

Calculation methodology and sources of the data to 'Stolen prosperity of 42 million people'

1) Difference between what Ukraine factually received for gas transit and what Gazprom received for gas imported in Ukraine for 2009-2019

- To calculate this difference, the estimated amount of revenues of PJSC 'Gazprom' for imported gas in Ukraine for the period 2009-2019 includes direct gas sales from PJSC 'Gazprom' to NJSC 'Naftogaz of Ukraine' and other companies in Ukraine, as well as estimated revenues of PJSC 'Gazprom' from gas sales to European companies, which resold that gas for the import in Ukraine.
- From total revenues PJSC 'Gazprom' mentioned above it is subtracted the following:
 - Total revenues of NJSC 'Naftogaz of Ukraine' from gas transit through the territory of Ukraine for the period 2009-2019;
 - Payment from PJSC 'Gazprom' to NJSC 'Naftogaz of Ukraine' to meet arbitrage's award of 2018 on gas transit contract in the amount of 2.9 bn USD, which was obtained in December 2019.

Sources:

- Internal data of NJSC 'Naftogaz of Ukraine', estimations and calculation of the team of NJSC 'Naftogaz of Ukraine', responsible for Stockholm Arbitrage
- Revenue from gas transit of NJSC 'Naftogaz of Ukraine' is published in consolidated financial statements of NJSC 'Naftogaz of Ukraine', in the note 'Segment Information'
- <https://www.naftogaz.com/www/3/nakweb.nsf/0/C4775D2495121A4AC2257AD90051F66D>
- <https://naftogaz.com/www/3/nakweb.nsf/0/8DC988FB4457C8F7C22584DD005D21A3?OpenDocument>

2) Difference between what Ukraine could have received for gas transit and what Gazprom could have received for gas imported by Ukraine in 2009-2019, if the whole contractual relationships were in line with what one can call "brotherhood principle"

- 'Brotherhood principles' provide for the following: if Ukraine paid the price to Russia, which was equal to long-term marginal cost for extraction of imported gas (under condition of full coverage by Ukraine its needs in import by Russian gas), and Russia paid transit tariff, which covered marginal costs of Ukraine for gas transit.
- Long-term marginal costs of PJSC 'Gazprom' are determined based on total volume of gas import to Ukraine according to paragraph 1 of this methodology and estimated long-term marginal costs of PJSC 'Gazprom' for extraction and transmission of gas to the border of Ukraine. The estimate of marginal costs of PJSC 'Gazprom' for gas extraction comprises of the following:
 - ✓ Average operational and capital expenditures of PJSC 'Gazprom' for gas extraction per unit of extraction for the period from 2009 to 2018. Operational and capital expenditures – from the data of segment reporting of PJSC 'Gazprom' for 2009-2018 (by the data from Thomson Reuters' system);
 - ✓ Cost of sales of fuel gas for gas transmission to the border of Ukraine. The estimate used was based on industry norms, where fuel gas consumption comprises 3% of total volume of transported gas for every 100 km of the route. For the estimate of the length of transmission route it was used estimated length of Yamal's route to the east border with Ukraine (3.3 ths km)
 - ✓ Marginal cost for maintenance of gas transmission infrastructure per unit of gas extraction. Maintenance cost of gas transmission infrastructure was determined as the difference between capital expenditures of gas transmission segment in 2018 (according to the data from Thomson Reuters' system) and capital expenditures for gas transmission segment in 2018 for the construction of new projects (according to the data from presentation of PJSC 'Gazprom' for 2018, see page 42 here: <https://www.gazprom.com/f/posts/41/295497/investor-day-2018-en.pdf>);
 - ✓ Export duty (30% according to the requirements of Russian legislation).

This estimate of marginal cost PJSC 'Gazprom' was sanity checked (for reasonableness) by comparing obtained result to publication of the Russian experts of similar estimates. The cost estimated by us didn't differ much from the estimates of the Russian experts.

- Long-term marginal costs of Ukraine on gas transit include gas consumption for production and technological needs, other operational expenses on gas transit and capital expenditures to maintain capacities of Ukrainian GTS in working condition.

Sources:

- Internal data of NJSC 'Naftogaz of Ukraine', estimations and calculation of the team of NJSC 'Naftogaz of Ukraine', responsible for Stockholm Arbitrage
- Data from Thomson Reuters' system
- <https://www.gazprom.com/f/posts/41/295497/investor-day-2018-en.pdf>

3) Difference between what Ukraine could have received for gas transit and what Gazprom could have received for gas imported by Ukraine in 2009-2019, if Ukraine covered full economic cost for gas transmission and paid export-parity price ('netback price') for the Russian gas

- (a) Coverage of full economic cost of Ukraine for gas transmission should have been provide for the application of the tariffs, that covered full economic cost ('cost-reflective' tariffs) for gas transit including fuel gas (gas consumption for production and technical needs). The estimate of those tariffs was made according to the claim filled by NJSC 'Naftogaz of Ukraine' to Stockholm Arbitrage regarding gas transit contract, where Ukrainian side, inter alia, asked for application of such tariffs from 2010.
- (b) When applying market principles to the total purchases of gas needed by Ukraine, as those were applied in majority of long-term contracts for gas purchases in EU at the moment when the contracts were signed, Ukraine had to be able to pay for this gas at price, defined by so called 'Groningen model'. According to one of the interpretation of this model gas price for Ukraine should have been determined according to export parity ('netback price'), in particular as gas price in the nearest big liquid hub (for Ukraine it is German hub NCG) minus cost of gas transmission from east border with Ukraine to German hub NCG and minus wholesale margin. Determined netback prices in a corresponding year were multiplied by total factual volume of gas import in Ukraine.
- (c) Difference between paragraph (a) and paragraph (b) is the difference between what could have Ukraine received for gas transit and what Gazprom could have received for gas imported by Ukraine in 2009-2019, if Ukraine covered full economic cost for gas transmission and paid export parity price ('netback price') for the Russian gas.

Sources:

- Internal data of NJSC 'Naftogaz of Ukraine', estimations and calculation of the team of NJSC 'Naftogaz of Ukraine', responsible for Stockholm Arbitrage;
- Separate Award of Arbitration Institute of the Stockholm Chamber of Commerce on case № V2014/078/080 on gas supply contract (<https://www.naftogaz.com/files/media/Separate-Award-redacted.pdf>)
- Final Award of Arbitration Institute of the Stockholm Chamber of Commerce on case № V2014/129 on gas transit contract (http://www.naftogaz.com/files/media/Transit%20Award_Redacted.pdf).

4) Difference between what Ukraine could have received for gas transit and what Gazprom could have received for gas imported by Ukraine in 2009-2019, if Ukraine covered full economic cost for gas transmission and paid "indifference" price for the Russian gas

- (a) This difference is calculated in the same way as for paragraph 3 of this methodology, except paragraph 3 (b), where instead of gas price based on export parity ('netback price') it is applied another interpretation of Groningen model, under which 'indifference' price is determined based on prices of alternative fuels to gas, relevant for Ukraine. Key principles of Groningen model are described in the paragraphs #7-20, 1139-1141 of the award of Arbitration Institute of the Stockholm Chamber of Commerce on gas supply contract № V2014/078/080.

Sources:

- Internal data of NJSC 'Naftogaz of Ukraine', estimations and calculation of the team of NJSC 'Naftogaz of Ukraine', responsible for Stockholm Arbitrage;
- Separate Award of Arbitration Institute of the Stockholm Chamber of Commerce on gas supply contract's case № V2014/078/080 (<https://www.naftogaz.com/files/media/Separate-Award-redacted.pdf>)
- Final Award of Arbitration Institute of the Stockholm Chamber of Commerce on gas transit contact's case № V2014/129 (http://www.naftogaz.com/files/media/Transit%20Award_Redacted.pdf).