

PRICING MODEL IN KRONOS2

COVERAGE OF DANMARKS NATIONALBANK'S KRONOS2 COSTS

According to Danmarks Nationalbank's practice for coverage of costs in relation to the payment infrastructure:

- account holders cover external costs for the RTGS and collateral management systems, including the technical infrastructure;
- Danmarks Nationalbank covers all internal costs.

Hence, Kronos2 participants must, as a main rule, cover external costs related to the operation, management and further development of the Kronos2 platform.¹

However, the overall Kronos2 platform supports not only account holders' business, but also that of Danmarks Nationalbank, and most of the external costs cannot be attributed unambiguously to the business of either the account holders or Danmarks Nationalbank. Accordingly, a pragmatic cost sharing solution has been applied.

By the implementation of Kronos2 in 2018, the overall Kronos2 platform was deemed to benefit the account holders and Danmarks Nationalbank more or less equally. On that background, it was decided that all external costs related to the operation and management of Kronos2 should be shared fifty-fifty. The ratio will be continually reassessed.

The fifty-fifty ratio applies to operating and management costs. The sharing of further development costs will be determined on a case-by-case basis.

The pricing model for account holders in Kronos2 is described below. The model distinguishes between Kronos2 and Kronos2 T2S. Costs distinctly related to T2S are to be covered by the T2S participants alone.

¹ The initial development costs have been settled with the account holders as a non-recurring payment for Kronos2 and Kronos2 T2S, respectively.

THE PRICING MODEL IN KRONOS2 AND KRONOS2-T2S

All account holders are charged a monthly account holder-specific *Kronos2 fee*.

In addition, account holders participating in T2S are charged a separate *Kronos2 T2S fee* and a monthly payment on account to cover the participant's own consumption of Information services on the T2S platform.

Each fee is debited from the settlement account on the first banking day of the month to which the fee pertains. The invoice is created at the time of debiting and will be available via the Kronos2 user interface.

The Kronos2 and Kronos2 fees

Fees are fixed for 12 months at a time and adjusted as of 1 April. By March each year, Danmarks Nationalbank will announce the fee for the next period.

Amounts will not be adjusted during the 12-month period. Any changes in the cost expectations or the income base will be taken into account when calculating the fee for the next year.

The annual fee calculation includes determining the *charging basis* for the coming period, i.e. the total amount to be covered by the account holders during that period. In addition, the *distribution key is recalculated*. In both cases, a distinction is made between Kronos2 and Kronos2 T2S.

The *charging basis* is made up of the following:

- Next year's expected total operating cost to be covered by the account holders.
- Adjustment to take into account the difference between last year's expected and actual operating costs.
- Adjustment to take into account the difference between last year's expected and actual revenue, thus allowing for any account holders who have entered or left Kronos2.
- Last year's incurred development costs to be covered by the account holders.

The *Kronos2 distribution key*² is fixed as follows:

- 1 per cent of the total charging basis is distributed equally among all account holders, only exempting account holders with 106 or fewer transactions and a transaction size of kr. 2 million or less in the year of calculation.

² The model corresponds to the one developed by Finance Denmark to distribute the initial Kronos2 development cost, supplemented by a minimum payment of kr. 300 per month.

- The remaining 99 per cent is distributed based on the account holders' equally weighted share of the total *number* and the total *value* of transactions in Kronos2 in the year of calculation. All transactions in the current account are used as a measure of the transaction volume.
- No account holder at group level is to pay more than one third of the total amount. If the payment for a group exceeds one third, the payment for the largest of its institutions is reduced.

The distribution key is calculated based on the transaction activity in the preceding calendar year.

The minimum fee is kr. 300 per month.

The *Kronos2 T2S distribution key* has yet to be determined. The model will be determined when Kronos2 T2S has been in use for a while and sufficient data has been collected to develop a model and to calculate a key. Danmarks Nationalbank will use the same model to distribute the running costs related to Kronos2 T2S as determined by Finance Denmark for distribution of the Kronos2 T2S development costs.

Until the distribution key has been fixed, the Kronos2 T2S fee will be temporarily based on a flat distribution of the charging basis with everyone paying the same fee on account. Once the final distribution model is available, the difference will be settled with each participant.

Payment for Information services on the T2S platform

Danmarks Nationalbank is charged on a monthly basis by the European Central Bank, ECB, for the Danish participants consumption of Information services on the T2S platform (requests for reports, statement of accounts etc.). The price list is available on ECB's website.

The ECB charge will be re-invoiced to the Danish participants as follows:

- In the first quarter of each year, a monthly participant-specific payment on account will be determined for the period from April to March the following year.
- Each participant's payment on account will be based on Danmarks Nationalbank's expectations of the participant's consumption of Information services on the T2S platform in the coming year, adjusted for the difference between the payment on account in the preceding year and the actual consumption. In general, actual consumption in the preceding year will be used as an estimate of consumption in the coming year.

- The amount on account will be charged in the same way as the fees, i.e. they will be debited to the settlement account on the first banking day of each month.

NEW PARTICIPANTS IN KRONOS2 AND KRONOS2 T2S

A new account holder is charged a share of the initial development cost³ as admission payment, corresponding to the amount charged if the institution had participated since Kronos2 was implemented.

The admission payment from the new account holder is included in the calculation of next year's fee for all participants, thus benefiting the account holders that covered the initial development cost.

A new account holder pays a monthly fee from the day the account takes effect in Kronos2. For the first month, the amount is calculated pro-rata to the number of calendar days of the month.

In the first period, the fee income from the new account holder will generate additional revenue for Danmarks Nationalbank. The amount will be included in the calculation of next year's fee, thus benefiting all account holders.

For both the admission payment and the monthly fee, the amounts will initially be calculated based on the new account holder's estimated transaction activity. Once data for a whole calendar year is available, the account holder's share of the distribution key will be recalculated and the difference settled. The amount settled with the new account holder will be included in the calculation of next year's fee for all account holders.

The same principles apply to new participants in Kronos2 T2S.⁴

ACCOUNT HOLDERS LEAVING KRONOS2

An account holder closing its account in Kronos2 pays the full fee up to and including the month in which the account is closed. The amount originally paid by the account holder to cover the initial development cost is not reimbursed.

MERGING ACCOUNT HOLDERS

When two account holders merge, the sum of the two original account holders' monthly fees is charged to the continuing account holder up to the next adjustment (1 April).

³ The initial development cost for Kronos2 amounted to kr. 318 million. The amount is indexed by calculating the admission payment of a new account holder.

⁴ The initial development cost for Kronos2 T2S amounted to kr. 22,15 million. The amount is indexed by calculating the admission payment of a new account holder.

When calculating the distribution key for the next period, the sum of the two account holders' transaction activity is used to calculate the continuing account holder's share of the distribution key.