This list contains your selection for the following calculation of the recommendation. You can include items from different favorite lists in this list.

If you have made the required selections and all of the required items in the **Favorites for recommendation** list have a check mark, click on **Apply**.

You can exit the page without including the selected titles by clicking on **Cancel**.

☞ *In every portfolio table, favorite items are displayed with a colored background.*

6.2   Freeze Items

(Not in all versions available)

Using the functions on this page you can freeze the existing quantity of individual items or define upper and lower limits for items of the current portfolio and/or the favorite products as secondary condition for the recommendation.

☞ *You may find items with already defined settings. The **max.** column shows the default maximum settings of an item for the pending optimization which have been calculated by the system or maximum values which have been specified by your central administration.*

☞ *Settings for the minimum quantity and the **Don't sell** check box of an item are defined by your central administration.*

☞ *Depending on the configuration of the application in your organization, input fields might be deactivated. In this case these settings cannot be changed.*

☞ *Please, contact your Administrator if you have any questions in this regard.*

6.2.1   Freeze Items

All portfolio items are displayed without deposit information. Here products with the same ISIN, which occur in different deposits, are consolidated into one portfolio item. In the bottom part of the table, you will find the selected favorite items, if any. Changes to settings are applied to the overall portfolio.

The column **Weight % current** shows the current share of an item in the portfolio; for the weight calculation, any additional investments or withdrawals are taken into consideration.

By entering a specific percentage in the **column "min." [1]** you can specify a lower limit for the weight in % of a product in the recommended portfolio (additional investments/withdrawals taken into consideration). Alternatively, you can click on the

check box in the **Don't sell** column for an item to define the existing quantity as the lower limit so that the quantity of this item can only be increased but not decreased during the calculation of the recommendation.

The **column "max." [2]** shows the default maximum values for the item for the pending calculation process which have been provided by the system or defined by your central administration. By entering a specific percentage you can determine an upper limit for the weight of a product in the recommended portfolio. Alternatively, you can click on the check box in the **Don't buy** column for an item to define the existing quantity as the upper limit, so that the quantity of this item cannot be increased, but only decreased during the calculation of the recommendation.

If you activate both checkboxes **Don't sell** and **Don't buy** for an item, the data history of this item is included in the calculation but its quantity cannot be increased or decreased, i.e., the existing quantity is retained.

Click on **Apply** to confirm your changes and to apply them to the subsequent calculation process. Click on **Cancel** to discard any changes which have not been applied yet. You can click on **Default** to restore the original settings, which were active before you made and applied individual changes.

☞ *If you select the **Don't sell** and/or **Don't buy** checkmark for a product which is included in more than one deposit then this setting is applied to all deposits which contain this product.*

☞ *The specified weight percentages refer to the overall portfolio, i.e., if an item is included in more than one deposit then the total of the weight percentages of all deposit containing this item must not be greater/smaller than the specified percentage.*

6.3 Structure

(Not in all versions available)

On the page **Structure**, you can select asset allocations which have been centrally defined by your administration in the drop-down menu **Available settings for asset classes [1]** and/or specify your own distributions within the scope of the existing asset class system for the portfolio.

☞ *If secondary conditions for asset classes are already defined without your input/selection, then this asset allocation was either defined by your administration as default setting or it is the default asset allocation for the risk profile of the client.*

☞ *Depending on the configuration of the application in your organization, input fields might be deactivated. In this case the corresponding settings cannot be changed.*

☞ *Contact the Administrator in your organization if you have any questions in this regard.*

Click on **Apply** to confirm your changes and to apply them to the subsequent analysis process. Click on **Cancel** to discard any changes which have not been applied yet. You can click on **Default** to restore the original settings, which were active before you made and applied individual changes.

***Please, note**:*

☞ *When you define secondary conditions for asset classes you need to make sure that the specified upper and lower limits are applicable with the products in the current portfolio and the selected favorites. The system will notify you if there are any conflicts. The asset classes which are causing the conflict are marked in red. In this*

case you must check if there are suitable products available for these asset classes and if the minimum and maximum weight values of the individual products in these asset classes conflict with the secondary conditions for these asset classes.

☞ *If the upper and lower limits for an asset class are set to the same value, it is virtually impossible to perform a Markowitz optimization calculation. The smaller the difference between the upper and lower limit, the smaller the calculation scope for the system.*

☞ *The entered maximum and minimum weights must not add up to exactly 100%. Give the system sufficient room for the calculation. The total sum of minimum shares must always be less than 100%, and the total sum of maximum shares must always be greater than 100%.*

6.4   Individual Performance Estimate

(Not in all versions available)

This table contains a list of all securities in the current portfolio and any selected favorites which are to be used for advisory.

The **column "Appl. in" [1]** shows the performance in % according to the F.A.M.E.® estimator (for detailed background information, refer to the document **F.A.M.E**.). This value is used if you do not enter your own estimate or if your central administration did not provide an estimate (by admin, by user column).

Back	Start	Analysis	**Parameters**	Results	Documentation		Continue

Overview	Favourites	Freeze items	**Performance**	Structure

The expected performance is calculated for each security in the portfolio. The expected performance can be overruled by the administrator or your individual settings. To do so, define your expected performance of the respective security for the next 12 months.

Current portfolio, consolidated

No.	ISIN / Name	Type of security / Asset class	Quantity	Price Value	Weight (%)	by admin.	by user	Appl. in
1	DE000A1EWWW0 **adidas AG Namens-Aktien**	Shares **Equities Europe**	500.000	n/a 28,954	36.32			9.35
2	DE0008404005 **ALLIANZ N**	Shares **Equities Europe**	200.000	n/a 16,168	20.28			7.45
3	DE0008032004 **COMMERZBANK I**	Shares **Equities Europe**	5,000.000	n/a 6,840	8.58			2.03
4	LU0238202427 **Fidelity Funds - European Fund A Acc (E**	Funds **Equities Europe**	1,200.000	n/a 11,623	14.58			7.91
5	US7238391061 **Pioneer Railcorp, Class A Common***	Shares **Equities North America**	5,000.000	n/a 16,132	20.24			9.54

-AssetClassMedium- Favourites for current recommendation

No.	ISIN / Name	Type of security / Asset class	Quantity	Price Value	Weight (%)	by admin.	by user	Appl. in
6	DE0008471079 **Adirenta A EUR**	Funds **Bonds EUR**	0.000	13.89 0	0.00			4.04
7	CNE1000001S0 **Air China Ltd. Registered Shares H YC 1***	Shares **Equities Asia**	0.000	0.46 0	0.00	8.40		8.40
8	BE0003793107 **Anheuser-Busch InBev S.A. Parts Social**	Shares **Equities Europe**	0.000	62.93 0	0.00	10.28		10.28
9	DE0009769729 **DWS Top Europe**	Funds **Equities Europe**	0.000	91.90 0	0.00			8.12
10	DE0008476524 **DWS Vermögensbildungsfonds I**	Funds **Equities International**	0.000	84.74 0	0.00			7.65

Modification of parameters: | Cancel | Default | Apply

In the **by user** column, you can specify your own performance forecast (in %) for each item, if you or your client want to specify these values for certain individual items.

If an individual estimate is entered by yourself or your organization, the calculations are based on this value. The "Appl. in" column contains the used value if individual estimates are to be considered. A footnote contains a reference to the use of individual estimates.

☞ *Please note, that modifying the performance figures has a considerable effect on the calculation and that the results must be interpreted accordingly.*

☞ *For user-defined performance forecasts, you can enter values in the range between -100.00 and 999.*

☞ *If a product occurs in more than one deposit, the individual estimate applies to all deposits which contain the corresponding ISIN.*
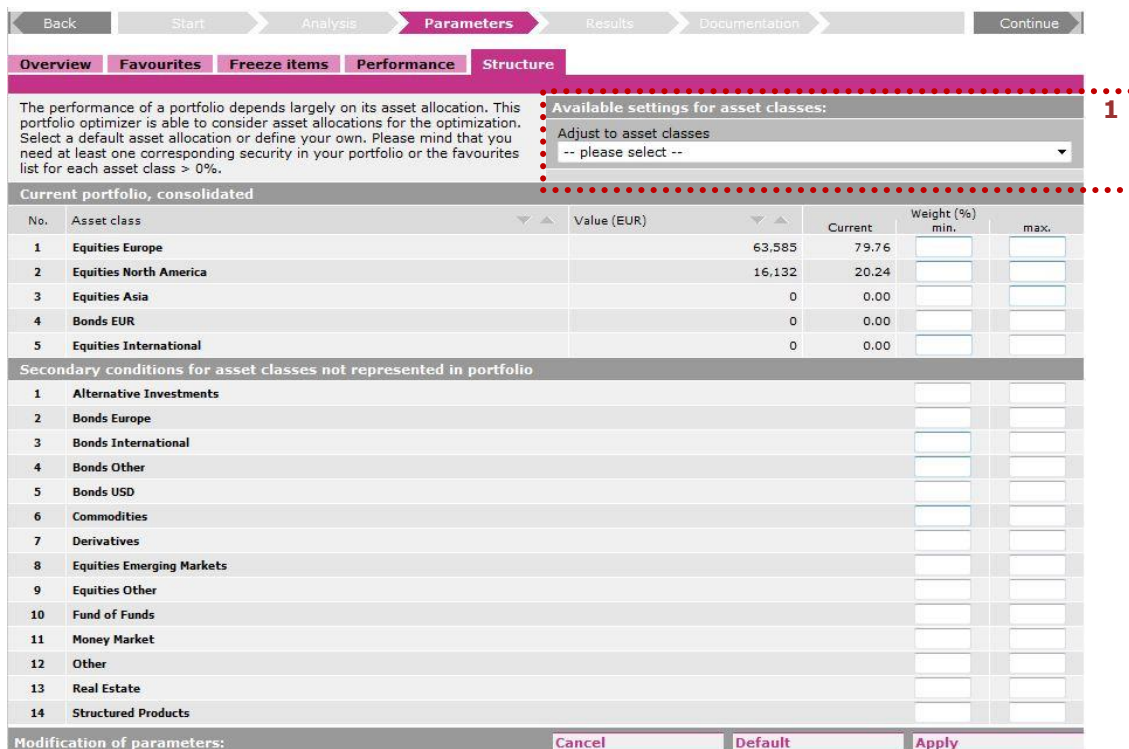
Click on **Apply** to confirm your changes and to apply them to the subsequent calculation process. Click on **Cancel** to discard any changes which have not been applied yet. You can click on **Default** to restore the original settings, which were active before you made and applied individual changes.

7 Results

7.1 Overview
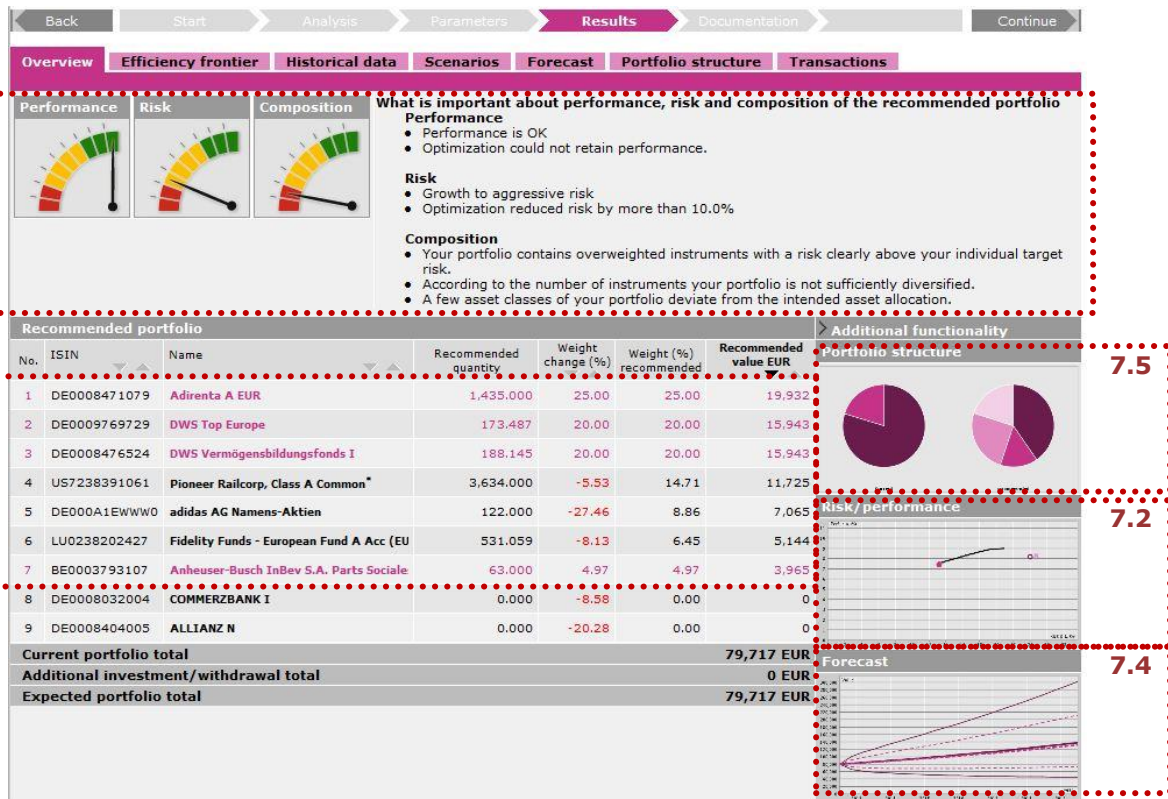
The **portfolio table [1]** shows all items of the recommended portfolio in the consolidated display mode. In this mode, products, which are part of more than one deposit, are consolidated into one portfolio item.

This page provides an overview summarizing the analysis results of the recommended portfolio **[Ref. Chapter 7.2 / 7.4 / 7.5]**. For background information about the various analysis procedures, please refer to the descriptions in the relevant chapter.

7.2 Risk/Return (with Efficiency Curve)

7.2.1 Efficiency Curve and Selecting a Recommended Portfolio

All portfolios on the **efficiency curve [1]** resulting from the calculations are mathematically „efficient". In other words, for a given product selection (existing and favorite items), there are no portfolio compositions with a better performance at the given risk outside this efficiency curve if all defined secondary conditions and key figures are taken into consideration, and vice versa.

The chart shows the risk and performance estimates for the current and the recommended portfolio. The portfolio was moved onto the displayed efficiency curve during the calculation.
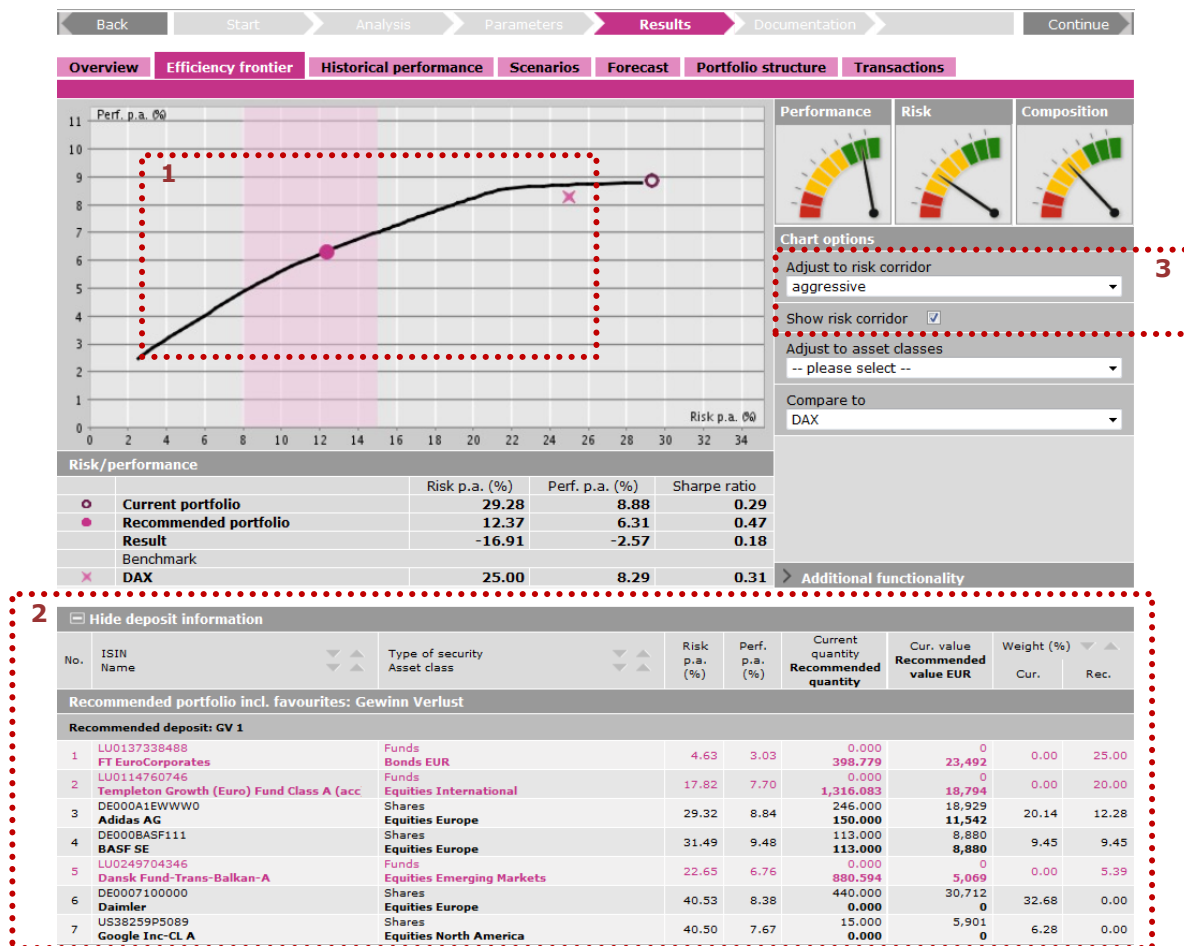
The automatically preselected portfolio represents only one of several possible efficient portfolios. You can base the decision on the portfolio composition which you finally select for recommendation on the risk corridor, a specific risk or desired return expectations for the respective client.

Displaying and Selecting Alternative „Efficient" Portfolios
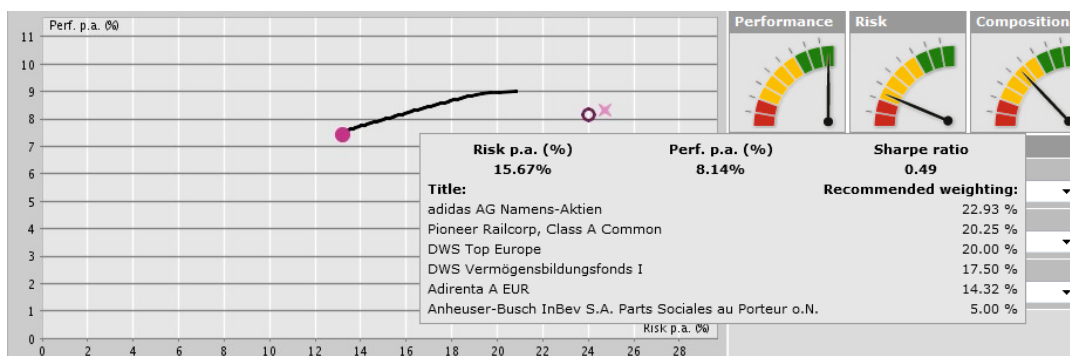
When you move the mouse pointer over the efficiency curve, the ✎-*MouseOver function* displays the different portfolio compositions that are on the curve (the pointer changes to a hand symbol). If you want to select one of these portfolio recommendations, click on the corresponding efficiency curve item. Consequently, the required portfolio is transferred into the graphical display and the tables.

Risk/Performance chart table

This table displays the risk and return figures in % for the current portfolio and the recommended portfolio. The last row shows the result of the optimization.

Portfolio Table [2]

A detailed view of the recommended portfolio is displayed in the bottom part of the screen. You can switch between the available table views by clicking on the **Show deposit information/Hide deposit information** icon. In the differentiated view mode, the portfolio display is subdivided into deposits including favorite products. In the consolidated mode, all portfolio items are displayed without deposit information. Here the quantity/volume of products with the same ISIN which occur in different deposits are consolidated into one portfolio item.

In addition to the risk/return figures, the quantity and the % weights and the related volumes of items for the **current** (weight percentages without additional investments/withdrawals) and the **recommended portfolio** (weight percentages including additional investments/withdrawals) are displayed.

☞ *On the **Transactions** page, you will find the recommendation result transformed into purchase and sale transactions. You can click on the corresponding tab to go to this page.*

Risk Corridor/Comfort zone [3]
(Not in all versions available)

The risk corridor marks an area in the risk return chart that is defined by upper and lower risk limits for the recommended portfolio – the comfort zone which should contain the recommended portfolio.

If you want to select or change the risk corridor, please choose the required option in the **Adjust to risk corridor** drop-down menu.

If you do not want to display a risk range, please deactivate the **Display risk corridor** checkbox by clicking on the check mark.

☞ *Risk corridors are defined by the central administration of your organization. The pre-selection represents either the default setting defined by your central administration or the default risk corridor defined for the risk profile and/or the investment goal of the client.*

☞ *Depending on the application configuration in your organization, the drop-down menu for selecting alternative risk corridors might not be active or available. In this case the corresponding settings cannot be changed.*

☞ *Contact the Administrator in your organization if you have any questions in this regard.*

7.3 Historical Data

(Not in all versions available)

This page contains a comparison of the history of the current and the recommended portfolio and any selected benchmarks.
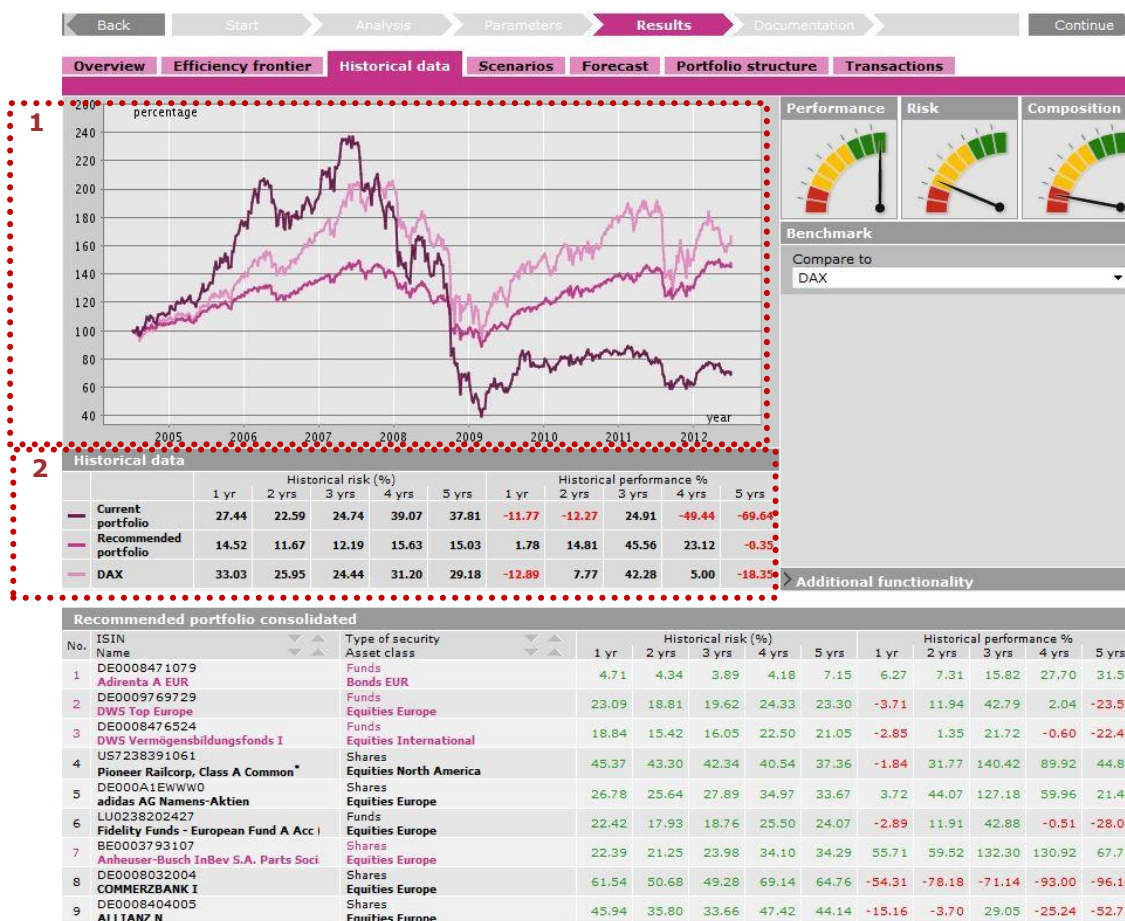
The **graphical display [1]** shows the price history of the portfolio composition as of the date and time of the analysis over the entire analysis period (previous 8 years). The key figure tables shows the historical key figures for volatility and performance for the previous 1 to 5 years of the portfolio and the recommended portfolio.

☞ *If you change the benchmark selection on this page, these changes are automatically applied to the **Risk/Return** page of **the Recommendation** process level. The benchmark selection on the pages of the **Analysis** process level is not affected by these changes.*

☞ *Depending on the application configuration in your organization, the drop-down menu for selecting benchmarks might not be active or available. In this case the corresponding settings cannot be changed. Contact the Administrator in your organization if you have any questions in this regard.*

7.4   Forecast (Value-at-Risk)

(Not in all versions available)

The Value-at-Risk analysis shows calculations within a probability range of 90%. Based on the assumptions of the Value-at-Risk approach, there is a probability of 90% that the performance of the analyzed portfolios will be within the lower and the upper limits within the review period, i.e., there is a probability of 95% that the maximum loss (lower limit) will not be exceeded. The model calculation assumes a consistent performance expectation and a constant volatility. Of course, these model calculations are not a warranty for the future performance.

The Value-at-Risk analysis shows the maximum loss potential of the current and the recommended portfolios for a freely selectable review period. The key figures show the maximum loss as absolute amount.
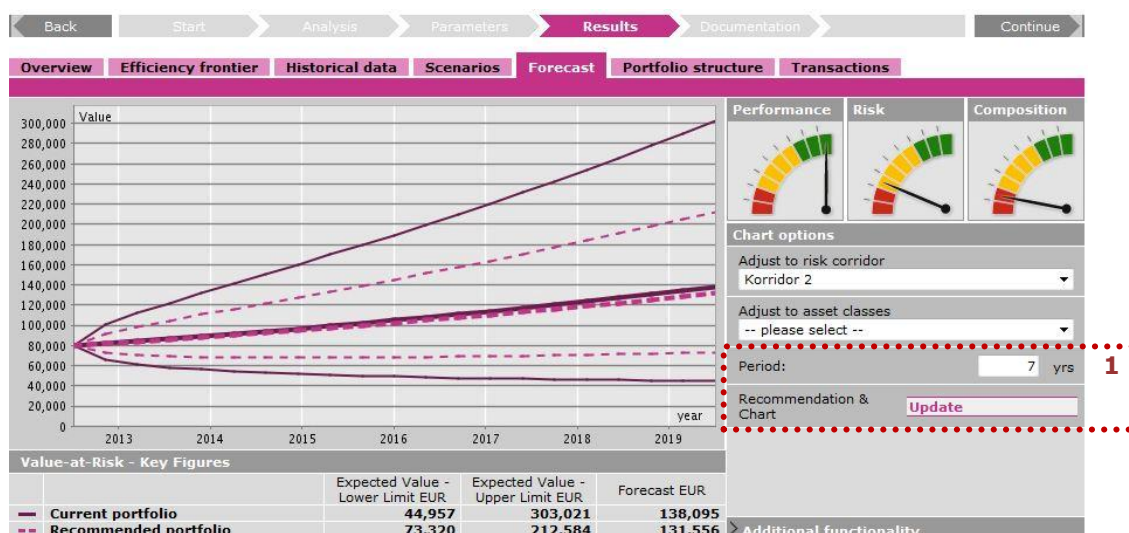
☞ *If you change the selected risk corridor, then the calculation is restarted and the composition of the recommended portfolio is adjusted accordingly. All pages of the process level **Recommendation** will be updated accordingly.*

☞ *Depending on the application configuration in your organization, the drop-down menu for selecting the risk corridor might not be active or available. In this case the corresponding settings cannot be changed. Contact the Administrator in your organization if you have any questions in this regard.*

The **review period [1]** can be defined individually. Enter the number of years (max. 50 years) in the relevant text field as desired future review period. If you change the review period, you must confirm your change by clicking on update.

7.5   Structure

(Not in all versions available)

The **Structure** page displays a side-by-side comparison of the structure of the current and recommended portfolio by asset classes, regions, or currencies.
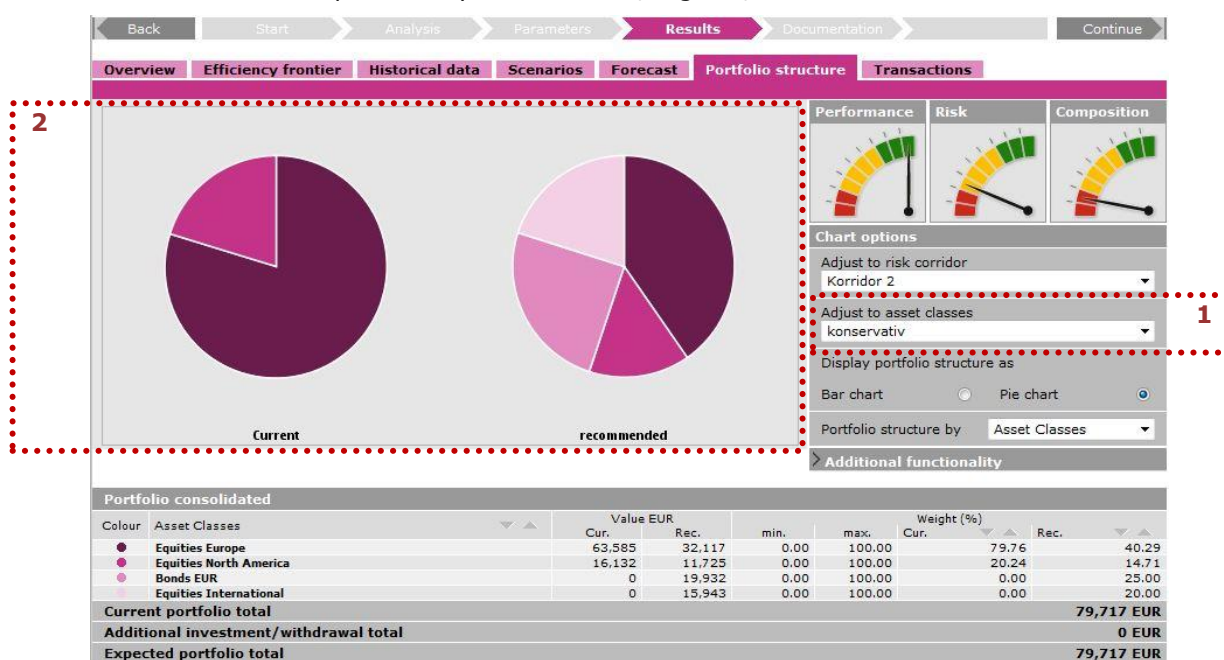
The **Adjust to asset allocation [1]** drop-down menu allows you to change the currently selected asset allocation and thus the composition of the recommended portfolio.

You can activate the **Show Chart with asset allocation** check box (only available for bar charts) in order to display the upper and lower limits which were defined for the recommendation in the bar chart.

☞ *If you change the selected asset allocation, then the calculation is restarted and the composition of the recommended portfolio is adjusted accordingly. All pages of the process level **Recommendation** will be updated accordingly.*

The table below the chart provides an overview of the individual weight percentages of items in the current and the recommended portfolio and the absolute amounts for the selected category. In a bar chart, matching chart and table elements are identified by numbers, and in a pie chart, matching chart and table elements are identified by the same color.

☞ *Regardless of your selection, the PDF report contains die analysis for all available categories if the module for the structure analysis is activated on page Documentation.*

☞ *The volumes are always – for the category **Currency**, as well – entered in the default currency which is specified for the application.*

7.6 Historical Scenario and Return fluctuations

(Not in all versions available)

On this page, you can select between the historical analyses on return fluctuations and the portfolio performance, which includes the analysis of the maximum drawdown, over different scenario periods.

Use the **radio buttons [1]** to determine the desired analysis method.

☞ *Regardless of your selection, the PDF report for the client contains the contents of both analysis types, if the related module is activated on the **Documentation** page.*

7.6.1 Historical Scenario and Maximum Drawdown

The scenario analysis reviews the historical trend and the maximum drawdown of the current and the recommended portfolio and the selected benchmark for the defined scenario period.

Use the drop-down menu to select the required scenario.

For centrally defined scenarios, the start and end dates of the review period is automatically retrieved. These text fields cannot be edited.

If you want to define an individual review period for the scenario, please select the category Individual **Scenario** and enter the start and end dates in the relevant text fields. Please, confirm your input by clicking on **update**.

Except for the maximum review period, the review period of the scenario is always marked in the chart by a corridor.

The chart table shows the performance and the maximum drawdown of the current and recommended portfolio and the selected benchmark for the specified review period in percent. The maximum drawdown indicates the maximum relative loss following a peak.

☞ *The scenario **Max. review period** encompasses the possible maximum review period over the past 8 year.*

7.6.2 Return Fluctuations
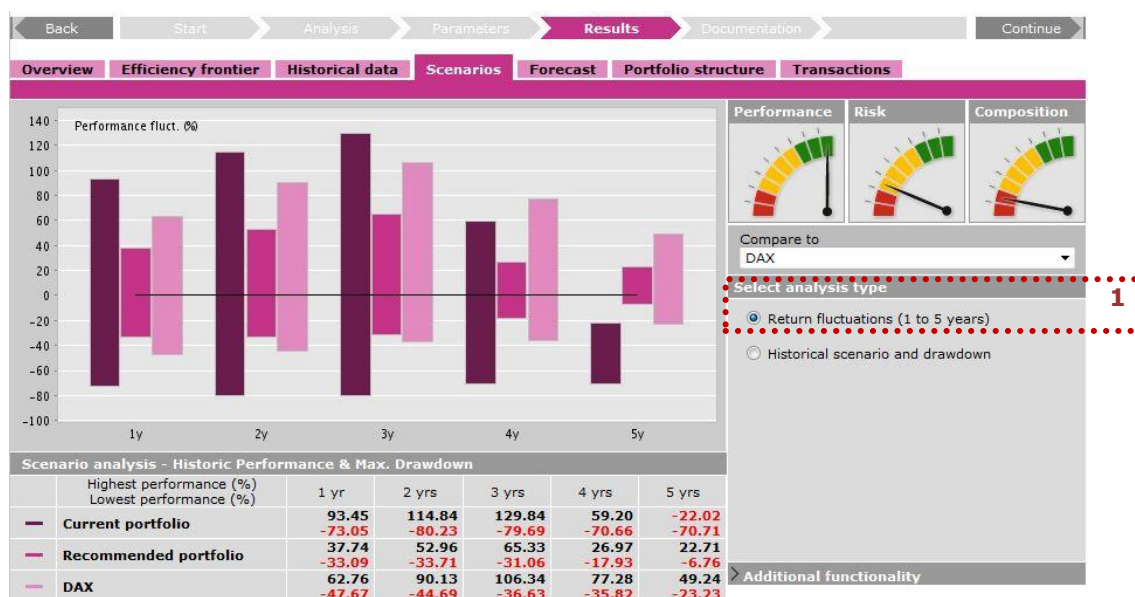
Activate the corresponding **radio button [1]** to switch to the analysis type **Return Fluctuations**.

Chart and chart table show the return fluctuations for the current and recommended portfolio and the selected benchmark which occurred over the past 1 to 5 years, providing the highest and the lowest value for each item based on rolling periods.

7.7 Transactions

On this page the transactions for implementing the recommended portfolio that you have selected are converted into the necessary buy and sell transactions.

The transaction list can be created and printed as PDF document on page **Documentation** (see Chapter 8).

Back		Start		Analysis		Parameters		**Results**		Documentation			Continue

Overview	Efficiency frontier	Historical data	Scenarios	Forecast	Portfolio structure	**Transactions**

List of Transactions

⊞ **Show deposit information**

			1		**2**		**3**
ISIN ▽ △ Name ▽ △	Type of security ▽ △ Asset class ▽ △	FF (%) def.	FF (%) adj.	Quantity, current **Quantity, recommended**	Buy/Sell	Price	Est. total	Exec. transact.

ISIN / Name	Type of security / Asset class	FF (%) def.	FF (%) adj.	Quantity, current / recommended	Buy/Sell	Price	Est. total	Exec. transact.
Transaction sell								
US7238391061 **Pioneer Railcorp, Class A Commo**	Shares **Equities North America**			5,000.000 **3,642.000**	1,358.00	n/a	4,381.56	
DE000A1EWWW0 **adidas AG Namens-Aktien**	Shares **Equities Europe**			500.000 **122.000**	378.00	n/a	21,888.85	
LU0238202427 **Fidelity Funds - European Fund /**	Funds **Equities Europe**			1,200.000 **526.190**	673.81	n/a	6,526.52	
DE0008032004 **COMMERZBANK I**	Shares **Equities Europe**			5,000.000 **0.000**	5,000.00	n/a	6,840.00	
DE0008404005 **ALLIANZ N**	Shares **Equities Europe**			200.000 **0.000**	200.00	n/a	16,168.00	
Transaction buy								
DE0008471079 **Adirenta A EUR**	Funds **Bonds EUR**			0.000 **1,431.701**	1,431.70	13.92	-19,929.28	
DE0008476524 **DWS Vermögensbildungsfonds I**	Funds **Equities International**			0.000 **186.800**	186.80	85.35	-15,943.42	
DE0009769729 **DWS Top Europe**	Funds **Equities Europe**			0.000 **172.978**	172.98	92.17	-15,943.42	
BE0003793107 **Anheuser-Busch InBev S.A. Part**	Shares **Equities Europe**			0.000 **64.000**	64.00	62.65	-4,009.60	
Additional investment/withdrawal total							0.00 EUR	
Estimated total, sells							55,804.93 EUR	
Estimated total, buys							-55,825.72 EUR	
Estimated total, fees							0.00 EUR	
Balance							-20.79 EUR	
Update transactions							Update	

Certain transaction data can be edited and adjusted retrospectively.

Front Fee [1]

Per default the regular front fee (**FF in % def.**) is displayed for a security. You can adjust the front fee in the text field in the **FF in % adj.** column, or this column might contain front fees which have been specified by your administration. You can enter numbers with up to three decimal places. If these two columns do not contain a front fee, this information has not been stored in the system for the product.

Quantities to Buy and Sell [2]

The quantities are automatically displayed according to the recommendation. If you want to change these quantities, e.g., for rounding or transaction cost reasons, please enter the required quantity into the corresponding text field. The input fields are only visible in the differentiated view.

If you change quantities the monetary value of these changes is reflected in the last table row labeled **Balance of the above amounts**.

☞ *Please confirm all changes by clicking on update.*

☞ *Depending on the application configuration in your organization, some text fields might be inactive or not available. In this case these settings cannot be changed. Contact the Administrator in your organization if you have any questions in this regard.*

☞ *The specified front fees are included in the calculation of the transactions. Therefore the quantity of purchase transactions in the transactions list might be smaller than the quantity which is displayed in the recommended portfolio.*

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Activating/Deactivating Transactions [3]

A transaction can be excluded from the calculation by deactivating the check box (removing the check mark) in the last column. Deactivated transactions will be ignored in subsequent processing steps (e.g., they do not appear in the PDF transactions list) and the corresponding amount which has become available is displayed under **Balance of the above amounts**.

If a transaction is already deactivated automatically when you open the **Transactions** page, it may involve less than a centrally defined minimum transaction value. Contact the Administrator in your organization if you have any questions in this regard.

☞ *If you deactivate transactions manually, your changes are not applied to the recommendation result and do not appear in the report for the client and fact sheet, since they represent a deviation from the Markowitz calculations.*
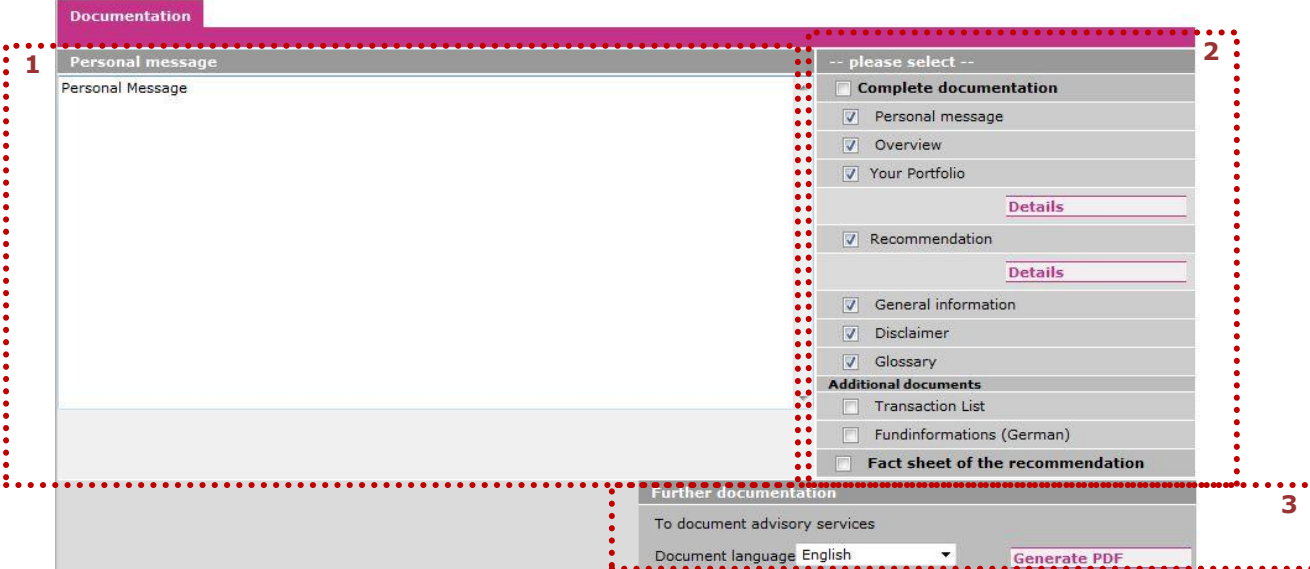
7.7.1 System Notes on the "Transactions" Page

The application displays any messages for you, the user, in Windows message boxes and these messages contain information about conflicting settings or help texts. Click on **OK**, to confirm that you have read the message or to accept the suggested course of action and to close the message box. In the following cases, you will get feedback from the application:

· **Negative Transaction Balance**

· **Bonification of Front Fee**
  If the bonification of the front fee for a security exceeds a certain percent value you will be notified about this item. This value has been set by your administrator. Please, contact your administrator if you have any questions in this regard.

· **Deviations in Quantity**
  If a modified quantity differs from a certain percentage by more than the specified valid amount, you will be notified about this security. This limit was set by your administrator. Please, contact your administrator if you have any questions in this regard.

· **Order Volume** (Expected Amount)
  If an expected order amount is less than a given value, you will be notified about the relevant security. This value has been set by your administrator. Please, contact your administrator if you have any questions in this regard.

8 Documentation

This page is used to select the PDF information and to compose a personal message for the client report.

Personal Message [1]

Using the text box, you can enter a personal message for the client and integrate the message into the client report, for example to highlight important aspects of the advice.

Please click in the text box to enter text using your keyboard.

In order to add the message to the client report, please activate the **Personal Message** check box.

☞ *If the text box already contains text, it is the default setting defined by your organisation.*

Selecting Documentation Modules [2]

The check boxes are used to determine the contents of the client report and whether additional PDF documents are to be created. Default additional documents are transactions lists, fact sheets, and funds fact sheets, depending on the application configuration in your organization. There might be other company-specific documents available for selection.

You can add or deselect individual chapters by activating/deactivating the corresponding check box. The same is true for individual sections of chapters, which will be displayed when you click on the **Details**. If you activate the **Full documentation** the settings are applied to each chapter.

When you click on the **Generate PDF** button, Adobe Acrobat Reader is started. The selected documents and the corresponding contents are created and displayed. To print a document, please click on the Print button in Adobe Acrobat Reader.

☞ *Depending on the application configuration in your organisation, the selection of documentation modules might be defined by your administration and the displayed*

check boxes might be deactivated. Please, contact your Administrator if you have any questions in this regard.

Language for Default Documents [3]
(Not in all versions available)

The **Language for documents** drop-down menu enables you to select a language for the creation of PDF documents which is different from the language of the user interface. Use the drop-down menu to choose the required language.

9 Specific Topics

9.1 Portfolio Evaluation Indicators

The current portfolio is evaluated based on various indicators. The degree to which the requirements in the areas **Performance**, **Risk** and **Composition** are fulfilled is indicated by a pointer which is visualized following the color scheme of traffic lights.

9.1.1 Performance Indicator

The Performance indicator evaluates the performance in relation to the risk. In the text is the performance expectation for the current and the recommended portfolio compared. In the evaluation of the recommended portfolio, central secondary conditions and/or favorite products, asset allocations and target risks which were specified for the customer profile and/or investment strategy are considered. Any individual secondary conditions (e.g. change of an asset class limit) which were specified by you (e.g. on client request) are not included in order to allow for an unrestricted representation of the optimization potential.

☞ *If you select another recommended portfolio on the efficiency limit on the* **Recommendation** *level, the evaluation is applied accordingly.*

The pointer position indicates the ratio; the segment ranges described below refer to the relative return of the portfolio compared to the risk (segment review from the lower left to the upper right corner):

Red area – there is a huge potential for additional performance expectation at this risk level
Amber area – there is potential for additional performance expectation at this risk level
Green area – the performance expectation is very good at this risk level

9.1.2 Risk Indicator

The risk indicator evaluates the risk of the portfolio.

Here the pointer position indicates the magnitude of the deviation in percent:

Red area – very high risk of the portfolio
Amber area – moderate risk of the portfolio
Green area – low risk of the portfolio

9.1.3 Portfolio Composition Indicator

As a consequence the composition indicator is focusing on the inner structure of the portfolio concerning the maximum weight of products and the asset class structure.

- To which degree does the current portfolio meet the secondary conditions for asset classes defined for the customer profile and the investment goal

- Furthermore the quantity and weights of individual products in the existing portfolio are evaluated.

The pointer position indicates to which degree the current portfolio matches the evaluation criteria and the relevant requirements defined by your company. Please, contact your central administration if you need more detailed background information or if you have any question in this regard.