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**ECONOMIC IDEAS OF Y. G. ZHUKOVSKY:
ORIGINS, EVOLUTION, POLICY PROPOSALS**

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Motivation

The dissertation studies an episode of the relationship between Russian and Western economic thought in the second half of the 19th – early 20th centuries. This episode is associated with the reception of Western economic ideas in the works of the Russian economist, publicist, and government official Yuli Galaktionovich Zhukovsky (1833–1907). Zhukovsky was never an academician, but his deep interest and extensive knowledge of Western economic literature significantly distinguished him from other thinkers, including authors of literary (“thick”) journals.

In his writings, Zhukovsky discussed not only the salient problems of the country, but also issues of modern economic theory. His works were very popular among the Russian intelligentsia in the second half of the 19th century.

His biography was published in the "Encyclopaedic Dictionary of Brockhaus and Efron" [Yarotsky, 1894], which was prepared by Vasily Gavrilovich Yarotsky (1855–1917) and published during Zhukovsky's lifetime. Zhukovsky's biography was also present in the next edition of the Encyclopaedic Dictionary (New Encyclopaedic Dictionary) [Anonymous, 1914].

However, the critical attitude towards Marxism, on the one hand, and service in the ideologically hostile tsarist government, on the other hand, led to the fact that the Soviet history of economic thought left ideologically biased assessments of Zhukovsky's works. The ideas of the Russian economist began to return to scientific circulation only in the late 1980s; Zhukovsky's work remains little studied to date. The analysis of Zhukovsky's work expands the understanding of the mechanism of interaction between Western and Russian economic science in the second half of the 19th – early 20th centuries.

Indeed, the relationship between the West¹ and Russia constitutes a significant element in academic, socio-political, and other discussions both in Russia and abroad. Since Peter I the main approach to relations with the West has been the pragmatic borrowing of European technological innovations and skills, primarily for military purposes. At the same time, Russian society and government denied the political and spiritual ideals of the West. The analysis of these relationship allows to pose the main question: “Do Europe and Russia take the same road of progress with Europe far ahead and Russia lagging behind, or do they belong to different civilizations with different trajectories (possibly, with Russia having some advantages of the spiritual kind)” [Avtonomov, 2022a, p. 2]. Similar perspectives are present in the history of economic thought.

On the one hand, some academics describe the development of economic science in Russia as the result of foreign influence (e.g., [Svyatlovsky, 1923; Normano, 1945]). On the other hand, some single out the Russian school of thought as a distinctive approach economics (e.g., [Abalkin, 2000]).

The history of economic thought as a distinct discipline in Russia significantly developed during the Soviet period. Soviet academics did not single out the Russian school of economic thought but emphasised the superiority of Russian economists over Western ones. The ideological dictate of the Communist Party, and later the fight against cosmopolitanism 1948–1953 led to the

¹ Here “the West” primarily implies Western Europe, and not the United States of America, since in the historical perspective, the opposition between Russia and the US is a fairly recent trend [Avtonomov, 2021, p. 1].

Stalinisation of economics. The Soviet history of economic thought presented the development of ideas as the ascent to the “True” theory of Marxism-Leninism. The original contribution of many pre-revolutionary economists was not just “forgotten”, but “rejected” based on nonconformity with Soviet ideals.

Relaxing of censorship and ideological restrictions at the end of the 20th century were reflected in research in the history of economic thought as well. The analysis focused on the reception of major thinkers in the Russian academic environment and their influence on the development of Russian economic thought. At the same time, the modern history of economic thought in the Western academia emphasises great influence of Western ideas and their “distortion” by Russian economists [Barnett, 2004, p. 22].

The coexistence of different views on the development of Russian economic science led to the discussion of the relationship between Russia and the West in the 21st century. The discussion resulted in the exposition of the pattern of the relationship between Russian and Western economic science [Avtonomov, 2021; Avtonomov, 2022a, p. 3].

The first stage of interaction constitutes a straightforward reception of Western ideas in the Russian intellectual environment. The next stage implies significant modification of these ideas according to factors specific to Russian society. The authors highlight the importance of moral and religious aspects, the peasant question, the influence of Marxism, the development of mathematics and statistics in Russia in the 1890s–1920s, as well as the experience of designing and building a planned economy. Finally, sometimes “feedback” occurred — the theories, transformed by Russian economists, were positively received in Western science (however, this happened rarely).

Thus, this dissertation research allows us to broaden the understanding of the interaction between Russian and Western economic thought on the example of a relatively little-known author in the modern history of science, who nevertheless held a prominent place in the economic literature of his time.

Notably, Zhukovsky’s works reflected both Western ideas already well-received in Russian economic literature and new ones. Particularly, Zhukovsky was one of the first Russian economists who used the mathematical apparatus in political economy. Even though N. N. Shaposhnikov characterised V. K. Dmitriev as “the first Russian mathematical economist”, Zhukovsky demonstrated the application of mathematics in economic analysis several years prior to the publication of “Economic Essays”. The combination of ideas and methodological aspects presented in Zhukovsky’s work allows us to raise the question of the possibility of referring Yu. G. Zhukovsky to the first representatives of marginalism in Russia.

Indeed, the contemporary history of economics associates the last third of the 19th century with the “marginalist revolution” – a turning point in the development of science characterised by the emergence of marginalist theory set forth in the works of W. S. Jevons [1871], C. Menger [1871] and L. Walras [1874]. J. Schumpeter established the term “revolution” to describe the emergence of marginalism in the first half of the 1870s [Schumpeter, 2001, p. 1093]. Although he used the term as a metaphor, the growing popularity of the analysis of scientific paradigm shifts only reinforced the perception of marginalism as a revolutionary change in economics.

However, such interpretation of marginalism is disputed by historians of economic thought. Firstly, the ideas of Jevons, Menger and Walras do not constitute a single homogenous marginalist theory [Avtonomov et al., 2015, p. 57–130]. The contemporary literature distinguishes three

separate scientific schools formed by the forerunners of the marginalist revolution and their followers — the English, Austrian and Lausanne schools.

Secondly, despite the efforts of A. Marshall to systemise the achievements of marginalism, which should have symbolised the “victory” of the new theory and the end of the revolution [Avtonomov, 2022b, p. 105], it took several decades for the academic community to accept marginalist methodology as mainstream [Blaug, 1972, p. 277–280].

Finally, the elements of the marginalist analytical approach were known before the 1870s. Jevons and Walras were among the first to present a comprehensive analysis of their predecessors [Avtonomov et al., 2023, p. 15–116], who are referred to as “proto-marginalists” (or “proto-neoclassics”) in modern literature [Ekelund, Hébert, 2002, p. 212]. These heterogeneous authors do not constitute a single school of thought, but their theories suggest that the elements of marginalism were known long before 1870s [Ekelund, Hébert, 2002, p. 199]. The existence of these elements explains the fact that the contemporaries of the marginalist revolution perceived the new methods and approaches not as revolutionary, but as the development of existing ones.

Reception of marginalism in Russia presents a distinctive research question. In this respect Zhukovsky’s case is significant. The active reception of marginalist ideas began at the turn of the 19th and 20th centuries [Dmitriev, 2022]. However, a major part of the Russian academic community interpreted marginalism as a continuation of existing approach in political economy [Makasheva, 2009, p. 30–35]. We can assume that elements of marginalism were already known in Russia. Nevertheless, such cases were exceptions in the domestic intellectual environment, one of which was Yu. G. Zhukovsky.

Brief literature review

Information about Zhukovsky’s life is presented in biographical reference books (e.g., [Potemkin, 2019, p. 164]) and several encyclopaedic dictionaries (e.g., Brockhaus and Efron Encyclopedic Dictionary [Yarotsky, 1894], New Encyclopedic dictionary” [Anonymous, 1914, pp. 10–11], “Russian Writers” [Shakhmatov, 1992], and “A Concise Literary Encyclopedia” [Korotkov, 1964]).

Yuli Zhukovsky was born into a noble family in St. Petersburg. After graduating from the Imperial School of Law in 1853, he served in the Ministry of Justice, and later took part in the development and implementation of the Emancipation Reform of 1861 (the abolition of serfdom) as a government official. From 1860 to 1866 Zhukovsky regularly published articles in one of the most popular literary (“thick”) journals, *Sovremennik*. Unable to combine public service and literary work, he decided to devote himself entirely to journalism in December 1864. By 1876, Zhukovsky faced financial difficulties and returned to the civil service in the Ministry of Finance, where he made a brilliant career. In 1889 Zhukovsky was appointed head of the State Bank and remained in this post until 1894. Until his death in November 1907, Zhukovsky continued his literary work, some of the books were published after his death by his wife Ekaterina Ivanovna [Shakhmatov, 1992, p. 289].

Zhukovsky’s “The History of Political Literature of the 19 Century. Vol. I.” [Zhukovsky, 1871] and “Karl Marx and his Book on Capital” [Zhukovsky, 1877] found the greatest acclaim through the years.

The first constitutes the research in the history of social science and includes chapters devoted to both philosophers (J.-J. Rousseau, F. Bacon, D. Locke, and I. Kant) and economists (A. Smith, T. Malthus, D. Ricardo, and J.-B. Say). There Zhukovsky introduced the mathematical interpretation of Ricardo's theory of value, which is discussed in detail in this dissertation. Nevertheless, the use of mathematics in political economy seemed alien to Zhukovsky's contemporaries.

The mathematical interpretation of Ricardian theory is mentioned by the next generation of Russian economists at the beginning of the 20th century. V. K. Dmitriev praised Zhukovsky's work [Dmitriev, 2001, p. 110-111] in his "Economic Essays". V. M. Stein in his analysis of consequent development of Ricardian ideas also noted Zhukovsky's [Shtein, 1917, p. 1320]. A. S. Shor also mentions Zhukovsky's work as one of interpretations of Ricardo's theory [Shor, 1918, p. 338]. Nevertheless, Zhukovsky is absent in the first fundamental work on the history of Russian economic thought, even though the book was published before the start of the Stalinization of science [Svyatlovsky, 1923].

Soviet historians of economic thought followed Lenin in assessing Zhukovsky's work, who criticised Zhukovsky and described him as a "vulgar bourgeois economist" [Lenin, 1967, p. 131]. Being a critic of Marx, on the one hand, and an official of the ideologically hostile tsarist government, on the other hand, Zhukovsky was rejected by Soviet historiography, his theoretical legacy was devalued and forgotten. Zhukovsky's name is neither present in the books on the Russian economic thought in the second half of the 19th century written under the strong ideological influence (e.g., [Tsagolov, 1956]) nor in less ideological works of the Soviet period (e.g., [Blyumin, 1962; Shtein, 1948])

In the late 1980s during perestroika, the perception of Zhukovsky's ideas changed. The mathematical interpretation of Ricardo's theory attracted the attention of historians of science. Zhukovsky was characterised as one of the first mathematical economists [Shukhov, 1987]. N. S. Shukhov and M. P. Freidlin emphasised the novelty of Zhukovsky's approach [Shukhov, Freidlin, 1996, p. 259–261] and described Zhukovsky as a political economist, who used a progressive tool (mathematics) [Shukhov, Freidlin, 1996, p. 14].

The analysis of Zhukovsky's mathematical interpretation continued in the 21st century. Historians note both Zhukovsky's innovative approach to political economy and its shortcomings — "the use of a more complex mathematical apparatus than necessary" [Belykh, 2007, p. 9]. At the same time, several articles study Zhukovsky's ideas in the context of the transition from classical political economy to marginalism [Makasheva, 2009, p. 36; Makasheva, 2022, p. 16] and the development of neoclassical theory in Russia [Dmitriev, 2009; Dmitriev, 2013].

In modern international literature, Zhukovsky's "The History of Political Literature" appears primarily in works on the reception of Ricardo in non-English speaking countries [Bogomazov, Melnik, 2013, p. 283–286; Smith, 2017, p. 7–8]. Several works focus on placing the mathematical interpretation in the intellectual context of its time [Melnik, 2014, p. 198–200]. In the book on the development of the value theory in the late 19th and early 20th centuries, Zhukovsky's name is mentioned only in passing [Allisson, 2015, p. 26].

Zhukovsky's interpretation of Ricardo was also reflected in his critical reaction to K. Marx's theory. Unlike other early Russian reviewers of the first volume of "Das Kapital", Zhukovsky was very sceptical of Marxist ideas and set out his remarks in the paper "Karl Marx and his book on capital", published in the liberal journal Vestnik Evropy [Zhukovsky, 1877]. The work sparked the debate on "Das Kapital" in the Russian intelligentsia. Zhukovsky's opponents-

contemporaries were straightforward and sharp. The prominent narodnik thinker N. K. Mikhailovsky condemned Zhukovsky's work [Mikhailovsky, 1877]. The "first Russian Marxist" N. I. Ziber also reacted to the publication, subjecting Zhukovsky's analysis to severe criticism [Ziber, 1877]. The news of the debate around "Das Kapital" in Russian intellectual circles reached Marx himself, though he did not give any meaningful comments, calling Zhukovsky "a queer would-be encyclopaedist" [Marx, Engels, 1964, p. 277].

The Soviet history of economic thought followed Marx, Sieber, and (partly) Mikhailovsky in assessments of Zhukovsky's work, presenting him as a "vulgar critic" and his analysis as "a vulgar, crudely fetishist interpretation of capital" [Reuel, 1956, p. 256]. A similar description of Zhukovsky's work is given in A. L. Pashkov's "History of Russian Economic Thought" [1959, vol. 2, part 1, p. 46–56]. Zhukovsky's paper on "Das Kapital" often appears in the literature on the reception and development of Marxism in Russia (e.g., [Eaton, 1980, pp. 109–111; White, 2019, pp. 27–34]. In the review monograph on the Russian history of economic thought, J. Zweinert acknowledges the role of Zhukovsky's paper in the beginning of the controversy but characterises it as "very poor" [Zweinert, 2007, p. 227].

Apart from "The History of Political Literature" and the paper on "Das Kapital" several Zhukovsky's works got recognition in history of economics. Firstly, Zhukovsky set out his thoughts on monetary policy in the book "Money and Banks" [Zhukovsky, 1906] which can be attributed to the nominalist theory [Pashkov, 1966, vol. 3, part 1, p. 233; Vlasenko, 1963, p. 134–135]. In modern literature Zhukovsky's views on the theory of money are rarely mentioned.

Secondly, Zhukovsky's "Proudhon and Louis Blanc" [1866] is often mentioned in the literature on the development of radical socialism in Russia. Zhukovsky's ideas attracted the "first Bolshevik" P. N. Tkachev (1844–1886), who reviewed of Zhukovsky's work. Tkachev agreed with Zhukovsky's approach to the economic explanation of social phenomena and materialistic understanding of history [Tkachev, 1975, p. 99–109]. Accordingly, Zhukovsky's name appears in the secondary literature on Tkachev (e.g., [Eaton 1980, p. 109; Hardy, 1970, p. 23]).

Recently, Zhukovsky's works on T. Malthus (e.g., [Zhukovsky, 1907]) have also attracted attention in the context of the reception of population theory in Russia [Markov, Melnik, 2020, p. 376–377, 391].

Nevertheless, modern fundamental review works bypass Zhukovsky's legacy (e.g., [Barnett, 2005; Barnett, Zweynert, 2008]). Thus, Zhukovsky remains a rather little-known figure in the modern history of economic thought.

Objectives of the research

The objective of the dissertation is to analyse the theoretical aspects of the views of the Russian economist, publicist, manager of the State Bank of the Russian Empire Yu. G. Zhukovsky in the context of the development of the development of Russian and Western economic science. The goal involves the solution of the following tasks:

1. analysis of Zhukovsky's economic ideas in the context of the relationship between Western and Russian economic thought;
2. study of Zhukovsky's perception of contemporary Western theories and their influence on the formation of his ideas;

3. identification of the main stages in the development of Zhukovsky's economic ideas;
4. testing the hypothesis regarding classification of Zhukovsky as a representative of the proto-marginalist trend based on his methodological guidelines and the results of applying economic and mathematical analysis;
5. study of the relationship between the Zhukovsky's theoretical ideas and his practical recommendations on economic policy.

Methodology

The methodology of modern research in history of economic thought distinguishes two polar approaches to analysis [Blaug, 1994, p. 1; Cardoso, 2016, p. 393]. On the one hand, the internalist (or absolutist) approach allows to focus on the formal internal logic of theories and trace the evolution of economics from “incorrect” ideas to “True” knowledge [Blaug, 1990, p. 28]. On the other hand, the externalist (or relativistic) approach focuses on external factors that determine the creation of certain theories. M. Blaug [1990] suggests the following methods within this division: “history of the spirit of the times”, historical reconstruction, rational reconstruction and doxography.

The “history of the spirit of the times” methodology aims to identify the central questions of the theories of the past and analyse the process of their creation [Blaug, 1990, p. 27]. In turn, the method of historical reconstruction implies the interpretation of the theory in its modern terms, establishing the “true meaning” that the author put into the work [Blaug, 1990, p. 28]. The application of these methods in a combination allows as to conduct the fundamental analysis of Zhukovsky's works and to identify the key topics in his writings.

Unlike historical reconstruction, rational reconstruction implies the “translation” of past ideas into modern concepts [Marcuzzo, 2008, p. 109-110]. The method makes it possible to detect “mistakes” and track progress in the development of science [Blaug, 1990, p. 28]. Rational reconstruction allows us, firstly, to analyse Zhukovsky's ideas from the point of view of the evolution of economics, and secondly, to assess their place in the development of marginalist theory.

Doxography (literal translation: “the writing of hymns of praise”) “is the attempt to fit all texts into some recent orthodoxy to show that all those who have ever worked in the field have in substance treated exactly the same deep, fundamental questions” [Blaug, 1990, p. 28]. This allows us to give a broader and clearer perspective on the development of science. Application of doxography will make it possible to determine the place of Zhukovsky's ideas in the reception of marginalism in Russia.

J. L. Cardoso recommends using “an eclectic compromise between variant approaches” to construct “a common and global corpus of knowledge” [Cardoso, 2016, p. 399]. The dissertation follows this recommendation.

Structure of the work

The dissertation research consists of three papers.

In the first paper [Galeev, 2022a] we describe the economic and mathematical aspect of Zhukovsky's theory. The paper shows that Zhukovsky's interpretation of David Ricardo's theory of rent was an attempt to analyse the agrarian issue in Russia, and the mathematical apparatus was a tool for solving practical problems of political economy.

The second paper [Galeev, Melnik, 2022a] provides a methodological description of Zhukovsky's ideas, identifies Western authors who had the greatest influence on his approach, and shows that Zhukovsky's economic ideas can be characterised as proto-marginalist.

The third paper [Galeev, 2022b] studies Zhukovsky's proposals for the economic development of the Russian Empire and their theoretical foundation.

Main findings

1. Zhukovsky's economic ideas in particular the mathematical interpretation of Ricardian theory can be attributed to proto-marginalism.

In the modern history of economic thought different authors outline different aspects as the key characteristics of marginalist theory. V. S. Avtonomov presented a consensus definition of marginalism theory that included the application of mathematics, use of the subjective value theory, while the main research questions focused on issues of pricing and distribution of resources [Avtonomov, 2022b, p. 106].

In turn, there is no single definition of the term “proto-marginalism”, despite rather wide use of this concept. In this dissertation we propose the following definition based on the key characteristics of marginalis theory and modern analysis of the predecessors of marginalism (e.g., [Ekelund, Hébert, 2002]): theories, which demonstrate either ideas that are usually attributed to marginalism, or application of marginalist toolkit (mathematical apparatus, marginal analysis), independently of Jevons, Menger and Walras, can be attributed to proto-marginalism.

The mathematical interpretation of D. Ricardo's theory, set forth in the “The History of Political Literature” [Zhukovsky, 1871, p. 307–390] can be classified as proto-marginalist. Zhukovsky demonstrated the application of advanced mathematics to calculate labour productivity in labour-intensive and capital-intensive industries [Zhukovsky, 1871, p. 313–315], as well as integral calculus for calculating the amount of rent [Zhukovsky, 1871, p. 321–327]. Indeed, the use of the mathematics in political economy is one of the main characteristics of marginalism.

The application of mathematics allowed Zhukovsky to generalise the theory of rent. Based on the ideas of H. D. Macleod, Zhukovsky saw rent as a special case of a discrepancy between the demand and supply of arable land [Zhukovsky, 1864a, p. 246–247], and understood the phenomenon of rent in general as a special case of the value theory [Zhukovsky, 1871, p. 309, 349]. He sought to show that rent is not limited to agricultural production but can exist in any sectors of the economy where there is a difference in productivity levels by formulating an equation for calculating the value of rent. Zhukovsky introduced the concept of “consumer benefit” — an increase in wealth due to the redistribution of rent along with technological improvements [Zhukovsky, 1871, p. 333–334]. In turn, this implies that rent can no longer be regarded as a distribution of surplus exclusively between the landowner and the consumer; on the contrary, the surplus can go to any class (including capitalists). Notably, Zhukovsky analysed the changes in the production process, which is not typical for the classical theory [Blaug, 1994, p. 279].

Blaug emphasises that a unified theory of value, where the theory of distribution was only a special case, is one of the key characteristics of the marginalist theory [Blaug, 1994, p. 278]. Indeed, in his work, Zhukovsky sought to formulate a unified theory of costs. Thus, he interpreted the concept of “natural value” as the cost of production (and pointed out that it depends on two factors - labour and capital), and “exchange value” – as the market price. Zhukovsky demonstrated the relationship between production costs and the market price and formulated a pricing mechanism, where the market price is a function of the productivity of production factors [Zhukovsky, 1871, p. 349–363]. Zhukovsky’s attempt to create a unified value theory of value (theory of costs) can be characterised as a departure from the classical ideas and a step towards marginalism.

At the same time, Zhukovsky’s interpretation explicitly mentions the concept of diminishing returns: originating from the Ricardian idea of diminishing land productivity, Zhukovsky generalised it to other factors of production. The law of diminishing returns is central to marginal analysis and a fundamental axiom of modern economics [Brue, 1993]. Later this idea allowed Zhukovsky to demonstrate the marginal analysis [Zhukovsky, 1877, p. 82], an integral characteristic of the marginalist approach.

Using mathematics, Zhukovsky formalised the classical interpretation of capital as “past labour” [Zhukovsky, 1871, p. 312]. As a result, he formulated a general formula for the “natural value” (cost) of a product [Zhukovsky, 1871, p. 315]. Using the example of the production of bread (labor-intensive production) and cloth (capital-intensive production), Zhukovsky analysed the difference in labour productivity in different types of production. He proved that with the same increase in the amount of labour employed in production, output in a capital-intensive industry will increase more than in a labour-intensive one [Zhukovsky, 1871, p. 313-316].

Thus, Zhukovsky, independently of Jevons, Menger and Walras, demonstrated both the tools and ideas inherent in marginalist theory. However, those were the elements of the marginalism, which were combined with elements of classical political economy in Zhukovsky’s work.

2. During his literary career, Zhukovsky’s economic ideas underwent significant transformation under the influence of contemporary Western theories. Such process corresponds with modern outlook on the relationship between Russian and Western economic thought. As a result of the described development, the Russian economist approached A. Marshall’s neoclassical vision of the economic system.

Zhukovsky was a trained jurist graduated from the Imperial School of Law, one of the most prestigious institutions in St. Petersburg. In addition to legal disciplines, he also took course on the basics of political economy [Olimpieva, 2019, p. 339]. Knowledge of legal and economic sciences became the foundation for Zhukovsky’s long career as a government official and publicist.

Throughout his literary activity, Zhukovsky’s ideas underwent a significant evolution which can be divided into five stages. The first stage is associated with research in jurisprudence presented in Zhukovsky’s first work, published in the almanac “Spring” by N. D. Akhsharumov [Zhukovsky, 1859], as well as several papers in *Sovremennik* (e.g., [Zhukovsky, 1860; Zhukovsky, 1861]). However, by 1861–1862 Zhukovsky’s interest in law had been already weakening.

The second stage in the development of Zhukovsky's ideas is associated with his journalistic activities. On the one hand, relaxing of censorship restrictions in the early years of Alexander II reign made "thick" journals the main forum of Russian intelligentsia and the driver of public opinion. On the other hand, thanks to the positive feedback from N.A. Dobrolyubov, who described Zhukovsky as a "serious-minded person" [Shakhmatov, 1992, p. 288], the latter got the opportunity to publish in *Sovremennik*, one of the most popular outlets of its time. Thus, Zhukovsky's works received recognition and wide circulation in the circles of Russian intelligentsia. Over the next five years (until the closure of *Sovremennik* in connection with the assassination attempt on Alexander II), most of Zhukovsky's works were devoted to the current problems of the country. Articles of the "journalistic" stage of Zhukovsky's ideas are characterised by serious criticism of the government's current policy regarding the peasant question, as well as original ideas in economic development. These ideas were based on deep knowledge of jurisprudence and interest in modern Western economic theories, which significantly distinguished Zhukovsky from most of the publicists (including his colleagues at *Sovremennik*).

Notably, the "juridical" and "journalistic" stages had a direct impact on the development of Zhukovsky's economic views. Firstly, it was during the "juridical" stage that the thesis was first expressed that legal science should be "real" and provide answers to practical questions, and the goal of public order is the welfare of the nation [Zhukovsky, 1860, p. 100–101]. Subsequently, these ideas were reflected in the criticism of modern economic policy and the development of the "materialistic approach". During the "journalistic" stage Zhukovsky primarily analysed the issues of the economic development of the Russian Empire. His participation in the discussion of the agrarian issue of the 1860s became one of the reasons for the formulation of the mathematical interpretation of Ricardian theory, as an argument in polemics with representatives of the radical intelligentsia.

While still an employee of *Sovremennik*, Zhukovsky got interested in theoretical problems of political economy, in particular, its methodological questions. Thus, the third stage in the development of Zhukovsky's ideas can be described as "methodological". Zhukovsky expressed his opinion on the method and the current state of political economy in the paper "Macleod's Economic Theory" [Zhukovsky, 1864a]. However, the most significant work within the "methodological" stage is his paper "Smithian direction and positivism in economics" published in three parts in *Sovremennik* [Zhukovsky, 1864b]. Zhukovsky saw the current state of political economy as "completely anarchic" [Zhukovsky, 1864b, Part 1, p. 24]. He aimed at designing a more rigorous and formalised methodology in political economy, similar to the one applied in the natural sciences. He believed that the economy as a system has its own universal laws, and the main goal of political economy is to reveal them. Thus, during the "methodological" stage Zhukovsky formulated the methodological guidelines for contemporary political economy — a positive approach, the formalism of arguments and universal knowledge.

Zhukovsky found the tool to achieve his methodological goals in the works of J. H. von Thünen, namely the application of the mathematics in economic analysis. Zhukovsky praised Thünen "rigor of the scientific method" and urged other economists to follow his example in the use of mathematical tools [Zhukovsky, 1872, p. 611; Zhukovsky, 1906, p. 5–6]. According to Zhukovsky, the formalism of mathematics would have solved most of the methodological problems of contemporary political economy.

The fourth stage in the development of Zhukovsky's ideas is associated with the implementation of his methodological guidelines. Knowledge of the contemporary theory of political economy and understanding of application of mathematics allowed him to follow

Thünen's example and present a mathematical interpretation of Ricardian theory. Though Zhukovsky's work lacks explicit formulation of marginalist concepts, several characteristics of the interpretation make it possible to describe the work as proto-marginalist, and thus characterise this stage as "proto-marginalist".

Notably, the ideas of subjectivism are absent in the Zhukovsky's works within the "proto-marginalist" stage. Such paradox is typical not only for Zhukovsky, but also for other proto-marginal economists. Indeed, the reception of utilitarianism paralleled the development of proto-marginalist ideas in Zhukovsky's work. In the preface to "Selected Works of Jeremy Bentham", Zhukovsky outlined Bentham's ideas in such a way that the proposed interpretation repeats the foundation of the marginalist theory of value [Zhukovsky, 1867]. Zhukovsky saw the basis for the development of social sciences in Bentham's philosophy. He emphasised it is political economy that should take great value in utilitarianism [Zhukovsky, 1871, p. 254–255]. Thus, already by 1871 Zhukovsky, interpreting Bentham's concept of "utility" as the fundamental principle of human activity, approached the reception of subjective value theory.

In the works, published from 1871 to 1906, the methodology of application of mathematics in political economy did not receive significant development. Nevertheless, during that period, Zhukovsky published the critical paper on Marx and a series works on the theory of money. However, these aspects of Zhukovsky's work are beyond the scope of this dissertation.

The last (fifth) stage is associated with the reception of Jevons and Walras, presented in one of the last Zhukovsky's works [Zhukovsky, 1906, p. 14–16]. Zhukovsky did not fully agree with the marginalist theory as he emphasised the subjective nature of utility (which brings him closer to the ordinalist approach to the subjective theory of value). On the one hand, Zhukovsky firmly believed that it was the labour theory that determined the value of a commodity for the producer (i.e., the cost of production); On the other hand, he acknowledged the importance of the subjective element in price formation. Thus, Zhukovsky acknowledged that Jevons and Walras provided an adequate description of consumer behaviour. However, in his opinion, it is the market that allows the two parties (the seller and the buyer) to agree on the price of the goods [Zhukovsky, 1906, p. 20].

Such vision of economic system is similar to the synthesis of the classical school and marginalism presented in Book V of A. Marshall's "Principles of Economics" [1884]. Marshallian approach suggests that the supply side determines the objective cost of production (as presented in the classical school), and the demand side determines the subjective value (as presented in the marginalist theory). However, it is necessary to emphasise the essential difference between Zhukovsky and Marshall: the Russian economist only approached the modern understanding of economic theory, while Marshall outlined a coherent theory, which later became the mainstream of economics. Notably, the reception of Marshall's works in Russia in the late 19th – early 20th centuries was only partial [Eliseeva, 2010, p. 117], and Zhukovsky himself apparently did not know about his British vis-a-vis (or at least did not reference his works).

Thus, the vision of the economic system, where the supply side determines the objective cost of production, and the demand side determines the subjective value, presented in Zhukovsky's later works, brought him closer to Marshallian neoclassical theory. Accordingly, the last stage in the development of Zhukovsky's ideas can be characterised as "proto-marshallian".

Zhukovsky's case corresponds with the modern understanding of the interaction between Russian and Western economic science. Western theories played an important role in the development of Zhukovsky's ideas: Macleod's criticism of political economy, the application of

mathematics presented in Thünen's works, the interpretation of Bentham's "utility" as the fundamental principle of human activity — such combination ideas allowed Zhukovsky to modify the classical theory. Thus, in Zhukovsky's case both the reception of Western ideas and their significant transformation took place. Nevertheless, Zhukovsky's works were not widely circulated outside the Russian Empire, so the "feedback" did not occur.

3. Based on the interpretation of Western ideas, Zhukovsky presented original practical recommendations on the issue of economic development.

The abolition of serfdom in 1861 and further socio-economic development of Russia became the main topics for discussion among the intelligentsia in the 1860s-1870s. Radical socialists (e.g., N. G. Chernyshevsky), liberals (e.g., B. N. Chicherin) and conservatives (e.g., M. N. Katkov) expressed their opinions in "thick" journals. Zhukovsky also presented his solution of the peasant question.

Even though Zhukovsky directly participated in the development and implementation of the Emancipation Reform as an official of the tsarist government, he criticised the final outcome. Zhukovsky pointed out the indecisiveness of the government, which had to find a compromise between the necessary socio-economic transformation and the desired *status quo* of landed gentry [Zhukovsky, 1863, p. 175-176]. Such concessions in relation to the Reform caused dissatisfaction among the intelligentsia (including authors "thick" journals).

Zhukovsky acknowledged the significant influence of the French [Zhukovsky, 1862, p. 7] and English [Zhukovsky, 1862, p. 11–14] legal systems in the development of the Emancipation Reform. However, in his opinion, the direct borrowing of Western laws without taking into account the socio-economic conditions of Russia only harmed the economy and hindered economic development. According to Zhukovsky, the new set of laws only worsened the state of the peasants, once again turning their life into some kind of serfdom [Zhukovsky, 1862, p. 6].

Zhukovsky believed that the "material" (economic) conditions are the fundamental factor in economic development [Zhukovsky, 1862, p. 1]. Specifically, increasing the country's "productivity" is the necessary condition for overcoming backwardness [Zhukovsky, 1863, p. 182]. In the works of the 1860s and 1870s. Zhukovsky suggested several recommendations that were supposed to contribute to the economic development of the Russian Empire.

Firstly, Zhukovsky presumed that the effective organisation of labour (including peasant labour) is the key to the country's high productivity. Thus, he advocated increasing labour mobility, in particular in agriculture. The post-reform regulation of the hiring of rural workers made it difficult for peasants to move freely. The complex bureaucracy provided more room for corruption on the part of the landlords, given the low literacy rate of the peasant population. According to Zhukovsky, simplification of formal procedures and the ability to move freely around the country would make it possible to effectively distribute the labour force relative to the agricultural potential of the regions, and thereby increase the productivity of the country as a whole.

Secondly, Zhukovsky advocated institutional and cultural changes in the aristocratic environment. Despite his noble origins and upbringing, Zhukovsky viewed landed gentry as inefficient producers. The way of life of the nobility was associated with excessive luxury, which led to excessive spending, not supported by sufficient income. Zhukovsky believed that reforming

the life of the landed gentry would lay the necessary foundation for increasing productivity and overcoming economic backwardness.

The agrarian question of the 1860s was one of the reasons for the formulation of the mathematical interpretation of Ricardo's theory. Trying to support his ideas on economic development Zhukovsky turned to quantitative methods in political economy. Analysing the relationship between the "distribution of the product" and the "growth of civilization" (economic growth), Zhukovsky proposed using rent to stimulate economic development. Zhukovsky believed that rent should be considered not as a "resource for increasing individual incomes" (increasing the personal wealth of the population), but as a "natural fund" for financing and stimulating economic growth and supported his reasoning with Prussian statistics. Zhukovsky implied financing of public goods as the "productive" use of rent (e.g., the construction of roads, railways, financing research and development). He argued that rent should be considered as a "natural tax" in this situation. He also noted that the economy faced "serious consequences" (economic backwardness) in case of the unproductive use of rent, [Zhukovsky, 1871, p. 338].

Thus, while the Russian radical intelligentsia argued for the liquidation of the landed gentry as a class and rent as a phenomenon, Zhukovsky believed that the "unproductive use of rent" is the main reason for underdevelopment. Nevertheless, he abstained from practical recommendations on the withdrawal of rent from the landlords. This may be due to the tightening of censorship following the attempt on Alexander II in 1866, as well as the persecution of Zhukovsky personally.

Zhukovsky based his recommendations in economic development on the Western theories of political economy. Firstly, his view of material (economic) conditions as the foundation of the social development can be partly attributed to the interpretation of Bentham's philosophy and the understanding of "utility" as the fundamental determinant of all human activity [Zhukovsky, 1867, p. XXX]. Zhukovsky was convinced that this "materialistic" principle should be the basis of the social sciences in general and political economy in particular.

Secondly, Zhukovsky emphasised the role of market forces in the economic process, an idea he adopted from H. D. Macleod [Zhukovsky, 1864a, p. 244–245]. The latter argued that the value of a product depends on the relationship between its supply and demand [Zhukovsky, 1864a, p. 243]. Zhukovsky later noted that the cost of all production factors obtained through the corresponding market with certain exchange and natural values is subject to fluctuations resulting from the imbalance of supply and demand [Zhukovsky, 1871, p. 310]. This idea was also true for the cost of labour. Following classical of political economy, Zhukovsky considered labour to be the main factor in any production and, accordingly, a key element in economic development [Zhukovsky, 1863, p. 180]. Thus, based on Macleod's ideas, Zhukovsky suggested that the free movement of peasants (labour mobility) would satisfy the demand for labour in agriculture in accordance with the amount of arable land in the regions, which in turn would lead to an increase in the productivity of the Russian Empire.

Thus, Zhukovsky suggested several practical recommendations aimed at stimulating the economic development of the Russian Empire in the post-reform period. These recommendations included increasing labor mobility, institutional and cultural changes in the life of nobility, and the use of rent as a fund for economic development. Zhukovsky based his views on Western theories of political economy.

Contribution

1. The dissertation demonstrates the process of interaction between Russian and Western economic thought in Yu. G. Zhukovsky's works.

The dissertation complements the existing literature on the relationship between Russian and Western economic thought (e.g., [Avtonomov, 2021; Avtonomov, Hagemann, 2022]). The research shows that the development of Zhukovsky's ideas coincides with the existing understanding of relationship between economic science in Russia and in the West — based on the works of Western economists, Zhukovsky modified the ideas of classical political economy, approaching the ideas of marginalism. The thesis presents a detailed analysis of the mathematical interpretation of Ricardian theory, which contributes to the understanding of the reception of Ricardo's ideas in Russia described in modern literature (e.g., [Melnik, 2014; Smith, 2017]).

2. The thesis presents the systematisation of theories that had the greatest influence on the formation of Zhukovsky's economic ideas.

The dissertation contributes the existing literature on Zhukovsky's economic ideas (e.g., [Dmitriev, 2009; Dmitriev 2013]). The development of Zhukovsky's ideas was based on the reception of the theory of classical political economy (A. Smith, D. Ricardo), the ideas of Western proto-marginalists (H. D. MacLeod and J. H. von Thünen), as well as the philosophy of utilitarianism of J. Bentham.

3. The main stages in the development of Yu. G. Zhukovsky's economic views are determined.

The dissertation presents an analysis of the development of Zhukovsky's ideas, which complements the existing literature which either describe the evolution of Zhukovsky's views rather superficially (and focus more on his biography) (e.g., [Zhukovsky, 2001, p. 10 –14]), or present a chronological summary of Zhukovsky's main economic ideas (e.g., [Antonov, 2008]). The dissertation shows that Zhukovsky approached the vision of A. Marshall's vision of economic system.

4. The dissertation presents the analysis of proto-marginalist elements of Zhukovsky's ideas (in particular, presented in the analytical interpretation of Ricardo's theory).

The dissertation contributes to the research on the development of marginalism in Russia (e.g., [Makasheva, 2009; Dmitriev, 2022]), as well as to the characterisation of Zhukovsky as one of the predecessors of marginalism (e.g., [Dmitriev, 2009; Dmitriev 2013]) and the first Russian economist-mathematician (e.g., [Shukhov, Freidlin, 1996; Belykh, 2007]).

5. The practical application of the analytical interpretation of Ricardian theory is characterised as one of the earliest examples of the application of mathematics in political economy to solve the socio-economic challenges (i.e., issues of economic development).

The dissertation complements the existing literature on the mathematical interpretation of Ricardian theory, which previously paid more attention to the methodological aspects of the application of the mathematical apparatus in political economy (e.g., [Shukhov, Freidlin, 1996; Belykh, 2007]).

List of author's original articles

Works published in peer-reviewed scientific journals

1. Galeev A. (2022a). Proto-marginalist Approach in Russia: Yuli Zhukovsky's Interpretation of Ricardo. *The Journal of the New Economic Association*, No. 3, pp. 177–191.
2. Galeev A. (2022b). Yuli Zhukovsky's contribution to Russian debates on economic development of the 1860s-70s. *The European Journal of the History of Economic Thought*, Vol. 29, No. 6, pp. 1042–1051.
3. Galeev A. V., Melnik D. V. (2022a). Yuli Zhukovsky's Proto-marginalism and its Origins. *Voprosy teoreticheskoy ekonomiki*, No. 3, pp. 118–129. (In Russian).

Other works on the topic of PhD thesis

4. Galeev A. V. (2022). Development of proto-marginalism in Russia. In: V. S. Avtonomov, A. Ya. Rubinshteyn (eds.). *Svoystva cheloveka i metodologiya marzhinalizma v ekonomicheskoy teorii*. St. Petersburg: Aleteya, pp. 89–101. (In Russian).
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