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### PRICING OF COAL MINING IN DONBASS DURING THE FIRST WORLD WAR

*The role of coal mining pricing in Donbass during the First World War is highlighted. The reasons for the price increase of Donetsk coal in the Russian Empire in 1914–1917 are determined. It is proved that mobilization, the attraction of additional non-qualified employees, requisition, miners strikes were the main levers of the growth in coal prices in the region. It is noted that the decrease of coal quality for its price growth increased coalmen' profits.*

**Keywords:** *First World War, coal, price, requisition, mobilization.*

The beginning of the First World War significantly influenced on the process of pricing in sphere of energy in the Russian Empire due to changes in market conjuncture of fuel. Moving large numbers of troops and military equipment, refugees and prisoners of war required the use of additional fuel for railways. Accelerated militarization of the economy contributed to growth of needs for energy resources, the priority of which at that time occupied calorific sources of energy. Additional demand for fuel also formed through a gradual understanding of the general public of the fact that the war can be long-lasting, and therefore it can be one of the basic means of survival in difficult conditions of war.

Information about the role of pricing in the organization of coal mining of Donbass during the First World War in modern Ukrainian historiography is presented is extremely limited. We are aware of developments G. Bakulev [1], G. Gayko, V. Beletsky, T. Mikos and Y. Hmura [2; 3] who passing mentioned about pricing in the coal mining industry and, as a rule, in the context of the history of the mining industry.

The sharp increase in demand for fuel, primarily for coal, provided the trend of rising its price. Trying to tame rising prices, government structures, under the basic postulates of supporters institutionalism preferred regulation of economic relations in certain areas of production and consumption. Certain influence the process of pricing in the market of mineral fuels had the government's actions in economic policy. One of its directions were measures aimed at nationalization of the coal trade. It is believed that nationalization of the coal trading, replacing it by distribution dictated «by the whole situation, since 1915» [4, p. 171–172]. Also there were increased taxes to cover the costs of war, including the cost of issuing certificates to the industrial enterprises [5, sheet 1–14]. In order to monitor pricing in the Russian Empire were introduced requisition of coal. They have become one of the means of improving the situation in the Russian economy, which was not ready to fully meet the needs of war. In publications of that time requisition called measure to combat speculation [6, p. 20].

At XI conference of miners of South Russia was noted that requisition extremely negative impact on the financial position and the ability to continue

working in small enterprises engaged in coal mining. These enterprises had to reduce the number of employees, and in some cases stopped working [7, p. 3]. Meanwhile XL Conference chaired by M. von Dietmar allocated sub-commission chaired by B. Sokolov to define the minimum requisitional prices for various fuels [8, p. 29]. At XII conference of miners of the South of Russia was noted that the interests of big industrialists demanded state guarantees in providing coal purchase and implementation of measures for its export. By the autumn of 1916 the main consumer of Donetsk's coal – Railway – satisfied their needs mainly through early enforcement outfits, which related almost half of all mines of the Donetsk Basin (requisitioned third of the exported outcoal of 25–30 million tons monthly). Since mid – 1916 began «strengthened» use of requisition. This practice did not satisfy coal manufacturers, especially those that completing requisition, the government was in no hurry to pay them. It was one of the reasons that things «Donetsk magnates» shaken late 1916 and especially in early 1917 [9, p. 66]. However, the use of «requisitional outfits» and «enforcement deliveries» coal from Donbass complicated by the beginning of 1916, primarily due to failure to ensure the export of coal from mine sites to the consumer [10, sheet 13]. In fact, the system of state regulation of fuel reserves contributed to the growth of profits of large companies and termination of small businesses, because under the war conditions the priority tasks became obtaining carriages for export fuel to consumers [11, p. 3].

Officially, the state monopoly on the sale of coal was to be implemented with a view to a sharp increase in production of fuel, rationing prices for it in the places of production and according to the areas of transportation with simultaneous opposition to speculation coal, time lyreceipt of fuel by companies that worked on the needs of the war, the regulation of rail transportation of coal, termination failures of mining companies from shipment mineral fuels. Against the introduction of such a monopoly spoke the Central Military-Industrial Committee, the Moscow military-industrial committee, management of state-owned railways, all private railways, steel mills, association of factory owners and breeders of Petrograd, Moscow and Ekaterinoslav association of producers of iron from Petrograd, association of sugar manufacturers, the Society of companies that manufacture glass, Council Congress of exchange trade and agriculture, all the major commercial and industrial organizations of Russia, the vast majority of consumers of mineral fuels, which accounted for 80% of the consumers of coal empire. Unions of towns and zemstvos had no opportunity to discuss this issue, but Chairman of the Board cities have repeatedly spoken out against the introduction of state monopoly on coal. All these organizations have submitted memoranda addressed to the Chairman of the Council of Ministers and individual ministers with the observation that the introduction of a state monopoly can not significantly improve the situation in the coal industry, disrupt fuel supplies to engineering plants, bring disruption to the work of railways, besides additional forcing overtime burn coal during transportation [7, p. 2].

During the discussion in the commission XL conference of miners of South Russia questions about state monopoly on coal V. Gajewski from the Ministry of Trade and Industry, said that the introduction of state monopoly was seen as the only mean of increasing coal production and export of fuel to consumers. He said that

otherwise the mining industry expects full decadence with a stop production and lockout of workers. In addition, he noted that only the state can provide the correct number of industry workers, since the departure of an employee on a spring field work in agriculture inevitably had a detrimental effect on the rate of coal production in the spring of 1917. Representative of the Ministry of Trade and Industry M. Chernyshev said that fundamental decision on monopolization of trade in coal are made, but it can be put into practice only in April or May 1917 after resolving all contentious issues of fuel transportation by rail. M. Chernyshov also expressed the view that such a decision must be consistent with the miners for partial compensation their losses. The ability of the state agents of organization coal production and coal supply to consumers caused quite a lot of distrust in big business circles, who expressed confidence that the bureaucracy only hurt the cause [7, p. 3].

On the process of pricing in the fuel and energy sector during the First World War influenced the fact that some of the contracts was concluded back in the prewar period. When it became clear that the war could be delayed, representatives of big business began to express concerns about the timing, amount and forms of contractual obligations. Dissatisfaction caused long term loss of income due to the lack of compensation for the rise in prices caused by the war [12, sheet 94–95]. Especially the issue was important for the coal industry because of higher prices for mineral fuels and expand the domestic market for coal. Possible loss of profit, which promised increase in production and sales of fuel, aggravated the situation of conflict between the Government and miners of Donbass. Exactly resistance from big business substantially reduced «appetite» of the government policy of requisitioning fuel and therefore of the failed August 1917 to introduce state monopoly on the product [13, p. 31].

The above facts show that the monopolization of the market of mineral fuels did not satisfy miners, many of consumers and carriers fuel, especially – rail. Pressure from the government on this issue led to the aggravation of confrontation. Moreover understanding the fundamental possibility of making such a decision the order willed by monarch led to an increase in the number of supporters of a constitutional monarchy or republic. Even M. von Ditmar, being a staunch supporter of preserving «one and indivisible» Russia, expressed his commitment to the idea of limiting the power of monarch. We can assume that attempt to monopolize the lion's share of fuel and energy market through the introduction of state monopoly on the sale of coal hastened the end of autocracy as much of the representatives of big business were against this decision, believing that it was a painful blow to their economic interests. During the war there was a constant increase in food prices. In order to keep on the work qualified workers, miners had to some extent increase wages. In 1915 prices for basic foods have increased on average by 20% [14, p. 9]. In 1916 was recorded price increase of 50–65% compared to 1913 [15, p. 25; 16, sheet 110]. In order to avoid strikes at mines required to maintain fixed prices for basic necessities [16, sheet 107]. In such circumstances, some mines salaries for 1914–1917 grew more than 100%, and the lowest growth rate of wages were 40–45% over the same period [16, sheet 11]. Average wage increases for unskilled workers was fixed at a rate of 20–30%, taking into account different categories of workers aged from 12 to 17 years and older. For unskilled workers aged over 17 years from 1916 to 1918 was

set payment of 1 rub. 10 kopecks for men and 80 kopecks for women; adolescents from 15 to 17 male – 70 kopecks, women – 65 kopecks and the minor from 12 to 15 years of both sexes – 45 kopecks per day [17, pp. 24–24 back side, 143–143 back side].

However, compensation in the form of wage growth does not match the growth in consumer prices for the main group of essential goods and food products. Therefore, in the first half of 1916 coal industry of Ukraine maintained primarily for military work. In January 1916 at the enterprises of Donbass coal industry employed 213 thousand 531 person in May – 229 thousand 65 people [18, p. 109]. On September 1 1916 the total number of workers has reached 237 thousand, including military service, received defer to the army, there were 104 thousand 600, women – 12 thousand 400, adolescents – 17 thousand 100, refugees – 2 thousand 500, prisoners – 47 thousand 900, other categories – 52 thousand 500 [19, p. 27].

In October 1916 the number of employees has reached 252 thousand 723 person. Number of prisoners during January–October 1916 increased from 23 thousand 498 persons to 55 thousand 51 persons, the amount involved in the production of women grew from 6 thousand 50 to 12 thousand 671 people, teenagers – 8 thousand 556 to 18 thousand 113 persons and refugees – from 2 thousand 40 to 2 thousand 629 people [18, p. 109]. It should be stressed that in 1916 at many enterprises of Donbass coal industry noted a slight attraction to perform heavy work (at night and underground work) women and young workers. According to the information on the number of employees and the use of female and child labor at night and for doing underground work at the enterprises of Yuzovsky's mining district, their share was less than 1% [16, sheet 3]. However, by the end of 1916 gradually increased the number of women and children working in mining works during the day. They were from 3 to 17% of the number of employees [10, sheet 72]. According to statistics, the number of miners-prisoners at coal mines in December 1916 reached 72 thousand people [19, p. 27]. In 1917 at the mines were used for about 100 thousand prisoners of war [20, p. 405]. Overall, at the end of 1916 about 40% of all workers of Donbass coal companies were women, adolescents and prisoners of war [18, p. 110]. Involvement to the work prisoners of war, reservists, teenagers and women predetermined by the desire to reduce the cost of coal. It should also indicate that among the major miners developed fight for the involvement of additional contingents prisoners of war.

However, one should not be dismiss that miners were interested in increasing the minimum selling prices for coal in connection with the requisition fuel. In determining the minimum price of coal on which would pay the Russian government confiscated fuel miners especially stressed on increasing cost of production of mineral fuels and reducing the profitability of mines. Commission XLI conference of miners chaired by M. von Dietmar notes that the average profitability of coal mines in 1912 was 2,13%, in 1913 – 4,98%, in 1914 – 3,58%. Based on data of mining companies and Kharkiv's insurance company, said before the subcommittee, headed by B. Sokolov emphasized that the cost of materials needed to carry out preparatory work in the workings increased by 60% and therefore total price of sorted coal produced large coal enterprise located on leased land accounted for 15,5 kopecks for the

pud. The subcommission notes that the productivity of employees in 1916 decreased on average by 10%, and fees increased by 25%, which gave rise in the overall workforce by 40% [8, sheet 29].

The process of determining the price of requisitioned coal from Donbass led to the establishment in June 1916 the average price of 18,9 kopecks for the pud when planning prices for the future at a rate of 22,6 kopecks. Thus fist-grade coal was estimated at 23 kopecks for the pud walnut 1–6 inches – 22 kopecks, walnut 0,5–1 inch – 14 kopecks, one that generates gas – 23 kopecks, private non-filing – 16 kopecks, for the Navy Department – 23 kopecks [21, sheet 3]. Thus Donbass miners were able to defend their interests in relations with the Russian government, providing income for payment for requisitioned coal at a rate of 45% (remember to 3–5% before the war). Coal mining during the war has become a highly profitable business that attracted different kinds of speculators and exacerbated the struggle for control of mineral fuels.

We should not forget about the implementation of coal ordinary consumers at speculative prices, which provided greater profits. It was found a few turns in providing of the population and facilities by mineral fuel. The right to receive fuel is saved by urban affairs, which distributed it among municipal institutions and citizens. Out of turn of coal could get customers that have private agreements with mines. Institutions, who wanted to get fuel for the special orders, had to apply to the competent local district needed to him the amount to calculate of one month next to the original agreement to supply coal. There were also established personal distribution lists that are directed to the main authorized to Kharkiv. This supervisor also beyond a turn had to ensure the allocation of coal for the fleet and railroads. If extraordinary order was executed a few months, the monthly customer was present in the main authorized in Kharkiv documents confirming the right to obtain extraordinary fuel [21, sheet 3–4 back side]. This arrangement left a huge space for corruption related to the distribution of coal among consumers, that is what was written in the contemporary publications [6, p. 20]. Particularly widespread speculations were in big cities, when businessmen being interested in the sale of products at inflated prices declined to trade rules established by the state [22, sheet 1 back side].

Due to the increased demand for coal and increase its prices in conditions when quality workforce gradually declining was noted the decline of coal quality that many consumer supplied. Reducing fuel quality negatively impact on process of working companies that used it as a source of energy. Thus marked increase the number of slag in anthracite throughout the 1914–1916 from 7–8% to 25–30%, which attracted an increase in the cost of coal for the reducing its heat emission. Some businesses due to the low quality of coal (especially concerned sugar mills) had to partially switch to wood heating. This was also due to the rise in the cost of coal taking into account cost of shipping in 1916 to 55 kopecks for pud, but for some companies the price of mineral fuels rose to 75 kopecks for pud [23, sheet 6 back side.].

Due to the sharp increase in production of anthracite in 1916 accordingly increased the volume of its requisition. In May 1916 it was requisitioned 6 billion 487 million pounds of anthracite in June – 11 billion 61 million pounds in July –

13 billion 263 million pounds in August – 11 billion 423 million pounds in September – 15 billion 965 million pounds, in October – 15 billion 956 million pounds in November – 14 billion 500 million pounds. Requisitions thus reached 2/3 of the mined anthracite [24, sheet 14 back side].

Taking into account that the maximum price of anthracite Special meeting set lower than sales prices derived Coal section of the Special meeting with the participation of industrialists and that the miners investing in working capital, believed that realization of requisitions will be made only in special cases and accordingly the volume of requisitioned coal would be insignificant, the Commission XLI Conference of miners demanded higher prices for requisitioned anthracite. The size of increasing was respond the prices specified by Special meeting of Coal section with the participation of manufacturers [24, sheet 15].

On the process of pricing significantly influenced decline in the quality coal. A significant number of consumers of coal put forward claims for quality of mineral fuels, seeking to reduce its impact on prices. Some samples of quality committed by railroad showed that the average percentage of ash in coal ranged from 10 to 20%. Thus, in Tkachev's anthracite mine, who developed the so-called Bokivskyy layer, was found in July 1916 11,48% ash. But this layer could not contain more than 5–6% ash. In anthracite of Joint-stock company «Bokovo» was found by representatives of Southern Railways 21,09% ash. Rejecting these accusations miners often pointed out that such accusations could not take place because of physical properties of some coal mines. However, they recognized that the short time of shipment ordered fuel and heavy fines for the failure of supplies forced them to ship not sorted anthracite. In some cases, the definition of quality of mineral fuels generally not carried out for lack of time [24, sheet 9 back side].

Rising energy costs pulled a rise in the cost of the absolute majority of goods and services. During the 1914–1916 sharply increased the amount of rent for land with an average of 60–70 rubles per acre to 140–150 rubles [25, sheet 5]. This led to structural changes in industry and agriculture. Manufactures, whose profitability has decreased dramatically during the war, fully rolled or reduced manufacturing products. First of all, this applies to light industry and long-term projects, gains on sales which were expected for a relatively long time. The increase in coal prices led to the use of alternative energy sources. In particular, we are talking about wood, but the process of it harvesting and transportation provided to overcome a number of difficulties that may arise when using coal as fuel. Forest tracts were often inaccessible to industrial export of forest because of the lack of reliable transport routes. In addition, different types of wood have different characteristics heat emission sometimes required the delivery of certain varieties of wood from remote areas because of the need to ensure the desired temperature of combustion.

These data indicate that the miners can not be accused of deliberately limiting the extraction of mineral fuels only to increase prices for it. Rising coal prices was caused some what different reasons. The mobilization led to the gradual decline in professional skill of workers. In order to increase coal production involved more employees, the maintenance at work which required the additional costs, which increased the price of fuel. Loss of polish coal deposits has changed the emphasis in

determining the prices in delivery of mineral fuels to consumers because part of transport infrastructure, involved for transportation polish coal could be used for this purpose and transportation of Donetsk fuel for some consumers (compared with delivery from Polish mines) cost significantly more. Price also increased due to the increased cost of materials needed to carry out preparatory work for the miners essential commodities, repair machinery and equipment, pits, etc. The growth of prices for Donetsk coal also provoked the desire of industrialists and entrepreneurs of Donbass offset losses from requisitions mineral fuels. It is not necessary to drop from an account speculation distribution of which was caused by a sharp increase in demand for coal. Certain contribution has been made in pricing due to suspension of production due to the mining strikes. Higher prices also contributed to the relatively low level of mechanization of coal mining and therefore relatively low productivity.

Reducing coal quality for its price growth increased profits of miners. They did not burden themselves investments in the development of infrastructure of mining and landscaping mining towns. Instead unfolded the real fight for the employment of prisoners of war, the contents of which had much less money than in providing decent working conditions for working professional. Cheap labor of prisoners provided additional funds for miners, but not encouraged them to intensify production process.

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### **ЦІНОУТВОРЕННЯ ВИДОБУТКУ ВУГІЛЛЯ ДОНБАСУ ПІД ЧАС ПЕРШОЇ СВІТОВОЇ ВІЙНИ**

*Висвітлено роль ціноутворення в організації видобутку вугілля Донбасу в роки Першої світової війни. Визначено причини зростання ціни на донецьке вугілля в Російській імперії у 1914–1917 рр. Доведено, що мобілізація, залучення додаткових некваліфікованих працівників, реквізиція, шахтарські страйки були основними важелями у зростанні ціни на вугілля у регіоні. Зазначено, що зниження якості вугілля при зростанні його ціни підвищувало прибутки гірничопромисловців.*

**Ключові слова:** *Перша світова війна, вугілля, ціна, реквізиція, мобілізація.*

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### **ЦЕНООБРАЗОВАНИЕ ДОБЫЧИ УГЛЯ ДОНБАССА ВО ВРЕМЯ ПЕРВОЙ МИРОВОЙ ВОЙНЫ**

*Отображена роль ценообразования в организации добычи угля на Донбассе в годы Первой мировой войны. Определены причины роста цен на донецкий уголь в Российской империи в 1914–1917 гг. Доказано, что мобилизация, привлечение дополнительных неквалифицированных работников, реквизиция, шахтерские забастовки были основными рычагами в росте цены на уголь в регионе. Отмечено, что снижение качества угля при росте его цены повышало доходы горнопромышленников.*

**Ключевые слова:** *Первая мировая война, уголь, цена, реквизиция, мобилизация.*