

INTER-REGIONAL CROSS-SUBSIDIZATION IN THE RUSSIAN GAS MARKET: PRESERVED INEFFICIENCY

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Most of Russia's energy-consuming enterprises are energy inefficient chiefly because of inter-regional subsidization of natural gas prices. The existing mechanism of regulating natural gas wholesale prices will interfere with import substitution plans in the domestic industry and production modernization.

Oil and gas sector's efficient performance is one of the keystones ensuring energy security of the state. Natural gas, in terms of consumption of primary energy sources, accounts for more than 53% of total energy consumption in the Russian Federation. The institutional and economic nuts and bolts of natural gas market were laid down more than 50 years ago, and today, however, many solutions don't fit in the development goals of a modern and globally competitive economy. The existing practice of inter-regional cross-subsidization in the Russian gas market is one of the most controversial topics discussed frequently by experts. Inter-regional cross-subsidization implies the regulation of regional gas prices at a level which doesn't fully agree with actual costs of production, transportation, storage and sales of gas. The closer is a region to production areas, the higher is the price as compared to costs, and hence the higher is the supply profitability rate¹. Gas transportation in remote areas is costly and the price is normally less than costs, resulting in a negative profitability of gas supplies at regulated prices. In other words, with the inter-regional cross-subsidization in place, gas prices are somewhat equalized between regions, which can be interpreted as some sort of a social contract between the state, society and industry. Such a distortion of price signals may result in making investment decisions which could be inefficient in terms of both gas saving and location of gas-intensive production.

The nuts and bolts of inter-regional cross-subsidization practice were laid down back in the era of Soviet Union. Soviet line ministries were in charge of constructing production enterprises and what is more, there was no key objective of minimizing production and transportation costs. Enterprises, instead of being constructed in regions producing main sources of raw materials, were in many cases constructed in regions receiving most of the products manufactured by the enterprises, or there was an objective of labor distribution in the country that had to be met. The tran-

sition to market relations created a situation when many enterprises situated far away from sources of raw materials could have turned into loss makers. The issue was most critical for enterprises using natural gas as the principal raw material, because natural gas was produced basically at the single field in the Yamalo-Nenets Autonomous District. Most of the Russian manufacturing industry would have stalled by deregulating gas prices without using industrial policy tools for changing geographical location of and modernizing principal gas consumers.

Economically, cross-subsidization leads to unrecoverable losses for social welfare, because the price at donor regions is more than optimal, thereby stripping benefits from consumers and manufacturers and resulting in less than normal consumption of gas, while inefficient enterprises consuming more than normal volumes of gas are encouraged in recipient regions showing a lower-than-optimal price, which is reflected in actual costs of natural gas supplies to such regions.

The reason behind using cross-subsidization of gas prices is some kind of a social justice regarding the price of gas supplied to individuals, while for the industry it can be explained by allowing enterprises to manufacture low-price products, i.e. products competitive in the world market, through providing them with cheap resources. However, this holds true if production enterprises with cheap resources use their low-price subsidy to keep low prices of the products they manufacture rather than compensate for their inefficiency and/or generate above-normal profits. In Russia, cheap resources for manufacturers is some kind of a subsidy rather than the opportunity to manufacture low-price products².

The Russian economy has long been needing revocation of the practice of inter-regional cross-subsidization of natural gas wholesale prices. However, this should be done step by step so that enterprises can

1 Vedomosti newspaper dated 22.04.2014 <http://www.vedomosti.ru/business/news/2014/04/22/gazprom-ozhidaet-snizheniya-rentabelnosti-v-rossii>

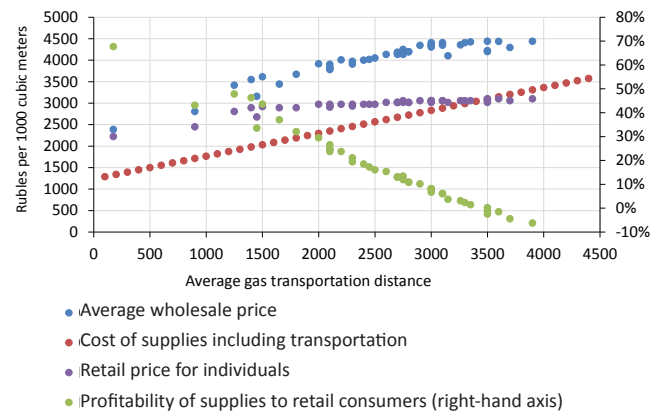
2 An analysis of the Russian oil and petroleum products market is provided in the following paper: Idrisov G.I., Sinelnikov-Murylev S.G. Modernization or preservation: the role of export duty on crude oil and petroleum products // *Economicheskaya Politika*. 2012. No. 3. P. 5–19.

upgrade their production. While there is no doubt that individuals need cross-subsidization of natural gas retail prices, inefficient use of natural gas is encouraged amid the current situation, when gas prices may differ many times from actual costs. A mechanism for keeping prices low for individuals while facilitating energy efficient use of natural gas should be designed so that gas tariffs are raised to a level compatible with long-run marginal costs¹, while providing individuals with compensatory transfer payments.

Conventional calculations made at the Gaidar Institute for Economic Policy² show that natural gas supplies are less profitable to regions most remote from the regions nearest the Tyumen Region's northlands (TRNLs) which produce most of natural gas. The difference between the profitability (profitability herein is defined as the ratio of average wholesale price for consumers of all categories to costs of gas supplies (production, transportation, storage) less one) in most and least profitable regions is about 45–50%, while it should be noted that the profitability of natural gas supplies for retail consumers turns negative in the regions which are most distant from the TRNLs. Regulated natural gas prices are compared according to the average gas transportation distance, as well as the profitability level for 44 Russia's regions is measured in Fig. 1.

It is perfectly clear from Fig. 1 that the regulated level of retail prices remains almost unchanged according to the average gas transportation distance, despite a substantial increase in costs related to natural gas transportation. The calculation of profitability showed a strongly pronounced downtrend of profitability of natural gas supplies according to the average gas transportation distance of gas supplies. The profitability of gas supplies to retail and wholesale consumers in the Yamalo-Nenets Autonomous District is 68% and 80%, respectively. In the Krasnodar Krai (Territory), the average gas transportation distance from the TRNLs measures about 3900 km, while the profitability for retail and wholesale consumers is 6% and 34%, respectively.

It is our opinion that a stepwise departure from the inter-regional cross-subsidization practice should be introduced in order to enhance the efficiency of



*based on the natural gas production and transportation costs provided at OAO Gazprom's press conference on "OAO Gazprom financial and economic policy"; the data on regulated wholesale and retail price provided by the Russian Federal Tariff Service (FTS).

Fig. 1. Inter-regional cross-subsidization in 2013*

natural gas consumption. The average price of natural gas in Russia is expected to increase substantially, up to 40%³ according to some experts, as a result of changing regional prices to a level corresponding to long-term marginal costs of natural gas. This indeed will ramp up the pressure on the Consumer Price Index (CPI) and result in some decline of GDP⁴ in the short run, but obtained price signals are going to produce incentives for developing a more efficient economy in the mid and long run. A net positive effect is expected to be seen in five to 10 years, at the latest, as a result of enhancing domestic industry's competitive power by revoking the inefficiently used subsidy to energy in use. The practice of inter-regional cross-subsidization should be abandoned step by step so that risks can be minimized during the transition period.

The preservation in Russia of inefficient consumption of natural gas, triggered by inter-regional cross-subsidization of prices, has resulted in that today manufacturers in recipient regions have no sufficient incentives to upgrade their production. Furthermore, many of these regions face an almost catastrophic issue of non-payments for gas, even at regulated prices. A way of making the economy more efficient is to enhance the pricing mechanism so that prices for consumers are set according to long-term production and transportation costs.

1 The definition of long-run marginal costs is provided in the following paper: Gordeev D.S., Idrisov G.I., Karpel E.M., The theoretical and practical aspects of natural gas pricing in the domestic market and external markets \ Voprosy Ekonomiki, 2015, No. 1. P. 80–102.

2 The calculations are based on the data provided at a press conference, OAO Gazprom's financial and economic policy. Available at: <http://www.gazprom.ru/f/posts/41/564949/economic-policy-stenogram-2014-06-26-ru.pdf>

3 See Gordeev D.S., Idrisov G.I., Karpel E.M., The theoretical and practical aspects of natural gas pricing in the domestic market and external markets \ Voprosy Ekonomiki, 2015, No. 1. P. 80–102.

4 The estimation methodology is drawn on that described in the paper of Bobylev et al. (2002), the revaluation of regression equations for point estimates of GDP and CPI elasticity with respect to gas prices were revalued on the basis of the data for 2002–2012.