

# Fee Handling with performance-dependent Remuneration Models

The basic functionality of the XENTIS fee module enables comprehensive fee calculations. The range of fee models has been expanded further by flexible calculation of performance-dependent remunerations.

## ABSTRACT

The fee module is based on a modular design concept allowing the combination of an arbitrary number of individual partial calculations with different algorithms. The functionality includes various calculation methods, nested and interdependent sub models, a simulation mode for model testing and detailed calculation verification.

The fee module, in fact, comprises two different components: a basic module and a performance fee module. The basic module serves to design calculation models which are depending on the asset structure. The performance fee module extends the basic functionality with profit-related fee models, which enable calculations depending on the fund or portfolio performance as well as the benchmark performance, hurdle rate and high water mark (HWM).

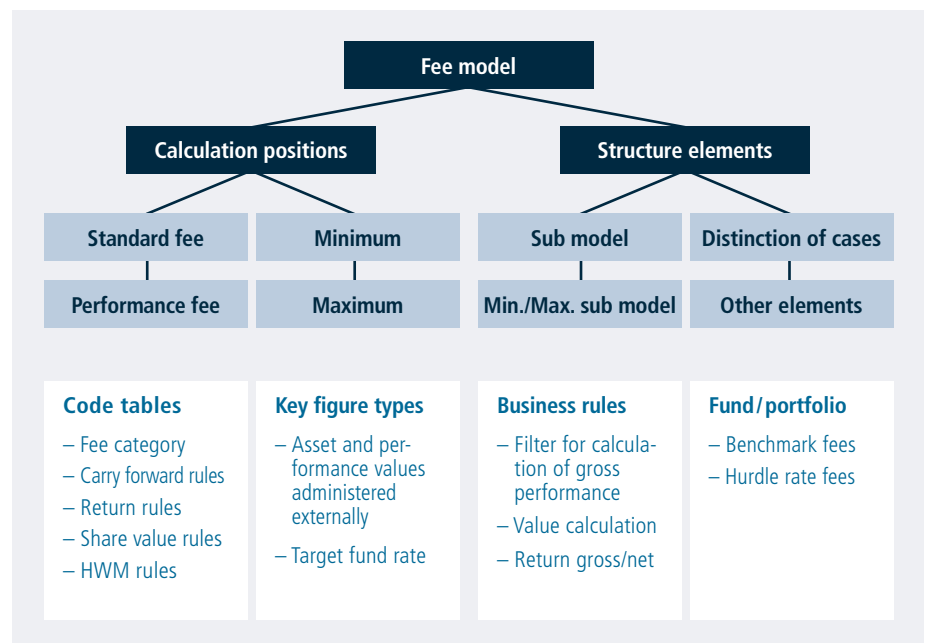


Fig. 1: Schematic layout of a performance fee

## STRUCTURE OF A FEE MODEL

In a XENTIS fee model (fig. 1) fee rules are organised through a fee header and an arbitrary number of fee positions (calculation positions and structural elements). Each calculation position defines a sub-calculation and may also feature individual calculation-, accrual and debit rules. Fees are grouped and their dependences defined using the sub model and case structural elements. Nested and combined sub-calculations relating to different defined partial quantities along the fund or mandate structure can thus be formulated in a flexible manner.

### SETTING UP A FEE MODEL

There are a number of options to set up a new fee model:

- Based on a copy of an existing model
- Based on an suitable model template
- New entry

A performance calculation can be created analogous to other calculations by selecting the relevant component with the respective calculation method and assigning it in the tree structure of the fee model. Any incomplete or incompatible settings are brought to the user's attention and activation of the model is prevented. The effects of the entered settings on a fee calculation can be monitored immediately after entry of the calculation position by using the simulation mode. The performance fee templates significantly reduce the time and effort associated with the setting up of a specific fee model. Model templates are entered without fund or portfolio reference and are available as entry help when setting up a specific fee model. Model templates can be used to manage diverse customer models and can be created according to various aspects:

#### 1. Calculation Methodology

- Calculation on period yield and average capital
- Calculation on period yield and average invested capital
- Calculation on linked partial results of sub periods

#### 2. Calculation Period and Settlement Date

- Calculation based on the official valuations up to and including the end-of-period date, settlement after period closing
- Calculation based on the official valuations up to and including the previous end-of-period date (shifted observation), settlement before period closing
- Calculation based on the mid-term valuations (immediately prior to the performance fee processing) up to and including the end-of-period date, settlement before period closing

#### 3. Regulation

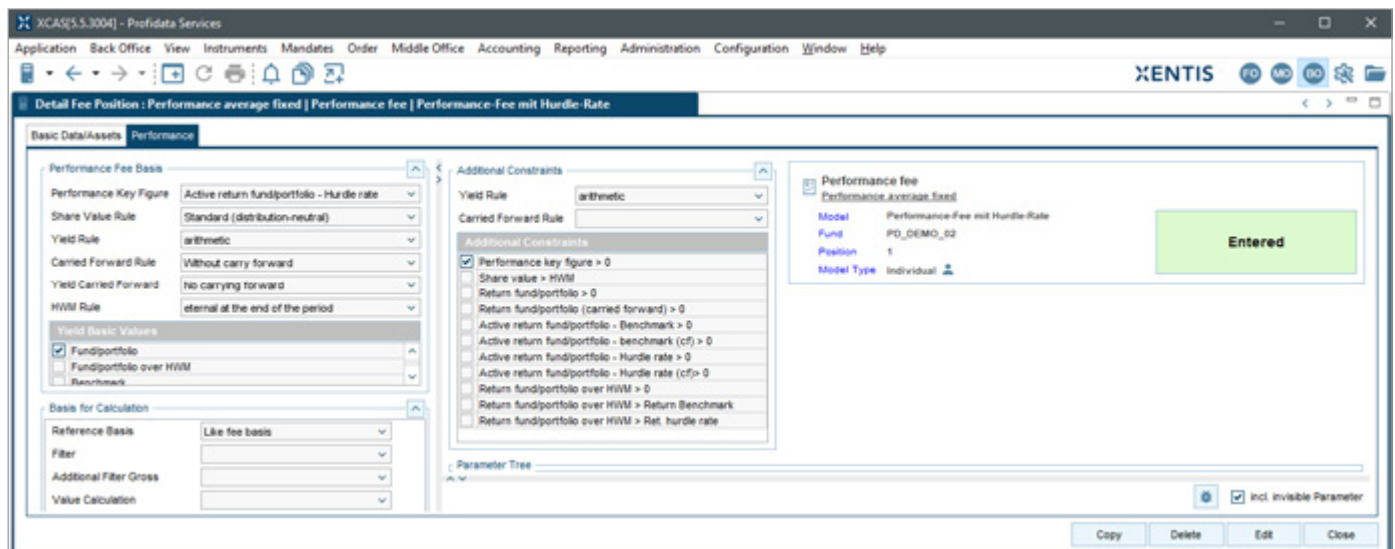
- German Financial Supervisory Authority (BaFin) sample rule variant 1: with benchmark outperformance
- BaFin sample rule variant 2: with yield exceeding the hurdle rate

#### 4. Performance Calculation

- Calculation based on the net share value (published)
- Calculation based on the gross share value, i.e. filtering out specific portfolio positions such as the amount of the accumulated and reserved performance fee

Depending on the selected granularity of the model template, the complexity of a fee model definition can effectively be simplified by reducing the number of portfolio-specific values.

Fig. 2: Detailed performance position with calculation method "performance average, fixed rate"



## STRUCTURE OF A PERFORMANCE FEE

The configuration for performance fee calculations consists of the following elements:

- Code tables for basic configuration of the carry-forward, yield, net asset value and HWM calculation
- Key figure types for the definition of asset or yield values determined externally
- Business rules for the definition of value calculations or filter conditions for gross performance calculation
- Fund/portfolio master data with the definition of the fee benchmark and fee hurdle rate
- Fee model with the definition of a performance fee position
- Fee model with additional fee positions

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## POSITION TYPES, CALCULATION METHODS

The position type and calculation method are key elements of a fee position. They determine the configuration possibilities and consequently both the user interface during entry of fee positions, and the calculation of partial amounts during fee model processing.

The following calculation methods are supported for the new 'performance fee' position type:

- **Performance average, fixed rate.** The fee is calculated based on the formula  $F = \text{participation} * \text{performance} * \text{asset value}$ . The fee-based performance is calculated over the fee period. The asset value can be calculated as average capital or average invested capital (**fig. 2**)
- **Performance average, scaled rate.** Fundamentally analogous to the calculation method described above; except that the percentage for participation in the performance is not fixed, but determined using a scale with an asset value or the calculated fee-based performance serving as the scale base value
- **Performance daily, fixed rate.** The fee is calculated at specified intervals (usually daily) according to the formula  $F = \text{participation} * \text{performance} * \text{asset value}$  and summed up over the period

Fig. 3: Verification of fee calculation

The screenshot shows the 'Fee Simulation | Performance-Fee mit Hurdle-Rate' window. The main table lists daily calculations from 17. Jan 2019 to 31. Jan 2019. The 'Total Accrual Amount' increases from 32,047.91 CHF to 282,459.74 CHF. The 'Accrual Amount Difference' fluctuates, ending at 50,310.09 CHF. The 'Settlement Amount' is 282,459.74 CHF.

The 'Summary' table below provides a breakdown of the fee period 01.01.2019-31.01.2019:

No.	Element	Valuat. per	Curr	Total	FO_DMEMO_PO1PO_DMEMO_02	FO_DMEMO_PO2PO_DMEMO_02
		30.01.2019	CHF	59,095,400.75	59,095,400.75	0.00
		Average	CHF	56,442,278.657419	56,442,278.657419	0.00
1	Return fund/portfolio	31.01.2019		0.115044		
1	Asset	01.01.2019	CHF	53,148,652.87	53,148,652.87	0.00
1	Number of shares	30.01.2019	CHF	59,095,400.75	59,095,400.75	0.00
1	Multiplication factor	01.01.2019		-449,383,209.40		
1	Share value for multiplication factor	30.01.2019		1.00		
1	Share value	01.01.2019	CHF	-0.1299013366088		
1	Share value	30.01.2019	CHF	-0.113		
1	Return hurdle rate	30.01.2019	CHF	-0.126		
		30.01.2019		0.065		

Asset-based calculations can also be combined with one of the following performance-dependent components:

- **% assets, scale with fixed rate.** The fee can be calculated as a percentage on assets at due date or average capital
- **Distinction of cases.** Distinction of cases enables administration of exclusive sub calculations, whose execution is based on defined criteria within a fee model

**REMUNERATION-RELATED PERFORMANCE**

The fund/portfolio return is determined at share value level (net/gross basis, official valuation basis or mid-term valuation). The remuneration-related performance value is determined using the predefined calculation models for the calculation of the required performance key ratio and inclusion of constraints. For example, remuneration entitlement shall only apply when the performance of the last HWM status is higher than the agreed hurdle rate. The following modules are available as pre-configured performance key ratios:

- Fund/portfolio return
- Active return vs. benchmark or hurdle rate
- HWM return
- Active HWM return vs. benchmark hurdle rate
- External key ratios

Constraints can be defined with regard to the above-listed return measures or HWM level.

**BASIC CONFIGURATION OF PERFORMANCE FEES**

The calculation of performance fees is still not heavily regulated or standardised, which allows room for individual interpretation. Various basic settings can be determined via the base configuration and made available for the creation of models. Amongst these settings are:

- Carry-forward rules (calculation with/without inclusion of monetary losses carried forward from previous periods)
- Return calculation rules (rounding rules for calculation of the share and return value; additive (arithmetic) or multiplicative (geometric) calculation method for calculation of active returns)
- HWM rules (inclusion of HWM with infinite observation or rolling and thus time-restricted validity; updating of HWM with update rules in order to calculate the most recent HWM level with automatic update of hurdle rate; gross/net rules for calculation of comparative value and new HWM level)

**SIMULATION AND VERIFICATION**

The calculation logic of a fee model and results thereof can be checked immediately after entry using the simulation mode. The simulation is started during model definition and displays the detailed calculation results including the accrual and settlement transactions to be generated in the simulation verification. The details of a fee calculation can be displayed directly via the user interface and either saved as files or issued in reports (**fig. 3**).

**CONCLUSION**

The fee model is a perfect example of development combining both complexity and flexibility into a feature without compromising on system user-friendliness. In the past, due to the difficulties of maintaining complex fee structures, all fees had to be calculated either using external third party systems, or be entered manually in Excel tables which were then fed into XENTIS using the Excel loader. Now the completed fee modularity enables the integration of several fee models. The benefits are obvious: reduction of manual effort, prevention of error-prone processes, cohesive and prompt processing, transparency and comprehensible calculations.

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