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Exchange fee calculation for futures and options

May 2017

Formulas used to calculate the new exchange fee

Futures (FutFee)	Futures contracts settlement price* × futures contracts rate
Options (OptFee)	MIN [option's theoretical price* × options rate; a multiplier × futures contract's settlement price]**

The scalping discount remains unchanged

* A futures contracts settlement price/options theoretical price (in RUB) at the end of the evening clearing session
** no less than one kopeck

These formulas also include the rounding function, omitted in this presentation for the sake of simplicity

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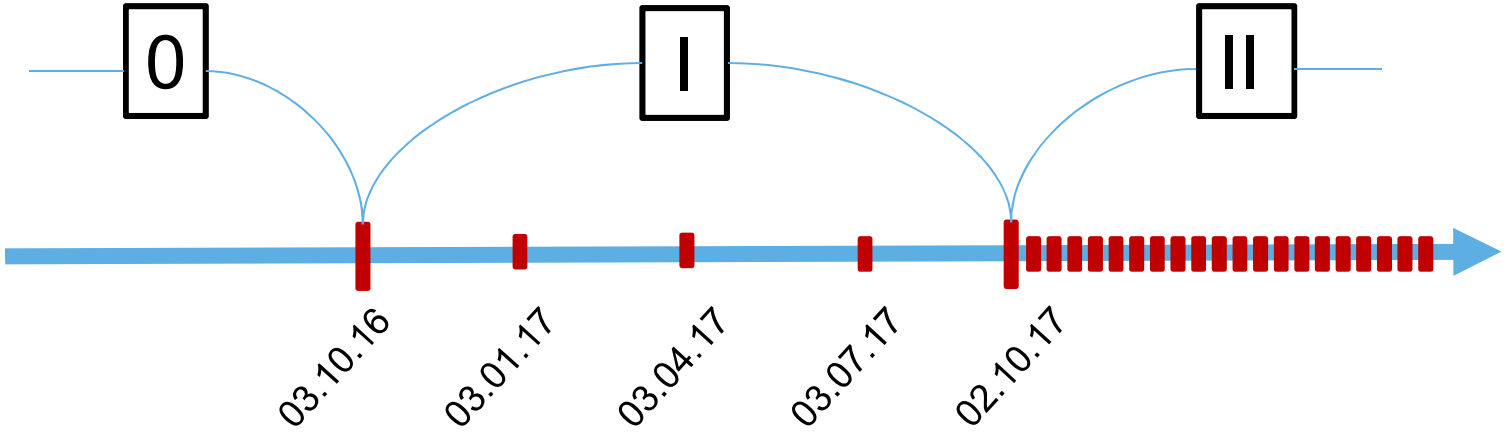
TARIFF REFORM HISTORY

0. **Before 19:00 MSK on 3rd October 2016** – the fixed fee was charged per contract.

I. **From 19:00 MSK on 3rd October 2016 – 19:00 in 2 October 2017** – the transitional period when the fixed fee per contract is in effect subject to a quarterly review.

II. **From 19:00 MSK on 2nd October 2017** – the post-transitional period when the fixed fee per contract is in effect subject to a daily review.



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1. FUTURES CONTRACTS

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FUTURES: Exchange fee calculation method (FutFee)

As was
before 19:00 MSK on 3rd October 2016

The fixed exchange fee, for instance:

- RUB 2 for a RTS Index futures,
- RUB 1 for a Gazprom futures,
- RUB 0.5 for a USD/RUB futures.

As is
From 19:00 MSK on 3rd October 2016 until 19:00 MSK on 2nd October 2017

FutFee = FutPrice × BaseFutFee

BaseFutFee – the base rate for buying a futures contract which is tied to the futures contracts category.

The fixed exchange fee subject to a **quarterly** review → **FutPrice** – the settlement price of a futures contract (in RUB) which is determined at the end of the evening clearing session on the **15th of the quarterly months -** September, December, March, June quarterly cycle/

To be
From 19:00 MSK on 2nd October 2017

The fixed exchange fee subject to a **daily** review → **FutPrice –** the settlement price of a futures contract (in RUB) which is determined at the end of the previous days evening clearing session/

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FUTURES contracts: categories and underlying assets

	Contract category	Underlying asset	Base rate (BaseFutFee), %
1	FX	• Exchange rate of foreign currency to Russian rouble • Exchange rate of foreign currency to US dollar • Exchange rate of US dollar to foreign currency	0.0014
2	Interest rate	• Interest rates • Russian government bonds (OFZ) • Russian Eurobonds	0.0050
3	Equity	• Russian shares • Foreign shares	0.0060
4	Index	• Equity indices and others (except commodities indices) • Russian market volatility	0.0020
5	Commodity	• Energy • Metals • Agricultural products	0.0040

FUTURES: examples of how the fee is calculated

BaseFutFee – the base rate of the exchange fee for a futures contract category:

	Contract category	BaseFutFee (%)
1	FX	**0.0014**
2	Interest rate	**0.0050**
3	Equity	**0.0060**
4	Index	**0.0020**
5	Commodity	**0.0040**

Examples of calculation for the futures fee on:

- FX USD/RUB: if SP (Si-12.17) = 57,576, the fee = 57,576 × **0.0014%** = 0.81 ₽
- the RTS Index: if SP (RTS-12.17) = 111,230, the fee = (111,230 × 11.8656 / 10)* × **0.0020%** = 2.53 ₽
- the RTS Index: if SP (RTS-3.18) = 107,460, the fee = (107,460 × 11.38656 / 10)* × **0.0020%** = 2.45 ₽
- Gazprom: if SP (GAZR-3.18) = 13,707, the fee = 13,707 × **0.0060%** = 0.82 ₽
- OFZ: if SP (OFZ2-12.17) = 10,057, the fee = 10,057 × **0.0050%** = 0.50 ₽

* The price is converted into RUB from points

FUTURES: scalping discount (1/2)

The exchange fee is calculated daily on the basis of settlement prices, determined in the evening clearing session. It applies throughout the trading session.

The scalping discount applies to trades that give rise to opposite intraday positions.

The discount amounts to 50% of the exchange fee for scalping trades.

Example 1:
The exchange fee for a futures is RUB 1.25.

The futures was sold and bought during the trading session. Such buying and selling transactions are considered under the category of scalping.

(!) The exchange fee for both contracts is 0.5×(1.25 + 1.25) = RUB 1.25 considering the scalping discount.

FUTURES: scalping discount (2/2)

The scalping discount is distributed unevenly between trades as it is impossible to determine when a trade is accepted and/or whether the position will be closed.

A trade or its portion that increases the position is priced at the full rate.

A trade or its portion that decreases the position is priced at zero rate.

Example 2:

Distribution of the fee between the trades from Example 1:

- RUB 1.25 for the first trade
- 0 for the second trade.

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2. OPTIONS

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OPTIONS: exchange fee calculation method (OptFee)

The fixed exchange fee subject to a **daily** review:

OptFee = MIN [K × FutFee ; MAX (0.01; BaseOptFee × Premium)]

- **Premium** – the option's theoretical price (in RUB) determined at the end of the **previous day's evening clearing session**

As was
Before 2nd October 2016

- **BaseOptFee** – the **10 percent** base rate for buying an option
- **FutFee** – the fixed exchange fee
- **K** – the multiplier of the futures fee which is set to two

As is
From 3rd Oct 2016 until 19:00 MSK on 2nd Oct 2017

- **BaseOptFee** – the **0.5 percent** base rate for buying an option
- **FutFee** – the fixed exchange fee for a futures subject to a **quarterly** review (see slide 5)
- **K** – the multiplier of the futures fee which is set to two

To be
From 19:00 MSK on 2nd Oct 2017

- **BaseOptFee** – the **2 percent** base rate for buying an option*
- **FutFee** – the fixed exchange fee for a futures subject to a **daily** review (see slide 5)
- **K** – the multiplier of the futures fee which is set to **1.5***

* Planned value

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OPTIONS: examples of how the fee is calculated

BaseOptFee – the base rate of the exchange fee for options:

	Contracts	BaseOptFee	K
1	As was (before 3rd Oct 2016)	**10%**	**2**
2	Transitional period (3rd Oct 2016- 19:00 MSK on 2nd Oct 2017)	**0.5%**	**2**
3	Marketing period (19:00 MSK on 2nd Oct 2017- 19:00 MSK 1st Oct 2018)	**2%***	**1.5***

*Planned value

Examples of calculation of the fee for options on futures contracts (in effect from 2nd Oct 2017):

- Futures on the RTS Index:
  - USD/RUB* = 60 ₽
  - Option's theoretical price* = 240 points
  - Tick value* = 60 × 20% = 12 ₽
  - Premium = 240 × 12 / 10 = 288 ₽
  - FutFee* = 2.53 ₽
  - The rate = min(1.5 × 2.53; 2**%** × 288) = min(3.795; 5.76) = **3.80** ₽
- FX USD/RUB futures:
  - USD/RUB* = 60 ₽
  - Premium = 118 ₽
  - FutFee* = 0,81 ₽
  - The rate = min(1.5 × 0.81; 2% × 118) = min(1.215; 2.36) = **1.22** ₽

* Planned value for a specific date after 2nd Oct 2017

OPTIONS: scalping discount (1/4)

The scalping discount applies to trades that give rise to opposite positions on the same underlying asset if the options are exercised within one trading day.

The scalping discount for options on the same futures contract applies for different strikes and different expirations.

Example 1:
Buying a put option on USD/RUB FX futures with a strike at 61 000 and selling the same call with a strike at 55 000 **are subject to** the scalping discount.

Example 2:
Buying call options with expiration dates 19 Jan 2017 and 16 Feb 2017 **is subject to** the scalping discount.

The scalping discount is 50% of the rate-weighted amount of scalper trades.

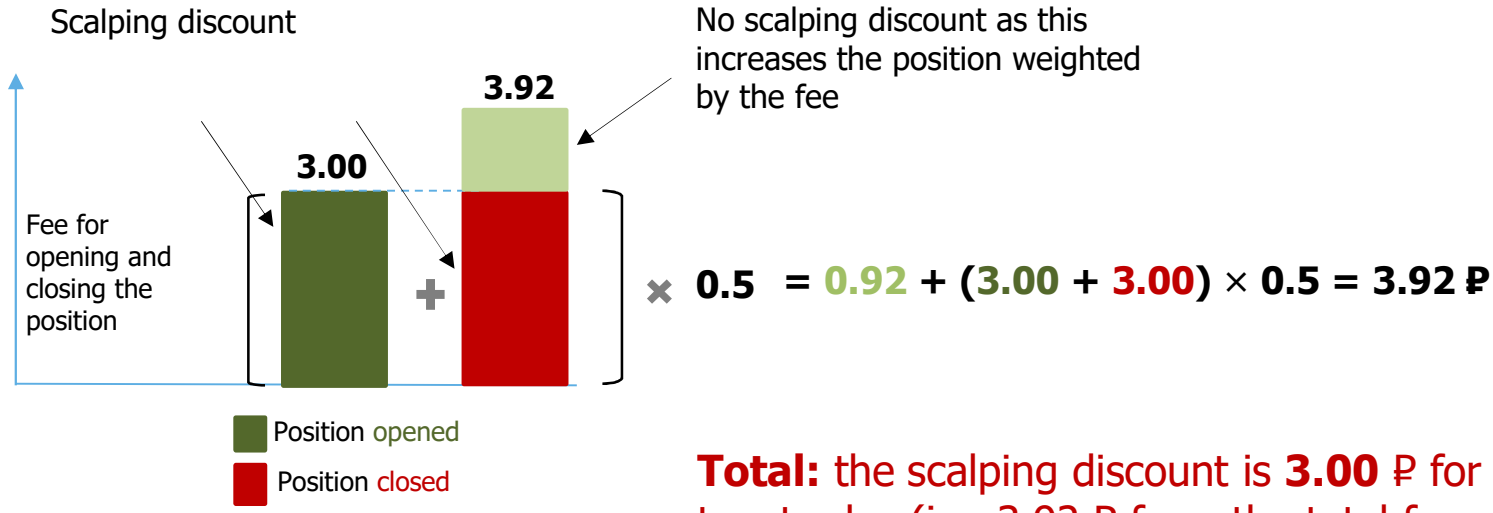
The exchange fee is set daily based on the theoretical prices of the evening clearing session and applies throughout the trading session. It is impossible to determine upon trade acceptance whether the position will be closed and what option will be used. Therefore, the scalping discount is distributed unevenly between trades (see the next slide).

OPTIONS: scalping discount (2/4)

If the fee for trades to open a position totals greater than the fee for closing trades, the fee for the closing trade is NOT charged.

If the fee for trades to open a position totals less than the fee for closing trades, the fee for the closing trade is charged in the amount of the surplus that such trade made over the total fee for the opening positions.

Example 3:
1st trade: buying 10 puts Si-3.17M160217**P**A55000 (the total fee 3.00 ₽);
2nd trade: buying 2 calls Si-3.17M160217**C**A61000 (cthe total fee 3.92 ₽).



0.5 = 0.92 + (3.00 + 3.00) × 0.5 = 3.92 ₽

Total: the scalping discount is **3.00** ₽ for the two trades (i.e. 3.92 ₽ from the total fee of 6.92 ₽ is charged to the trading member)

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OPTIONS: scalping discount (3/4)

The calculation algorithm includes two accumulative variables: BuyFee and SellFee, which serve to accumulate the fee for buying and selling an underlying asset without any discount.

1. The following iterations are made for every trade:
   FullDealFee = Qty × Price × FeeRate

2. Increasing BuyFee or SellFee accordingly:
   - If **buy**
     BuyFeeNew = BuyFee + FullDealFee, SellFeeNew = SellFee
   - If **sell**
     SellFeeNew = SellFee + FullDealFee, BuyFeeNew = BuyFee

3. The fee amounts to
   ScalpDealFee = max(BuyFeeNew, SellFeeNew) – max(BuyFee, SellFee)

4. **BuyFee = BuyFeeNew**
   SellFee = SellFeeNew

OPTIONS: scalping discount (4/4)

Example of calculation of the fee including the scalping discount

- Trade 1: Sell 60 CALL at 8 ₽
- Trade 2: Sell 80 PUT at 40 ₽
- Trade 3: Sell 30 CALL at 12 ₽

		Instrument	Amount	Opt Fee	SELL	BUY	MAX	DealFee
1	Sell Call	Si-3.17M160217CA73000	60	0.8	48	0	48	48
2	Sell Put	Si-3.17M160217PA58000	80	1.6	48	128	128	128 – 48 = 80
3	Sell Call	Si-3.17M160217CA70000	30	1.2	84	128	128	128 – 128 = 0
						Total		**48 + 80 = 128**

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Contacts

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