

**Financial and Banking Services Market**

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**PROBLEMS OF GAS PRICING  
IN UKRAINE**

**Abstract**

The question of economic feasibility of tariffs for energy, particularly natural gas, both imported and domestic is analyzed in the article. It is concluded that the population's needs can be fully satisfied by Ukrainian gas, and prices of wholesale gas markets should be formed as a result of long-term contracts between producers and buyers. Special attention is focused on the inadmissibility of the use of any rent payments in the gas pricing in Ukraine. Priority measures to reform Ukraine's gas sector, including reasonable use of energy saving technologies and adaptation of European experience of gas and heating pricing for the population, are determined.

**Key words:**

Natural gas pricing, tariffs, European gas market, domestic gas market, energy sector reform.

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**JEL:** D400, D410, Q430.

**Formulation of the problem.** An improvement of the pricing for gas can be called today the key element of the Ukrainian energy market development. The IMF has identified this area as one of the key conditions for the resumption of lending in Ukraine. According to agreement between the IMF and Ukraine from 30/04/2014 on allocation of 17.1 billion USD loan several actions were provided: gradual increase of gas and heat tariffs in combination with measures supporting the poorest population, restructuring of «Naftogaz Ukraina» and provision of its transparent reporting (Press Release, 2014). So, in April 2014, the government carried out the first stage of the price increase for the population (from 01.05.2014 gas tariffs increased by 56%, heating tariffs grow on 40% from 01.07.2014). In the second phase of the reform, it was planned to elevate gas and heating price by 40% since 01/05/2015 and keep increasing it by 20% annually until 2018. However, after Ukraine-IMF negotiations on opening of a new program of crediting (Extended Fund Facility, EFF) instead of existing one (Stand-by), National Commission for state regulation in energy and public services increased gas tariffs for households by an average of 285%. But taking into account difficult economic situation of Ukrainian population (State Statistics Service of Ukraine) (average salary in Ukraine today is equal to 148 USD, that is 29,7 times lower than in the USA, 27 times lower than in Germany and 6,6 times lower than in Poland), such changes should be scientifically justified. State energy policy should aim the reduction of gas consumption and restraining of tariffs growth. In this regard, it is extremely important to research the process of tariffs calculation both for domestic and imported gas.

**Analysis of recent research and publications.** Sufficient number of local scientists' studies, including papers of Wenger W., Voloshenko A., Halvanovskyy M., Beak A., Dyachuk O., Lanovyy V., Omelchenko V., Podoltsya R., Struk H., Scherbyna Yu, Furman J. is devoted to the problems of pricing in the gas sector. However, due to the absence of unique methodology for determining domestic tariffs for gas and to existence of variety of instruments for imported gas pricing, this issue requires further research as an element of the main directions of the gas sector reform.

**The purpose of this article** is to study pricing and tariffs calculation processes on imported and domestic gas and identify directions of the gas sector reform.

**Main results of the research.** In recent decades, there was a radical transformation of European natural gas market institutional structure. In European countries, functions of gas extraction (import), transportation by trunk and local networks and selling to end users were divided. To ensure fair competition in the gas market all suppliers got free and equal access to gas transmission and gas storage facilities, and all consumers – the right to choose the supplier (the so-called status of «eligible customers»).

In Ukraine the need for reform of the energy sector is extremely high. The rigidity of Ukrainian energy sector in post-soviet system was the main obstacle to economic and social changes and one of key factors that made the state vulnerable to blackmail from outside and delayed it into the debt trap. Politicians used (and keep using) populist speculation to block the transition to a normal market environment in the energy sector. As the result, multistage pricing, cross-subsidization, the complete intransparency and the monopolization of production, transportation and sales of various types of energy made energy sector the perfect platform for the leaching of state (taxpayers) funds in private hands.

It should be noted that the reform of the energy sector was a separate section of a coalition agreement that was signed last year. It provided «liberalization and transition to common for all the consumers principles of market pricing for gas and electricity in order to create incentives to save them». The intention of the ruling coalition to provide the necessary conditions to attract investments for structural modernization of the energy sector, reconstruction of infrastructure and increase of domestic production of gas, oil and coal was also then fixed.

However, since the reform of the sector was a result of the pressure of circumstances and external forces (especially the IMF), it goes slowly and inconsistently, facing explicit and covert resistance of oligarchs and officials who are interested in keeping corruption mechanisms and preserving loopholes for abuse.

Analysis of dynamics of domestic gas production since 2005 (Table 1), shows that on average it was consistently around 20 bln. m<sup>3</sup>.

However, for many years (until 2014) Ukraine depended on gas imported from Russia. Moreover, for last eight years Russia has created conditions under which price of imported gas for Ukraine has increased from 50 to 400–450 USD. It happened due to the complete monopolization of Ukrainian market by Gazprom: first, the neighbor completely cut Ukraine off gas from alternative suppliers (including vendors by sea and Turkmenistan, which Russia bought gas from for 30 years ahead). Secondly, no new wells or terminals for liquefied fuel from Qatar or Saudi Arabia (where gas is cheaper than imported from Russia) were built on the Ukrainian territory. Thirdly, «Naftogaz» was forced to agree price increase for natural gas in parallel with freezing of tariffs for transportation. Fourth, Russia obliged Ukraine to buy excessive amounts of gas, the needs of which were significantly lower, under condition of total reduction of «Gazprom» gas transit through Ukrainian territory by building alternative connections to Europe in

the north and south. So, charges for gas import in Ukraine increased from 3–4 bln. USD in the first half of the 2000s to 12–13 bln. USD in 2010–2011, and the income from the gas transit to Europe decreased from 3 to 2 bln. USD during same period (Lanovyi, 2015).

*Table 1*

**Dynamics of production, consumption and import of natural gas (liquefied or in gaseous state) for 2005 and 2011–2014**

Indicator	2005	2011	2012	2013	2014
Production of natural gas (liquefied or in gaseous state), bln. m <sup>3</sup>	20,8	20,7	20,5	21,3	19,8
Change in production, in % to previous year	101,5	101,0	99,0	103,9	92,9
Consumption, bln. m <sup>3</sup>	71,5	56,6	52,7	49,0	40,8
Change in consumption, in % to previous year	100,7	102,7	93,1	93,0	83,3
Import of natural gas, bln. m <sup>3</sup>	55,9	44,8	32,9	28,0	19,5
Change in import, in % to previous year	–	–	73,5	84,9	69,6

Note: Data for 2014 are presented excluding temporarily occupied territories of Crimea and Sevastopol.

Source: State Statistics Service of Ukraine (State Statistics Service of Ukraine), The Ministry of Energy and Coal Industry of Ukraine (The Ministry of Energy and Coal Industry of Ukraine).

In this regard, it's necessary to understand how the price of imported gas is calculated. Thus, among European countries traditionally there are three basic approaches to pricing for imported gas under long-term contracts (Podolets, Diachuk, Yakymets, 2014). According to the first approach, the price of gas is tied to the price of a basket of alternative energy sources (coal, oil), the structure of which can vary significantly even within the same country (the so-called Groningen type contracts). For example, as gas is considered to be the most efficient for electricity and heat production as one of the most environmentally friendly fuels, it becomes possible to determine the ratio of gas to other energy sources that can be used by thermal power plants, and indirectly calculate the cost of gas (alternative fuels are exchange goods and so have a «market price»).

The second approach is based on the price of monthly futures contracts for indicative grade of oil (usually Brent oil of London or, more often, Rotterdam Exchange).

The share of gas under short-term contracts in the EU in recent years has increased steadily and now equals to about 35%. So, price on the spot market has become a further indicative benchmark for gas pricing under long-term contracts (third approach) and indirectly – the ground of retail prices for consumers. Another function of the spot market is an indicative definition of short-term marginal cost of gas, and by that its real economic value.

Along with the existing system of contractual relations in the European gas market, the formation of a fundamentally new market model, that is characterized by exchange market pricing and a complete rejection of long-term contracts for spot transactions, takes place in recent years.

For Ukraine, the liberalization of the European natural gas market and necessity to fulfill its obligations of EU–Ukraine gas law harmonization requires radical actions in the gas sector. Reform will inevitably lead to a transformation of the internal market and terms of foreign trade in natural gas.

However, today most segments of the gas market in Ukraine remains largely monopolized by state energy companies. The main suppliers of domestic gas are subdivisions of «Naftogaz Ukraine», and the share of independent companies for a long time does not exceed 7–10%. The infrastructure of gas networks is transferred to the management of regional (mainly private) provider companies.

Lack of objective methodology based on price dynamics for other fuels stays the main cause of controversy in determining the price of gas for both a long-term international contracts and agreements with domestic supplies. In this regard significant increase in gas tariffs for domestic consumption and in particular for the population is highly controversial. Thus, according to conclusions of the Verkhovna Rada working group for the consideration of the rise in prices/tariffs for energy and public services validity domestic gas can entirely cover population needs.

Annual structure of gas in-and outflows is approved by the Cabinet of Ministers of Ukraine according to forecast balance of receipt and distribution of natural gas. According to the Order of Cabinet of Ministers of Ukraine from 29.04.13 № 327-p «On improvement of the forecast balance of receipt and distribution of natural gas in Ukraine for 2013» the projected distribution of natural gas for households was equal to 22,8 bln. m<sup>3</sup> (Order of Cabinet of Minister of Ukraine, 2013) and in 2014 – to 22.5 bln. m<sup>3</sup>. Thus, the volume of natural gas intended for the needs of the population in 2014 compared to 2013 remained almost unchanged, despite the annexation of Crimea (March 2014) and military actions in eastern Ukraine, through which most of the customers were left without gas. In-

stead in 2015 The Cabinet approved the «gas balance» on the level of 40 bln. m<sup>3</sup>, of which 15 bln. m<sup>3</sup> were considered to get from internal sources (Order of Cabinet of Ministers of Ukraine, 2015). This decision as reported was taken to allow «Naftogaz» to import 25 bln. m<sup>3</sup> of gas, including the purchase from Russia without limitation. By the way, the value of such imports in 2015 was 3 bln. m<sup>3</sup> higher than the corresponding amounts in 2014 – that is for sure not the case of gas saving.

The largest component in the structure of gas prices for households (equal to 40%, or – to 33.4 bln. USD) is an income («margin») of Public Company «National Joint Stock Company «Naftogaz of Ukraine». 39% of the price (or in monetary terms – 32.3 bln. USD) – payments to the State Budget of Ukraine (VAT, rent, extra fees or surcharges).

Another problematic issue that causes a lack of transparency in the gas sector is the increase of rent payments. In this regard, it is necessary to analyze the mechanism of its formation.

First, rent appears between businessmen and owners of mining or exploitation objects. In Ukraine, however, by rent payments for gas, which belongs to the state, state companies are imposed. Of course, normally in this case the rent relations do not exist: only private gas companies usually pay this type of payments. Obviously, the purpose of Ukrainian government is an artificial imposition of oil and gas business by the frivolous tax that serves only fiscal purposes.

Second, the value of the rent is formed on the market. It depends on the profitability of the object, and in that case the profit company gets consists of the rent to the owner (state) and net profit of private company. Profit depends on the price and cost of production, so the rate of rent depends on the price, cost and terms of profit distribution. There may be cases where no rent is formed, in particular when business is non-profitable, the price is too low and costs are high.

Ukraine has proposed, on the contrary, to determine the price after installing rental payment. In other words, it is assumed that the rent is always there; it can be set by the owner and lifted indefinitely. Thus, we can say that the government artificially inflates rent payment to maximize the price of gas extracted in Ukraine.

It is clear that maximization of the price for domestically produced gas can serve only one purpose – reduce its consumption and production, and by that – increase its import (that contradicts declared thesis about import substitution). Therefore, the rental fee should be reduced to at least 10% of the profits. Moreover, it should be collected only from private gas distributors with the fixation in absolute terms – for different production conditions. In particular, in case of new deposits development the rate of rent should be equal to zero.

As a conclusion we can say that the pricing for natural gas and associated with its consumption public services is not properly justified. In this regard, additional

calculation of tariffs should be made. Retail prices for natural gas used for the needs of the population should be revised considering obtained results of calculations.

It is necessary to emphasize the consequences of prices growth in the energy market in general for the economy. At this stage, the state policy of Ukraine is not very responsive to price leap associated with appreciation of energy resources. Practically no measures to prevent the formation of negative trends were implemented. The government gives only responds to a sharp aggravation of the situation (as it was with sharp rise of meat, oil, sugar prices). But since these measures were directed to deal not with cause, but only with consequence, and were not systematic, they were extremely ineffective. In our view, upgrade of production, its diversification, the reform of public utilities and implementation of energy saving technologies should be priority. For now all of this is left unattended by government, making the national economy very vulnerable to further price leaps for energy products. Without serious reform of the gas sector it will be impossible to stabilize the financial system, or to regulate the relationship between the population and providers of energy services.

First of all, in our opinion, the government should eliminate the monopoly of «Naftogaz» and other state corporations and to change management of the sector from the planning and administrative to the market one. Unlike the sphere of public services, which is a natural monopoly, wholesale gas market has competitive nature. A National Energy and Utilities Regulatory Commission should be truly independent regulator that promotes competition and pricing that encourages energy efficiency (The Statement of National Energy and Utilities Regulatory Commission, 2014). Its local branches should protect the interests of consumers and encourage energy saving, including increased use of alternative and renewable fuels.

**Conclusions.** Galloping rise in prices for gas in Ukraine is an urgent problem today and requires further research, because it negatively affects the socio-economic development of state. Science-based pricing promotes structural changes in the economy (changes in the fuel balance), determines the development of the gas industry and its investment attractiveness. Ukraine, with the extend of its participation in the international division of labor, more and more noticeably meets changes in the conjuncture in almost all segments of the global market.

The question of economic feasibility of tariffs for energy and public services is too politicized today. Therefore, it is proved that determination of the cost for energy or public services must lie exclusively in the production plane.

Analysis shows that needs of the population can be fully satisfied by Ukrainian gas in the case of clear definition of real needs in gas of the population (separately from needs of religious organizations and creative unions), reduction of the opaque industrial and technological use of gas and its losses, adjustment of targets consumption indicators due to possible overestimations and maximum use of Ukrainian gas for households.

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The article was received on May 21, 2016.