keler ccp

Initial margin calculator

User manual

RisQware LP 2018

Content

Initial margin calculation in 3 steps

You can calculate the initial margin requirement of your chosen portfolio in 3 easy steps built on one another.

1. Step – Choosing date

As a first step you need to select the date depending on which day's closing position you would like to calculate the initial margin.
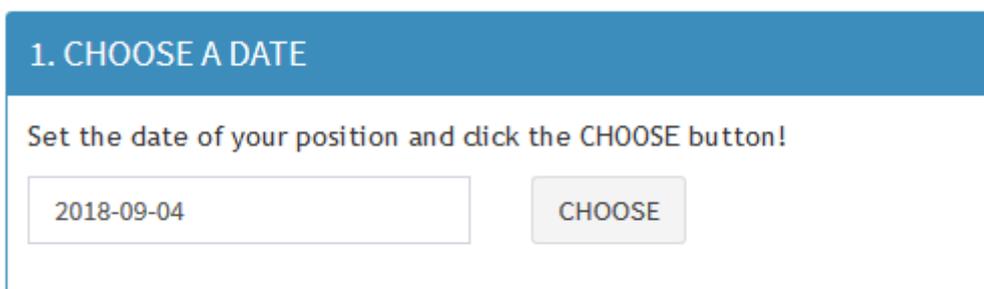
1. figure: Area used for date selection.

1.1. Selecting a date

All base data used during the calculation (initial margin per product, possible discounts, clearing prices, short option margin etc.) is processed from the SPAN file published on KELER CCP's website. For every calculation day KELER CCP publishes the SPAN file used for determining the initial margins. On the display you can determine which SPAN file will be used as basis for the calculation by selecting the corresponding date. Consequently, in case of using the calculator for planning purposes, you should select the date for which the latest SPAN file is available.

As a default, the calendar day preceding the server date is displayed on the screen. In case this was a non-working day, make sure to change it to the last working day for which a SPAN file is available.

If you want to calculate the margin requirement for a position related to a different calendar day, you can change the date in several ways:

- Click on the input field to open a calendar from which you can choose the date you want to use.
- You can type it, either in accordance with the format displayed, or in other formats recognized by the calculator (for example, the formats „YYYY.MM.DD" and „YYYY/MM/DD" are all valid).
- You can copy the date from the clipboard without selecting or deleting the date in the input field. Just click in the box with the cursor and insert the date you want to use (right-click with paste or Ctrl + V). The freedom of using multiple formats applies in this case as well, as all previously mentioned formats are recognized in this method.

1.2. Loading the date

After date selection, click 'CHOOSE' to load the SPAN file related to the chosen calendar day. You can see the status of data loading at the bottom right of the screen:
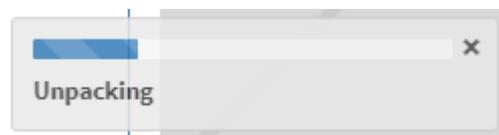
2. figure: Window showing the status of base data load in the bottom right corner of the screen.

During the loading process you can monitor the following steps:

1. Downloading
2. Unpacking
3. Data mining
4. Data transforming
5. Updating UI

After successful loading, the status window will disappear, after which you can proceed to Step 2.

If a SPAN file is not available for the selected day, clicking the 'CHOOSE' button will alert you to the absence with the message shown below. After closing the pop-up window, you can choose another date.
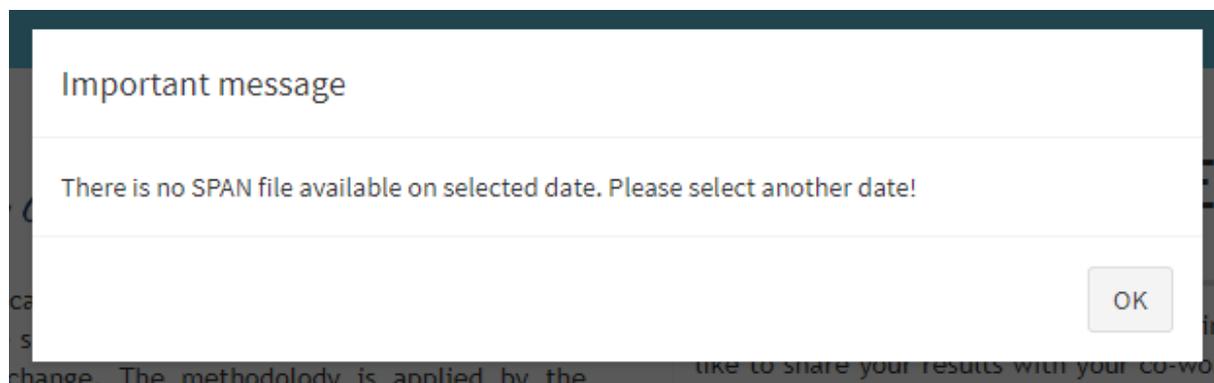
3. figure: An error message appears when a file is loaded for an incorrect day.

2. Step – Creating your portfolio

Following the successful date selection and data load, the 'Product' drop-down box is now filled with values. After selecting the desired 'Product', the 'Instrument' drop-down value set will be loaded, and you can also enter the quantity of the given position in the 'Position' field.

4. figure: Area used to define your portfolio.

2.1. Product

In the 'Product' drop-down box the listed products are displayed grouped into the below categories:

- Share section
- Financial section
- Financial section (weekly products)
- Commodity section
- Unclassified

The prefix of each product name is based on the following conventions:

- H. – in case of futures
- H.W – in case of weekly futures
- O. – in case of options

Names of FX products are indicated with a slash, e.g. H.EUR/HUF, while cross currency product names also include the settlement currency, e.g. EUR/USD-HUF. In case of commodity products, you can simply use the names of the commodities after the prefix that indicates the product type, e.g. H.CORN.

Besides scrolling through the drop-down list, you can also filter the results by typing. The search engine does not distinguish between lowercase and upper case letters, and the words do not need to be typed from the beginning, the field can be filtered using arbitrary word fragments.

5. figure: Flexible search in the drop-down list.

2.2. Instrument

After defining your 'Product', the 'Instrument' field will be loaded accordingly. Instrument names already contain their maturity and, in the case of options, their strike price and type of the option. Flexible search options mentioned in the previous paragraph are all valid in this case.

6. figure: Name convention example in case of a futures product.

7. figure: Name convention example in case of an option. Search the word 'c' and consequently only CALL options remain displayed.

After defining your instrument, you should enter the size of your position. You can do this by entering whole numbers or by clicking on the up/down arrows. A positive number refers to a long, while a negative to a short position.

8. figure: An example for setting the position size using the 'Position' field's up/down arrows.

2.3.   Adding and deleting portfolio items

You can add a new item to your portfolio using the green plus sign. After pushing this button, a new row will appear, where you can again define the needed 'Product' – 'Instrument' – 'Position' combination. You can add new portfolio elements, the newly added rows appear at the bottom of the list.

9. figure: After adding a portfolio element, a new 'Product' – 'Instrument' – 'Position' combination will appear.

 You can delete a portfolio element by the red 'trash' button. By doing this, the 'Product' – 'Instrument' – 'Position' combination will disappear from the portfolio.

10. figure: When deleting a portfolio item, the entire row next to the used button will disappear from the screen.

3. Step – Margin calculation and results

3.1. Margin calculation

In the last step, you can start the initial margin calculation on your selected portfolio by clicking the 'CALCULATE' button.

11. figure: Click 'CALCULATE' to start margin calculation.

3.2. Results

The aggregate value of initial margin requirement is always shown in HUF. Additionally, the ratio of the aggregate initial margin requirement and the gross portfolio value (absolute value of the clearing price for the selected day times number of deals in the position) is also displayed.

KELER CCP does not set a closing price in a given instrument until the first transaction is concluded, so it is possible that the settlement value of the position may be zero. In this case the margin is still calculated, but the 'Margin ratio' is indefinable, and on the screen 'Inf%' string will appear in the margin ratio display.

HUF 14 380 780
Margin requirement

2.27%
Margin ratio

12. figure: Aggregate initial margin volume and its ratio compared to position value.

For a better understanding of the results, the initial margin requirements are illustrated on product level in a cumulative diagram (blue color), with different (intra and inter spread) discounts stemmed from KELER CCP's calculation methodology also displayed (gray color). Assuming these discounts were not part of the calculation method, initial margin requirements would result in higher amounts (sum of final margin displayed in blue and used discounts displayed in gray). On the chart displaying the results, products are ordered by their margin requirements: the product with the biggest initial margin amount is the first to be shown. You can zoom in on the diagram dynamically, and moving your cursor above a chart element will display the associated exact values. For details on the operation of the diagram as a surface element, refer to the Operation of surface elements section.

Margin by products
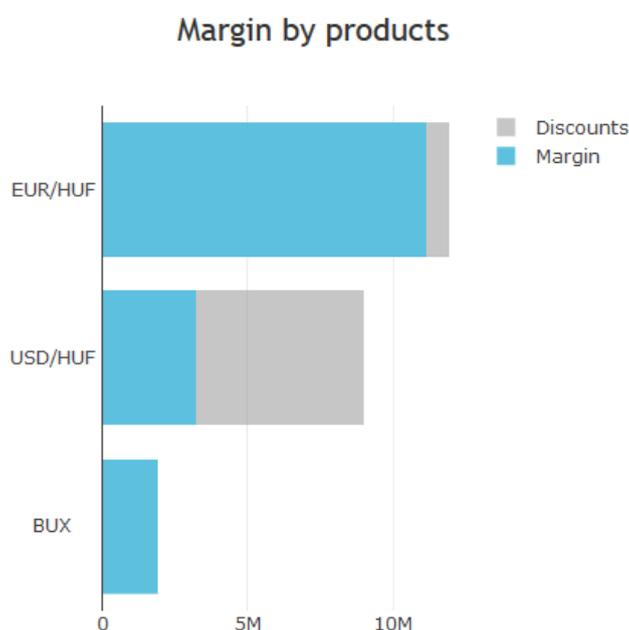
13. figure: Initial margin requirement and used discount values shown in HUF on product level.

The Margin ratio can also be examined on product level by moving your cursor above the column representing the margin requirement.

14. figure: Margin ratio in case of one product.

Re-run options

You can repeat the 3 steps in any order. You can calculate the initial margin requirement of an already defined portfolio for a different date if you select a new calendar date and load the 'SPAN' file using the 'CHOOSE' button. In this case, the portfolio elements that are not available in the new file will become blank on the screen. This can occur when, on a given day, the previously selected instrument has not been traded or has not yet been opened for the chosen product.

Inappropriate use

If the prerequisites for a given step are not met, you will be warned in a popup window with the headline 'Important message'. You can then proceed in accordance with the error message after clicking the 'OK' button.

You can encounter the following warning messages when using the calculator.

If, after opening the site, the internet connection is terminated and you want to load the SPAN file associated with the selected date by clicking on the 'CHOOSE' button, you will receive the following message:
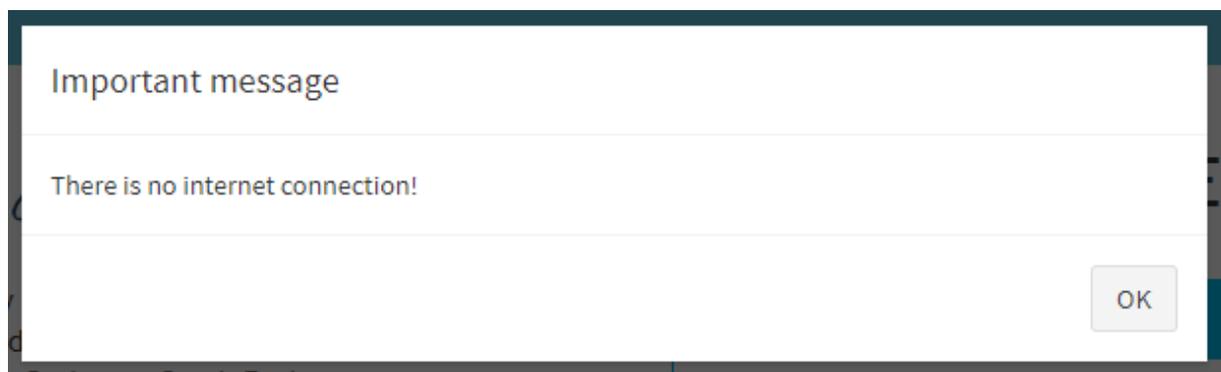
If you want to add a new portfolio element without selecting a date, the following warning message will pop up:
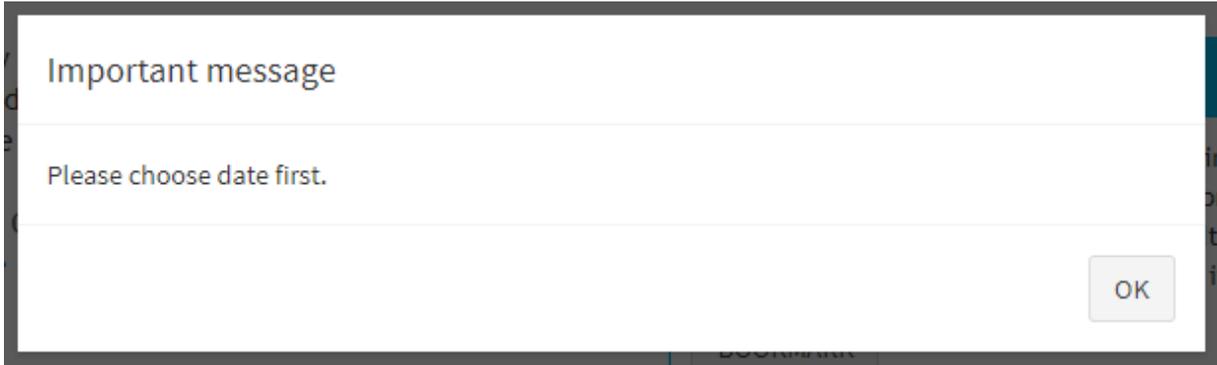
In case you accidentally delete all lines from a portfolio and then click 'CALCULATE':
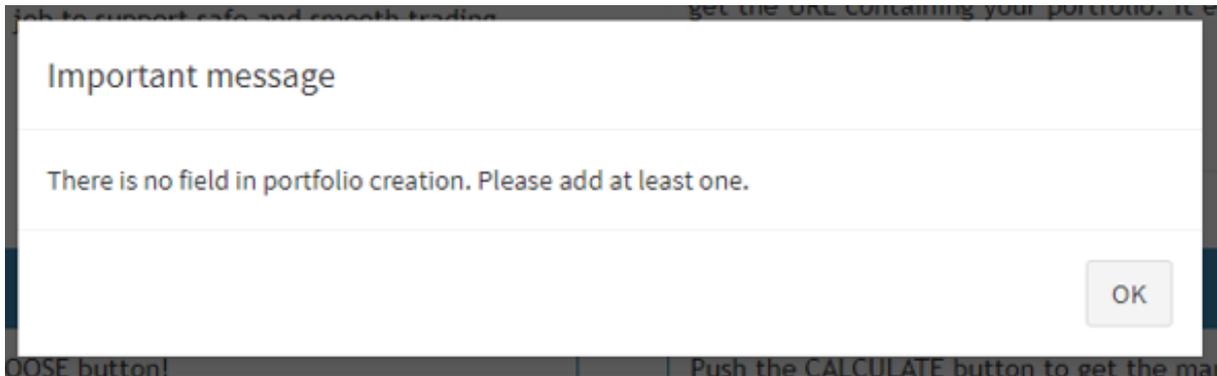
If you click on the 'CALCULATE' button in step 3 without selecting a date or creating a portfolio, or if you proceed to step 3 with some portfolio elements not filled in properly (e.g. the 'Product', the 'Instrument' or the 'Position' field is empty), you will receive the following warning message:
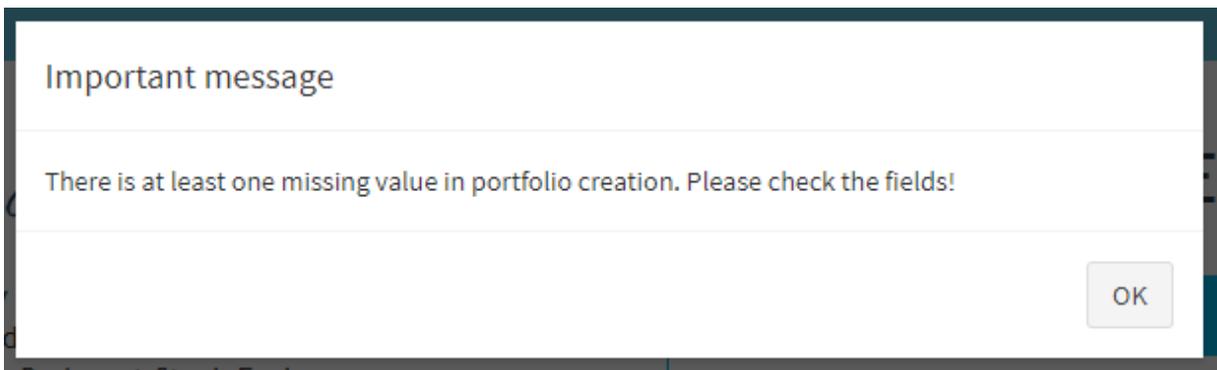
+ Saving a portfolio

You can easily communicate the set-up of your initial margin calculation to others, as you can share the created portfolios. You can also save a previously recorded portfolio, so that it will not be necessary to re-record it in case of regular use, only make changes if necessary.

To do this, click the 'BOOKMARK' button after creating the portfolio. In the popup window, you will see the portfolio URL that can be easily copied or saved as a bookmark. You can close the popup window with the 'Dismiss' button.
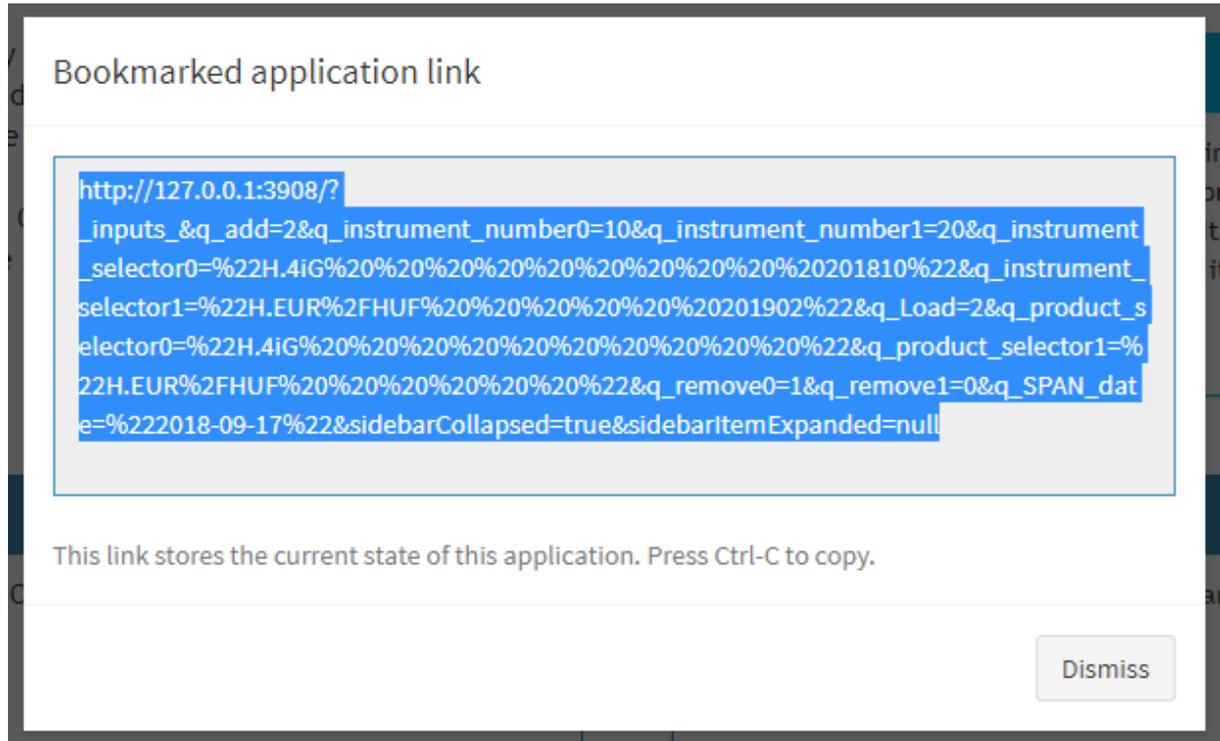
The link saves not only the portfolio but the selected day as well, so when it is opened again, the file connected to the selected date will be loaded automatically. If you would like to use a different date, you can choose another day and simply click the 'CALCULATE' button to see the result.

Operation of surface elements

References

By clicking on the logos at the top of the site, a separate window will open for the given corporate website.

Dynamic change of surface elements

By changing the size of the display, the size of the surface elements will be dynamically adjusted to the new environment. For large screens, the elements will be aligned side by side, while in case of smaller displays, the surface elements will be vertically divided. A great example for this is the display of the initial margin requirement and its margin ratio. In the first image, the results are displayed side by side next to each other, while in the second, they can be found under one another.

1. CHOOSE A DATE

Set the date of your position and click the CHOOSE button!

2018-09-28 | CHOOSE

2. CREATE YOUR PORTFOLIO

Choose product and then instruments from the drop list and set the amount of your position! By clicking to "+" / "trash button", instruments

3. CALCULATE THE RESULTS

Click the CALCULATE button to get the margin results of your created portfolio!

CALCULATE

HUF 16 280 780
Margin requirement

2.42%
Margin ratio

3. CALCULATE THE RESULTS

Click the CALCULATE button to get the margin results of your created portfolio!

CALCULATE

HUF 16 280 780
Margin requirement

2.42%
Margin ratio

15. figure: The surface elements will fit dynamically to the size of the screen. For example, in the first image, the results are displayed side by side next to each other, while in the second, they can be found under one another.

Interactive charts and tables

You can obtain additional information from interactive charts on the screen. In case of the 'Margin by products' figure, the supporting functions will appear at the top right corner, if you move your cursor above the diagram.
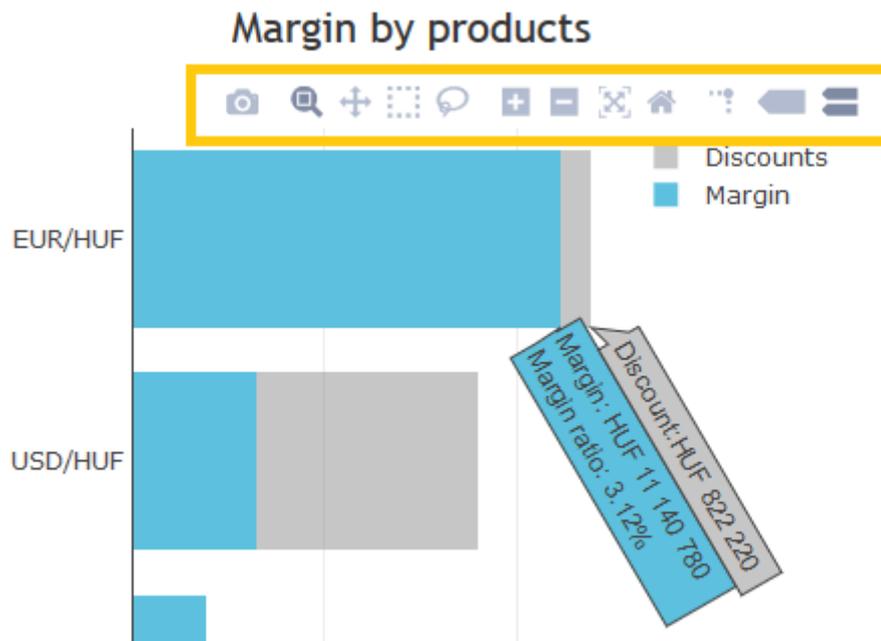
16. figure: Diagram functions supporting interactivity

The appearing features provide the following options for users (from left to right; pointing to the icons with the cursor will show the following function names):

- Download plot as a png: You can download the plot in png format
- Zoom: The area selected with the cursor will be enlarged, from which view you can return to the full view by double-clicking. If you have made additional actions in the figure, click the 'Zoom' button to reset zooming.
- Pan: Activates movability, now the diagram can be moved by the cursor. Double-click to return to the default view.
- Zoom in / Zoom out: Zooming in on and out of the center of the image.
- Autoscale / Reset axes: Returns the figure to its original position.
- Toggle spike lines: Show x-y axis intersection
- Show closest data on hover / Compare data on hover: Display the nearest data point / display the nearest data point with its logically related other data point.

17. figure: Example for data visualization in case of using 'Toggle spike lines' & 'Show closest data on hover' and 'Compare data on hover' settings.

Product	Margin	Margin ratio
EUR/HUF	HUF 11 140 780	3.12%
USD/HUF	HUF 3 240 000	1.17%
BUX	HUF 1 900 000	5.11%

18. figure: Initial margin requirement and ratio on product level.