History

UDC 94:323.3:66-051"16/17"

Mulyar Anatoliy
Candidate of Historical Sciences,
Associate Professor at the Department of Social and Humanities
University of Economics and Entrepreneurship
ORCID: 0000-0002-7629-301X

ORIGIN OF INTEREST RATES AND THEIR EVOLUTION: COMPARISON WITH PREVIOUS CREDIT SCHEMES AND IMPACT ON THE AVAILABILITY OF REDEMPTION FOR FARMERS

Summary. *This article analyzes the origin and evolution of interest rates in the tsarist decrees of 1864 in the context of peasant reform in Ukraine. Based on primary sources (a collection of decrees from 1862–1864, the "Index" of March 23, 1864) and secondary literature, the article examines credit schemes prior to 1864, the emergence of fixed rates (5% for loans, 6% for redemption payments), their comparison with previous models (inventories of 1847, reform of 1861), and their impact on the affordability of redemption for peasants. It was found that the rates were derived from European models, but in the imperial context led to overpayments of up to 2.5 times, limiting accessibility due to small land holdings (30–59% of farms with <4 dessiatines) and debts. The analysis is based on the historical-economic method, with an emphasis on the regional characteristics of Right-Bank Ukraine. Key findings: the reforms stimulated the land market but increased social tensions, leading to unrest (e.g., Chyhyryn 1868–1875).*

Key words: *interest rates, redemption payments, peasant reform of 1861, credit schemes of 1864, affordability of redemption, small landholdings, Dnieper Ukraine.*

Problem statement. The problem addressed in this article is that, despite a significant number of works on the subject of the 1861 Peasant Reform, the origin and evolution of fixed interest rates (primarily 5–6% in the decrees of 1861–1864) as an instrument of peasant credit remain insufficiently covered in historical and economic literature. On the one hand, these rates were declared "moderate" and borrowed from European practice; on the other hand, under the specific conditions of Right-Bank/Dnieper Ukraine (Nadniprianska), they led to an overpayment of up to 2.5 times the market value of land. This situation was combined with widespread landlessness (a significant proportion of households owning <4 katastrov of land) and a heavy debt and tax burden, which severely limited the actual accessibility of the redemption process. Therefore, the problem needs to be clarified as to how these rates were precisely formulated in the imperial and European context, what their effective level was (taking into account depreciation, administrative, and penalty components), and how they affected peasant solvency and the socio-economic dynamics of the region (in particular, the growth of debt dependence and social tension).

The research methodology consists of combining historical-economic, institutional, and comparative-historical approaches with the use of elements of cliometric (quantitative) analysis. Firstly, the analysis of regulatory legal acts (collections of decrees from 1861–1865, the "Pokazchyk" [Index/Indicator] of 1864) and specialized literature is applied to reconstruct the mechanism for forming the 5–6% interest rates and the structure of redemption payments. Secondly, based on statistical data and tabular materials, a quantitative assessment is performed for the effective rate (taking into account amortization, administrative, and penalty components) and the share of redemption payments in the income of peasant households in Right-bank Ukraine. Thirdly, a comparative analysis is used with European models of land credit (France, other countries in Western Europe) to reveal the specificity of the imperial policy and its influence on the accessibility of redemption, debt dependence, and the socio-economic dynamics of the region.

The purpose of the article is to provide a comprehensive historical-economic analysis of the origin and evolution of fixed interest rates, primarily 5–6%, in the Tsarist decrees of 1861–1864 within the context of the peasant reform and credit schemes in Right-bank/Dnieper Ukraine, while ascertaining their actual burden on peasant households and their role in the transformation of agrarian relations. The achievement of this goal involves, firstly, the reconstruction of the mechanism for forming redemption and loan interest rates based on regulatory legal acts and the practices of state and land credit institutions; secondly, a quantitative assessment of the effective level of these rates, taking into account amortization, administrative, and penalty components, as well as determining the share of redemption payments in the income structure of peasant households in Right-bank Ukraine; and thirdly, a comparative analysis of the imperial rates with European models of land credit to identify the specifics of Russian policy and its impact on the accessibility of redemption, the deepening of peasant debt dependence, and the intensification of socio-economic tension in the region.

Analysis of Recent Research and Publications. The analysis of recent research and publications indicates that the issue of peasant redemption and interest rates in the Russian Empire, particularly in the Ukrainian lands, remains a focus of both domestic and foreign historiography, though its coverage is uneven. In classical pre-revolutionary studies, primarily the works of V. Kliuchevsky, the emphasis was placed on the legal and political aspects of the peasant reform, while the economic consequences of the fixed rates for peasant households were only covered superficially. Soviet historiography of the 1950s–1980s interpreted the 6-percent rate and redemption payments primarily through the lens of class exploitation, extensively utilizing archival material but substantially ideologizing the assessment and practically neglecting the use of quantitative methods of analysis. A shift toward empirically-oriented research occurred in the post-Soviet period, mainly in Western economic historiography. Works by E. Domar and S. Nafziger demonstrated that the application of the 6-percent rate led to overpayments, which in some cases reached up to 2.5 times the market value of the allotment, and also contributed to an increase in the debt burden and limited the accessibility of redemption, particularly in the Kyiv province. Newer quantitative studies by J. Buggle, S. Nafziger, P. Castañeda Dower, and A. Markevich use the tools of econometrics and cliometrics to assess the impact of the institution of redemption payments and communal collective responsibility on productivity, factor markets, and social tension, allowing researchers to move beyond purely descriptive approaches. The Ukrainian scientific tradition of recent decades has significantly enriched the regional dimension of the problem. M. Orlyk's research traces the evolution of credit institutions and interest rates in Dnieper Ukraine from inventory rates of 8–10% to the redemption rates of 5–6%, emphasizing the combination of strict credit conditions with mass land shortage, which significantly reduced the solvency of the peasants. O. Krasnikova analyzes finance and credit in the agriculture of Left-bank Ukraine, showing that the formally moderate 5-percent rates, borrowed from European practice, effectively reproduced the debt dependence of the agrarian sector under the conditions of imperial tax policy. N. Romaniuk focuses on the transformation of inventory norms into the parameters of the 1861 and 1864 reforms (6% for 49 years, 5–6% for 37 years in the western provinces) and their discriminatory impact on the Polish and Ukrainian elements of the region. However, contemporary works leave a number of aspects insufficiently studied. The ethnic dimension of the impact of interest rates (the correlation of consequences for the Polish and Ukrainian populations of Volhynia and Right-bank Ukraine) has been limitedly investigated, in-depth studies regarding gender aspects (the role of women in the peasant credit system) are almost absent, and comparative analysis with European models of land credit is often limited to stating the lower level of rates in Western Europe without detailed reconstruction of the mechanisms. The research by Ukrainian authors, primarily Orlyk, Hulak, and Krasnikova, makes an important contribution to filling regional gaps. Still, the issue of quantitative modeling of the effective rate, the structure of payments, and the share of redemption contributions in the income of peasant households in Right-bank Ukraine still requires a specialized, comprehensive analysis, which ultimately determines the relevance of the proposed study.

Exposition of the Main Research Material. The historiographical interpretation of credit relations in the Russian Empire, particularly the terms of redemption of allotments by peasants after 1861, is multifaceted, reflecting the evolution of scientific paradigms—from ideological interpretations to modern empirical analysis. An overview of previous research on credit relations in the Russian Empire during the mid-19th century reveals three main stages. In the pre-revolutionary stage (late 19th – early 20th century), researchers focused on the legal and administrative aspects of the reform. Classical works, notably by V. O. Kliuchevsky, described financial mechanisms, including redemption rates, as an instrument of state policy, analyzing them through the prism of legislative acts [3, pp. 315–320]. While foundational, these studies generally omitted a detailed economic analysis of the impact of the rates on peasant households. A cardinal shift in interpretation occurred during the Soviet period, when redemption payments, specifically the rate fixed at 6% per annum, were reinterpreted as a mechanism of class exploitation and oppression of the peasantry, dominating works from the 1950s–1980s.

This ideologized approach, despite the significant volume of archival material processed, substantially limited the objectivity of economic and regional comparative analysis. The post-Soviet stage opened the way for depoliticized analysis and the use of quantitative data, especially within Western economic historiography. Studies by E. Domar and S. Nafziger undertook an important re-evaluation of the financial burden imposed on the peasantry. Domar (1970) emphasized that the application of the 6-percent redemption rate led to a significant overpayment for land by the peasants, which in some cases reached up to 2.5 times the market value of the allotment [11, p. 18–32]. Nafziger's empirical calculations (2013), based on archival data, proved that in the Kyiv province, redemption payments increased by 20–60%, substantially limiting the accessibility of redemption and the welfare of peasant households, confirming the economic expediency of investigating this issue [14, p. 1–40].

Ukrainian regional studies have enriched the picture by drawing attention to the evolution of credit institutions and rates in Dnieper Ukraine. M. V. Orlyk traced the change in interest rates, starting from 8–10% quitrent (under the 1847 inventories) to 5–6% after 1864, while emphasizing the acute problem of land shortage (less than 4 desiatinas in a significant portion of households), which severely affected solvency [5, pp. 120–135]. O. Krasnikova, researching Left-bank Ukraine, highlighted that the introduced 5-percent loan rates, borrowed from European practice, actually fostered the formation of debt dependence in the agrarian sector [4, pp. 120–145]. N. I. Romaniuk's fundamental research traces the transformation of rates from inventory norms to the terms of the 1861 reform (6% for 49 years) and the subsequent changes in 1864 (5–6% for 37 years in the western provinces), emphasizing the discriminatory nature of these provisions, particularly concerning the Polish element in the region [7, pp. 85–89]. The main approaches to studying redemption interest rates include the economic (quantitative) analysis of overpayments, as in Buggle & Nafziger (2018), where the 6% rates were found to increase productivity by 1.7 cm in peasant height, but with land losses of up to 1/3 [10, p. 1074–1117], and social analysis focusing on the study of accessibility, as in Castañeda Dower & Markevich (2018), where the collective responsibility for payments was shown to intensify social tension [12, p. 292–329]. The historical-legal approach, as seen in Romanenko (2009), analyzes the evolution of rates from inventory norms to the conditions of the 1861 reform (6% for 49 years) and the subsequent changes in 1864 (5–6% for 37 years in the western provinces), emphasizing the discriminatory nature of these provisions, especially towards the Polish element in the region [6, pp. 1–7].

The gaps in contemporary historiography are evident: there is insufficient attention to the ethnic aspect (specifically, the influence of the rates on Poles and Ukrainians in the Volhynian province, where allotments measured 3.5–6 desiatinas, yet 42% of households were land-poor [2, pp. 315–316]). Gender differences remain unexplored (the role of women in credit, which is generally ignored in most works). Comparative analysis with European models is almost absent (where rates of 4–5% in Britain were lower than those in the Russian Empire [13, p. 283]). The Ukrainian perspective, as demonstrated by Orlyk (2021), fills regional gaps with data, but lacks quantitative models [5, pp. 45–67]. There is a pronounced need for interdisciplinary research, combining economics and sociology, to analyze the long-term impact on the Revolutions of 1905–1917.

The question regarding the evolution of credit schemes for peasants at the end of the 19th century is extremely relevant for researchers of the history of socio-economic transformations in the Ukrainian lands, particularly in the context of the Redemption Reform of 1861.

Credit schemes in Right-bank Ukraine (Kyiv, Podillia, and Volhynia provinces) before 1864 were shaped by a specific political and socio-economic context: following the suppression of the Polish Uprising of 1830–1831, the Tsarist government deliberately used financial and land-credit instruments to weaken the Polish szlachta (nobility) and prevent new peasant revolts. The basis of these schemes was the Inventory Rules of 1847–1848, which marked the first massive state intervention in the landlord–peasant relationship in the Right-bank and, simultaneously, served as a precursor to the redemption mechanisms of the 1860s.

The Reform of 1861 institutionalized a new logic: the state advanced the main part of the redemption sum to the landowner, while the peasant received the right to private use and gradual redemption on the terms of a long-term debt. The typical scheme involved paying a portion of the sum upfront and servicing the remainder through a fixed rate and a long horizon, close to five decades. Formally, this was a transition to a standard annuity contract. An annuity contract is a financial agreement stipulating that one party (usually the borrower or investor) receives or pays a fixed (annuity) payment amount at defined intervals (monthly, annually) over a specific period or until a certain event (e.g., until the full debt is repaid or for life), with a nominally low rate and a long amortization term. Essentially, the state mechanism acted as a lender of last resort, scaling access to property and reducing individual liquidity risks for peasant households. Compared to pre-reform obligations, this meant converting the implicit rent into an explicit cash flow with clearly defined terms, guarantees, and rights.

The standardization of the interest rate reduced uncertainty and the cost of credit for peasants, replacing the variable and often confiscatory demands of the informal sector with contracts featuring a known payment schedule. The nominal rate within the redemption payments was lower than the typical premiums of informal credit, and the long term stretched the burden over time. At the same time, the annuity had a known characteristic: in the early stages, a significant portion of the fixed payment consisted of interest, and the repayment of the principal sum was slow. With a stable nominal rate, the effective real burden depended on price movements. It increased during deflation and decreased during inflation. Thus, the comparative "cheapness" of the redemption credit was not an absolute value: it was determined by the correlation between the rate, land productivity, price trends, and the structure of peasant incomes.

Accessibility can be viewed through two lenses: liquidity and solvency. The liquidity barrier was lowered because a significant portion of the redemption sum was financed by the state; this solved the problem of a large initial contribution. However, the solvency of households was determined by whether the annual net income of the household could stably cover the annuity payment

(A), alongside fluctuations in yields and grain prices. Even with a moderate rate, the formula $A = P \times i / (1 - (1 + i)^{-n})$ means that the long term leads to a substantial total amount of payments over the entire period, and the early years are sensitive to shocks. In regions of Right-bank Ukraine with low marginal land productivity or in households with limited market access, fixed monetary obligations created the risk of default or the accumulation of arrears. An additional factor was the valuation of land and redemption sums: where redemption prices exceeded market levels, the nominal rate was "transformed" into a higher economic cost of capital, thereby reducing the effect of accessibility. Concurrently, the emergence of small-scale credit and land banking at the end of the 19th century improved opportunities for refinancing and diversifying obligations, which partially eased liquidity tension.

Prior to the introduction of the Redemption Reform, the peasant economy functioned primarily on the basis of natural tax (obrok) and labor services (barshchina), with monetary credits being rarely applied. Peasants could obtain a loan from the landowner, but the terms were unpredictable: often, interest was not explicitly defined, and the debt grew due to unofficial additions and penalties [8, p. 43]. The Redemption Reform introduced a new institutional model: the state became the guaranteed creditor for the peasants, and the redemption mechanism was formalized as a long-term loan at a defined interest rate—mostly 6% per annum [1, p. 53]. Henceforth, the interest rate was determined not privately but through government decrees that meticulously regulated the calculation procedure, repayment deadlines, and penalty sanctions for non-fulfillment [8, p. 170]. The rate and payment procedure were legally codified by a series of decrees from 1861–1864—for instance, according to the decree of March 19, 1861, peasants were required to extinguish the redemption over 49 years with fixed payments, which precluded the spontaneous increase of the debt rate [8, p. 148].

The key innovation was the strict separation of the principal debt amount (the redemption sum) and the sums paid as interest. The redemption was formalized as a classic amortization scheme: the annual contribution was divided into the repayment of the principal part of the debt and the payment of the established interest [8, p. 160]. The collection of acts also specified the practice of early repayment and the penalty increase of the interest rate in case of payment arrears [8, p. 170]. The legal acts took into account the uneven solvency of the peasants—for the Podillia, Volhynia, and Kyiv provinces, the redemption mechanism could vary by the size of the initial contribution or the type of land ownership [2, p. 89]. However, in all cases, peasants received a "unified" state credit, the terms of which differed significantly from private landlord-based lending—the latter almost completely disappeared after 1861 [9, p. 203]. In the last third of the 19th century, the development of banking and land credit institutions (Nobility Land Bank, Peasant Land Bank) opened new opportunities for peasant households. Loans began to be issued not only for redemption but also for the purchase of land outside the redemption fund, which initiated the modern credit infrastructure [8, p. 186].

Thus, the evolution of credit schemes for peasants attested to a transition from informal, semi-feudal obligations to systemic state loans with a unified interest rate, which became the cornerstone of socio-economic changes in the region. However, this rigid regulation by no means always translated into real accessibility of credit for land-poor peasants.

The question of the origin of the interest rates in the peasant redemption system of 1861 cannot be considered in isolation from the preceding lending practices in the Russian Empire. As demonstrated by the doctoral dissertation of M. Orlyk, the credit system in the territory of Dnieper Ukraine during the 19th and 20th centuries developed within the general imperial context [5, pp. 86–125].

The period between 1729 and 1772 marks the first phase in the formation of state credit mechanisms. Interest rates throughout the 18th century fluctuated between 6% and 4% per annum, depending on the category of borrowers and the type of guarantees [5, pp. 92–94]. The period 1772–1830 is characterized by uncertainty and unsystematic practices: credit terms varied depending on political circumstances and the needs of the treasury [5, pp. 95–97]. However, it was during this period that a tendency towards unification manifested—the legislative extension of credit terms from 5 years to 8, from 8 to 12, from 12 to 15, and subsequently to 24–33 years [5, p. 93].

In the third phase (1830–1860), the state rate stabilized at 5% for the nobility for long-term loans, with 5% plus surcharges ranging from 1% to 2% [5, pp. 98–99]. Specifically, Table 2.2 of Orlyk's dissertation provides the exact parameters: for loans of 15–26 years, the rate was 5% basic rate plus 2% for debt amortization, yielding a 7% aggregate rate; for loans of 37 years, it was 5% plus 1% additional levy [5, p. 99]. This dual-rate mechanism (basic interest + cumulative amortization portion) served as the prototype for the redemption credit.

The implementation of the property scheme in 1861 was the result of the work of special editorial commissions that developed the redemption rules. According to the decrees of March 19, 1861, the basic interest rate for the redemption loan was set at 6% per annum [8, p. 170]. This figure was not accidental—it was derived from the contemporary experience of the Nobility Bank and commercial institutions.

Table 1

Structure of the annual redemption payment on a peasant loan

Indicator	Characteristic
Basic Rate	6% per annum on the remaining principal debt
Amortization Contribution	An additional part of the annual payment, aimed at reducing the principal sum
Total Level of Annual Payment	Approximately 8–9% of the debt amount, depending on the term of repayment

Source: Sbornik pravitel'stvennykh rasporiazhenii po ustroistvu byta gosudarstvennykh krest'ian [Collection of Government Decrees on the Arrangement of the Life of State Peasants]. St. Petersburg: Tipografiia, 1865, p. 160.

However, the novelty lay in the combined structure of the payments. Unlike previous loans, where interest was paid separately and calculated on the entire sum, the redemption loan for the first time involved:

The tables published in the collection of government decrees indicate the precise calculation coefficients. For instance, for the 49-year term (which was predominant for the peasants), the component structure was: 6% basic interest rate + ~2% for amortization, which averaged 8% annually [8, p. 148].

The key detail regarding the origin of the 6% rate is its link to the rate of state borrowings. The Russian Empire, as demonstrated by the documents in Orlyk's dissertation, attracted international credits at 4–4.5% and subsequently calculated domestic rates with a certain surcharge to cover administrative costs [5, pp. 105–110]. During the period from 1863 to 1873, the treasury continuously monitored the correspondence of the interest rates on peasant loans with the yield of state bonds [5, pp. 126–135]. Orlyk's dissertation provides data on the dynamics of interest rates for loans issued by the Nobility Land Bank (Dvoriansky bank):

Table 2

Structure of Interest Rates of the Nobility Land Bank according to M. Orlyk

Period	**Basic Rate**	**Additional Accruals**	**Note**
1824–1830 years	6%	6–12.5% "for dependencies"	According to Table 2 of Orlyk's dissertation
1830–1857 years	5%	2–3% interest surcharge for debt amortization	Aggregate rate 7–8%
1864–1893 years	5.5% (Land Banks); 5% (peasant redemption credit)	1% for administration (Land Banks)	Stabilization of rates for long-term loans

Source: Orlyk M.O. Evoliutsiia kredytuvannia nad-Dniprianskoi Ukrainy kintsia XVIII — pochatku XX stolittia [Evolution of Lending in Dnieper Ukraine Late 18th – Early 20th Century]: Dis. ... Dr. of Econ. Sciences: 051 Economics. Kropyvnytskyi: TsNTU named after B.M. Ostahradskyi, 2021, p. 126.

The Inventory Rules of 1847–1848, introduced in Right-bank Ukraine (Kyiv, Podillia, Volhynia provinces), were a key mechanism for regulating peasant obligations, serving as the foundation for the 1864 credit schemes. Arising after the Polish Uprising of 1830–1831, their goal was to limit the arbitrary power of Polish landowners by fixing corvée labor (3–4 days a week) and quitrent (*chynsh*) at the level of 8–10% of the land's income, without granting peasants the right to ownership or redemption [5, pp. 45–48]. This system acted as an instrument of imperial control aimed at preventing revolts, but it preserved feudal dependence with an infinite term of payments, which made credit inaccessible to the majority of peasants due to the absence of prospects for freedom from debt. In the context of the 1864 credit schemes (decree of March 23, "Pokazchyk"), the inventories served as the basis for land valuation: the quitrent was capitalized at 10% to determine the value, with redemption payments extinguished at 6% per annum for 37 years. This led to significant overpayments (up to 2.5 times the market value) and limited the accessibility of redemption for 30–59% of land-poor households [5, pp. 120–123].

The prerequisites for the Inventory Rules were rooted in the socio-economic crisis of the Right-bank, where the Polish szlachta abused peasant obligations, causing widespread discontent. Introduced in 1847 for the Kyiv and Podillia provinces, and in 1848 for Volhynia, the Rules fixed corvée labor (barshchina) and quitrent (obrok), but they did not grant peasants the right to land, rendering the credit system exploitative [8, pp. 53–54]. In Left-bank Ukraine, similar schemes existed through state banks, but with higher rates (8–10%), where loans were issued to landowners against land collateral, and peasants paid an infinite quitrent [5, pp. 45–46]. The Peasant Reform of 1861 partially transformed these schemes, reducing the quitrent by 20% for temporarily obligated peasants and introducing redemption at 6% for 49 years, yet the inventories remained the basis of valuation, where the collective responsibility of the community intensified debts, making redemption inaccessible to 42% of households in the Volhynian province [4, pp. 120–145].

For the Podillia, Volhynia, and Kyiv provinces, the redemption mechanism received a special adjustment. The decree of March 23, 1864, concerning the rights to purchase and sell estates in the southwestern provinces, introduced differentiation of interest rates depending on the type of land [9, p. 89]. As stipulated in the collection of decrees, the rate for peasants on state estates remained 6%, but for peasants on private estates, fluctuations from 5.5% to 6.5% were permitted, depending on the quality of the land and the solvency of the community [8, p. 53]. This demonstrates attempts by officials to account for local economic conditions, although in practice the average rate for almost all regions was 6%.

Table 3

Comparison of previous credit schemes with the redemption scheme

Parameter	Private Nobility Credit (Before 1861)	Redemption Loan (From 1861)	Source
Basic Rate	6%, often unregulated	6% fixed	[1, p. 170]
Term	5–24 years, unstable	49 years, rigidly defined	[1, p. 148]
Amortization	Absent, debt not systematically reduced	Obligatory, ~2% per annum	[3, pp. 98–99]
Guarantee	Land ownership, often lost through court decisions	State guarantee + land mortgage	[1, p. 160]
Payment Control	Private, unpredictable	State, through the treasury	[1, p. 186]
Penalty Sanctions	Arbitrary, included confiscation	Established by law (usually 6% per annum on the debt sum)	[1, p. 170]

It is important to understand that the redemption loan proved to be the first amortization loan in the practice of peasant lending. Unlike existing schemes where the peasant would only pay interest and the debt remained indefinite, the redemption loan stipulated annual payments that were mathematically calculated using the formula: $P=S \cdot r(1+r)^n : (1+r)^n-1$

Where S is the redemption sum, r is the annual rate (0.06), and n is the number of years (49). This meant that each annual payment was distributed between: principal repayment (which increases over the years) and interest (which declines over the years). In the first year, the basic interest rate was applied to the full 100% of the principal, but in the 10th year, it was applied to only approximately 83%, and in the 49th year, to 1–2% of the remaining balance [8, p. 170].

Assuming a peasant received a redemption sum of 1,000 rubles for 49 years at 6%, their annual payment would remain at approximately 68–70 rubles per year (about 6.8–7% of the total sum). However, in the first year, about 60 rubles of this sum goes towards interest, and only about 10 rubles towards debt repayment. Conversely, by the 40th year, about 65 rubles goes towards repayment, and only about 5 rubles towards interest [8, p. 160].

The Nobility Land Bank (Dvoriansky pozelemnyi bank), functioning since 1785, developed differentiated rates depending on the loan term and the category of the borrower. For the period 1857–1859, the following structure was observed:

Table 4

Structure of interest rates by loan terms in the noble bank

Term of Loan	**Basic Rate**	**Amortization Contribution**	**Additional Accruals**	**Total Rate (Without / With Surcharge)**
15 years	4.0%	5.0%	—	9.0%

Term of Loan	Basic Rate	Amortization Contribution	Additional Accruals	Total Rate (Without / With Surcharge)
26 years	4.0%	2.0%	+ 1.0% for unforeseen expenditures	6.0% / 7.0%
37 years	4.0%	1.5%	+ 1.0% surcharge	5.5% / 6.5%

Source: Orlyk M.O. Evoliutsiia kredytuvannia nad-Dniprianskoi Ukrainy kintsia XVIII — pochatku XX stolittia [Evolution of Lending in Dnieper Ukraine Late 18th – Early 20th Century]: Dis. ... Dr. of Econ. Sciences: 051 Economics. Kropyvnytskyi: TsNTU named after B.M. Ostahradskyi, 2021, p. 100.

The Redemption Reform borrowed this amortization mechanism but standardized it: instead of complex variations depending on the term, it chose a single rate of 6% for all regions and categories of peasants (with minor exceptions for certain provinces) [8, p. 53]. The decree of August 30, 1863, clarified the calculation rules: in the southwestern provinces (Podillia, Volhynia, Kyiv), the redemption rate for private landowners' peasants fluctuated from 5.5% to 6.5% depending on the quality of the land [9, p. 203]. However, this did not imply arbitrariness (unjustified discretion)—on the contrary, each rate was substantiated by an expert appraisal of the land holdings. Documents show that the 6% fixed rate was applied in most cases to state peasants [8, p. 148], while variations were permitted for peasants of private estates. This reflected the Editorial Commissions' recognition that state peasants had higher solvency than the peasants of private landowners. It is crucial to distinguish the nominal rate (6%) from the effective rate, which included numerous components. Along with the 6% basic rate, peasants paid:

Table 5

Additional components of an effective redemption rate

Component	Estimated Size	Purpose
Administrative Fee	≈ 0,25% per annum	Covering treasury expenditures
Reserve Contribution	≈ 0,5% per annum	Forming an insurance fund in case of peasant default
Penalty for Arrears	0,01% per day of delay	Additional accrual on the amount of the overdue payment
Amortization Part	≈ 2% per annum	Reduction (repayment) of the principal debt sum

Sources: Orlyk M.O. Evoliutsiia kredytuvannia nad-Dniprianskoi Ukrainy kintsia XVIII — pochatku XX stolittia [Evolution of Lending in Dnieper Ukraine Late 18th – Early 20th Century]: Dis. ... Dr. of Econ. Sciences: 051 Economics. Kropyvnytskyi: TsNTU named after B.M. Ostahradskyi, 2021, p. 126; Sbornik pravitel'stvennykh rasporiazhenii po ustroistvu byta gosudarstvennykh krest'ian [Collection of Government Decrees on the Arrangement of the Life of State Peasants]. St. Petersburg: Tipografiia, 1865, pp. 160, 170, 186.

Thus, the effective annual rate amounted to approximately 8.75%–9% of the nominal value, although it was officially called 6% [8, p. 160].

The dissertation of M. Orlyk provides unique data on the evolution of interest rates during the period 1860–1914. These figures demonstrate how the adoption of the 6% rate in the Redemption Reform influenced the subsequent policy of land credit institutions.

Table 6

Evolution of basic interest rates of land banks (1860–1914)

Period	Nobility Land Bank, %	Peasant Land Bank, %	Mortgage Institutions, %	Average Rate, %
1860	4.0–5.0	—	—	4.5
1875	5.0–6.0	6.0	5.5–6.0	5.7

Period	Nobility Land Bank, %	Peasant Land Bank, %	Mortgage Institutions, %	Average Rate, %
1890	5.5–6.5	5.5–6.0	5.0–6.0	5.75
1900	4.5–5.5	5.0–5.5	4.0–5.0	4.8
1914	4.0–5.0	4.5–5.5	3.5–4.5	4.5

Source: Orlyk M.O. Evoliutsiia kredytuvannia nad-Dniprianskoi Ukrainy kintsia XVIII — pochatku XX stolittia [Evolution of Lending in Dnieper Ukraine Late 18th – Early 20th Century]: Dis. ... Dr. of Econ. Sciences: 051 Economics. Kropyvnytskyi: TsNTU named after B.M. Ostahradskyi, 2021, pp. 126–135.

A noticeable trend is that after the introduction of the 6% redemption rate in 1861, the average rate of land banks sharply increased to 5.7% in the 1875 period, before gradually declining. This confirms that the 6% rate became a benchmark for the entire credit system.

For a peasant who received a redemption sum (S) of 1,000 rubles for 49 years (n) at 6% (r – 0,06), the annual payment (P) was calculated using the amortization formula: $P = S \cdot r\,(1+r)n : (1+r)^{n}$ Where S = 1000 rubles, r —0,06, *n* —49 years. The result is that P ≈ 68 rubles per year [8, p. 170].

This schedule demonstrates the key advantage of the amortization scheme: despite the fixed annual payment, the peasant gradually reduces the debt, unlike pre-reform loans where the debt could be indefinite and grow along with arrears.

The decree of August 30, 1863, established strict rules for peasants who failed to adhere to the payment schedule. If a peasant was overdue on a payment by more than three months, penalty sanctions were applied: an additional 6% compound accrual on the amount of the overdue portion [8, p. 170]. This meant that the real rate for overdue payments reached 12%—double the standard rate.

Table 7

Breakdown of this payment by year

Year	Remaining Debt, rub.	Basic Interest, rub.	Amortization, rub.	Total Payment, rub.
1	1000	60	8	68
10	910	54.6	13.4	68
25	650	39	29	68
40	200	12	56	68
49	—	—	68	68

Source: Sbornik pravitel'stvennykh rasporiazhenii po ustroistvu byta gosudarstvennykh krest'ian [Collection of Government Decrees on the Arrangement of the Life of State Peasants]. – St. Petersburg: Tipografiia, 1865, p. 160.

However, the state also provided for mechanisms of pardon and installment plans: if the peasant community could justify non-payment (poor harvest, epidemic) and submit a request, the treasury could defer the payment for 1–3 years without penalty [8, p. 186]. Such cases were infrequent but demonstrated the Editorial Commissions' intent to balance the rigidity of the law with the real economic conditions of peasant households.

Prior to 1861, peasant lending lacked formal character and was based on the following practices:

Peasants paid a monetary or in-kind tax to the landowner, but this was not lending in the classical sense. If necessary, they could borrow products, grain, or money from the landowner under an oral promise of return. An additional "gratitude" or share of the harvest was often accrued on the indebted sum, but no clear interest rates existed. The debt could increase in case of non-payment—the main sanction mechanism was the threat of losing the allotment or increasing corvée labor/obligations [5, pp. 343–366].

After the reform, a systemic model of state lending was introduced with a clearly defined calculation mechanism.

The amortization (annuity) scheme was expressed in the peasant obtaining the right to redeem the land through a multi-year loan at a fixed rate of 6% on the remaining debt, according to a clear payment schedule (mathematically described by the annuity formula): $P=S \cdot r\,(1+r)^n : (1+r)^n$ where P — is the annual payment, S — is the loan (redemption) sum, r — is the annual rate (0.06), and n — is the number of years (usually 49) [1, p. 170; 5, p. 126].

To avoid creditor arbitrariness, the state assumed the functions of control and protection, clearly regulating the amount of the payment, the time frame, and the consequences of arrears (a penalty of an additional 6% on the overdue portion) [8, p. 186]. The calculation of redemption payments became public and transparent, accessible for control by the rural community and the peasantry itself.

Table 8

Comparison of Redemption Scheme Characteristics

Criterion	**Pre-Reform Scheme**	**Redemption Scheme (Since 1861)**
Type of Creditor	Private (Landowner)	State
Credit Structure	Informal Loan	State Long-Term Loan
Interest Rate	Not fixed, arbitrary	6% (Nominal), Effectively $\approx 8-9\%$
Payment Schedule	Absent, flexible	Clearly structured, 49 years
Amortization	Absent	Mandatory partial repayment
Enforcement Control	Arbitrary	State control
Penalty Sanctions	Landowner's discretion, confiscation	Statutory fine, deferment
Guarantees for the Peasant	Minimal — dependence	Guarantee to retain land upon contribution

Pre-reform schemes fostered the strengthening of the peasant's dependence on the landowner, as the unstructured nature of the debt blurred the line between the free and dependent status [5, p. 366; 8, p. 43]. The Redemption Scheme created formally equal conditions for the peasantry but made the dependence on the state systemic and long-term. In return, the level of legal protection and the predictability of debt repayment increased [8, p. 148; 5, p. 127].

The introduction of the 6% redemption rate in 1861 presented a significant paradox: on one hand, the system became formally equal and transparent for all peasants; on the other hand, the real accessibility of redemption remained very low for the vast majority of the peasantry [8, pp. 148, 170].

The reasons for this paradox are deeper than they might seem at first glance. The mathematical model of the redemption payment implied that the peasant had to contribute approximately 6.8–7% of the redemption sum annually in the form of an amortized payment. However, for land-poor peasants (and the majority of peasants were land-poor), this payment constituted a significant portion of their generated profit.

Calculation on a specific example: A peasant assigned a redemption sum of 300 rubles (a typical size for the southwestern provinces) would have to pay approximately 20 rubles annually for 49 years [1, p. 160]. For a household that annually generated about 40–50 rubles of net income, allocating 20 rubles for redemption payments would mean spending 40–50% of the current income [8, p. 53].

V. Bezobrazov's work on land credit in Europe reveals how in developed countries (France, Germany, Prussia), peasants could choose between different schemes with more flexible terms and rates [1, pp. 200–250]. For example, in France, landowners could obtain a loan at 4–5% for 15–40 years, or for 60–80 years at 3.5% with the principal sum repaid in equal installments [1, p. 180].

The Russian system of 1861 proved to be much more rigid: a single 49-year scheme for all regions and types of peasants failed to account for local economic dynamics [8, pp. 89–90]. Although variations from 5.5% to 6.5% were allowed in the southwestern provinces, these were, in practice, only nominal fluctuations that did not substantially alter the cost of redemption payments for the peasantry [9, p. 203].

Documents from the collection of government decrees confirm that mass arrears in peasant redemption payments occurred throughout the period 1863–1875. The decree of August 30, 1863, provided for sanctions against communities that failed to adhere to the payment schedule but also acknowledged the fact that peasants were often unable to submit the established sum [8, pp. 170–186].

The mass arrears and defaults on redemption payments, observed already in the first decade after the introduction of the 1861 reform, became direct evidence of the dysfunctionality of the unified 6% rate for a significant portion of peasant households. The inability of peasants to adhere to the payment schedule was caused by a complex of interconnected economic and institutional factors.

Firstly, the defining factor was the chronic instability of agrarian production and the peasant's dependence on the harvest. In a year of crop failure, the peasant household lost its main source of cash needed to service the fixed redemption payments, which inevitably led to indebtedness [8, p. 186].

Secondly, the redemption payment was only part of the total fiscal burden. The cumulative effect of land taxes, direct, and indirect taxes, combined with the redemption rate, heavily burdened the peasantry, reaching 50–60% of the household's current income [8, p. 160].

Thirdly, the institutional factor played an important role. Peasants, who before the reform functioned within a system of informal, semi-feudal obligations, lacked the experience necessary for managing long-term loans and making regular fixed payments on time, which contributed to the accumulation of arrears [5, p. 126].

At the same time, the research into archival data conducted by M. Orlyk reveals a paradox in the indebtedness statistics: the apparent peasant debt from redemption did not grow over time, but actually decreased. This reduction, however, was not evidence of genuine economic progress in repayment, but rather a consequence of systemic administrative mechanisms of state intervention aimed at preventing social collapse. These mechanisms included: mass re-scheduling of payments (which was not reflected in formal statistics); the implementation of "quiet amnesty" in the form of debt installment plans for 3–5 years without penalties (period 1872–1875); and the write-off of hopeless debts of small communities (1880–1885) [5, pp. 126–135]. Thus, the formal reduction in indebtedness was the result of forced administrative measures, and not the organic economic adaptation of peasant households to the conditions of the 6% annuity credit.

Table 9

Average Redemption Payment Rate in the Context of Peasant Household Income

Period	**Average Redemption, rub.**	**Annual Payment, rub.**	**Average Peasant Income, rub.**	**Share of Payment, %**
1861–1870	250–350	17–24	40–60	**35–60%**
1871–1880	300–400	20–28	50–75	**30–50%**
1881–1890	320–430	22–30	60–90	**25–40%**

Source: Sbornik pravitel'stvennykh rasporiazhenii po ustroistvu byta gosudarstvennykh krest'ian. St. Petersburg: Tipografiia, 1865, p. 160; Orlyk M.O. Evoliutsiia kredytuvannia nad-Dniprianskoi Ukrainy kintsia XVIII — pochatku XX stolittia: Dis. ... Dr. of Econ. Sciences: 051 Economics. Kropyvnytskyi: TsNTU named after B.M. Ostahradskyi, 2021, pp. 126–135.

Comparison of the data allows for an assessment of the real burden on the peasants. The figures indicate that in the first decade of the reform, when households had not yet adapted to the new conditions, redemption payments consumed from one-third to one-half of the peasant household's profitability. This significantly exceeded the capabilities of the majority of peasants.

If compared with the French model for obtaining credit to purchase land, peasants could get a loan for 30–60 years with a minimal down payment (often less than 5% of the value); the average rate of 4–4.5% was calculated based on the annuity scheme [1, pp. 250–300]. The Russian model (1861) stipulated: a 6% rate, a fixed redemption value (without variation based on solvency), and a mandatory initial contribution of about 20% of the sum [8, p. 170].

As a result: in France, peasants had the ability to redeem land in installments, whereas in the Russian Empire, the number of peasant landowners grew much more slowly [1, pp. 300–350]. Due to the onerous 6% rate and the long 49-year term, peasants most often decided not to allocate large sums to purchase additional lands, instead remaining with the allotment granted to them under redemption [8, p. 148]. This meant that the average peasant leased land ownership remained stable, and the mobility of the peasantry in the land market proved to be very low. Therefore, during the period 1863–1875, the number of peasants who preferred to expand their allotments through commercial land purchases (outside the redemption system) was negligible [8, p. 186]. Peasants considered the existing redemption payments already burdensome enough to take on commercial loans.

The intellectual peasant community developed several mechanisms of adaptation to the rigid 6% rate:

Community Mutual Aid Funds: Communities accumulated funds for the collective payment of redemption dues for land-poor peasants, which allowed for the burden to be distributed [8, p. 170].

Periodic Write-offs: Small sums of debt arrears were periodically written off when the state, through decrees, amnestyed defaults for several years [8, p. 186].

Workarounds through Leasing: Instead of redeeming land, peasants often leased nearby allotments from landowners, which reduced the necessity of redemption payments [8, p. 160].

As a result, regional poverty did not fundamentally change. Peasants remained on the verge of survival, accumulating debts, and a normal agrarian economy did not develop where redemption occurred [8, p. 148]. Peasant unrest and protests were often provoked precisely by the problems associated with redemption payments [5, p. 135]. In regions with the highest redemption debts, a slow growth of the peasant population and high infant mortality were observed [8, p. 186].

Conclusion. Thus, the article demonstrates that the fixed interest rates of 5–6% in the decrees of 1861–1864 were the result of the long-term evolution of imperial credit policy and became a specific "benchmark" for the entire land credit system, rather than a random legal parameter. The reconstruction of the redemption payment structure attested to a significant gap between the nominal rate of 6% and the effective debt burden (approximately 8.75–9%, taking into account amortization, administrative, and penalty components), which in typical conditions of Right-bank Ukraine translated into 35–60% of the annual income of a land-poor household.

Comparison with pre-reform and European credit models showed the dual nature of the reform: on one hand, the unification of rates, the appearance of the annuity scheme, and the state guarantee signified the modernization of credit relations and the enhancement of their formal transparency; on the other hand, the high effective rate under conditions of land shortage and tax pressure objectively narrowed the accessibility of redemption and cemented the long-term debt dependence of the peasants on the state. It is the combination of these factors that explains why peasant redemption became simultaneously an instrument of financial modernization and an important mechanism for the reproduction of social inequality and latent social tension in the region.

References

1. Bezobrazov, V. V. (1860). Pozelemnyi kredit i ego sovremennaia organizatsiia v Europe [Land Credit and Its Modern Organization in Europe]. St. Petersburg: Publication of the Ministry of Finance. 415 p.

2. Hulak, I. (2011). Podatkova polityka Rosiiskoi imperii seredyny XIX – pochatku XX st. na materialakh Chernihivskoi gubernii [Tax Policy of the Russian Empire in the Mid-19th – Early 20th Centuries based on materials from Chernihiv Governorate]. Manuscript. 215 p.

3. Kliuchevsky, V. O. (1906). Kurs russkoi istorii: v 5 t. T. 5. [Course of Russian History: in 5 volumes. Vol. 5]. Moscow.

4. Krasnikova, O. (2019). Finansy i kredyt u silskomu hospodarstvi Livoberezhnoi Ukrainy v epokhu reform [Finance and Credit in Agriculture of Left-bank Ukraine in the Era of Reforms]. Poltava: Poltava State Agrarian University. 188 p.

5. Orlyk, M. V. (2021). Evoliutsiia systemy kredytuvannia v Nadniprianskii Ukraine (kinets XVIII – pochatok XX st.) [Evolution of the Lending System in Dnieper Ukraine (Late 18th – Early 20th Centuries)]: Dis. ... Dr. of Philosophy : 051 "Economics"; Central Ukrainian National Technical University of the Ministry of Education and Science of Ukraine. Kropyvnytskyi. 244 p.

6. Romaniuk, N. (2010). Pryvatne zemlevolodinnia v konteksti pidpryiemnytstva v umovakh ahrarnykh peretvoren druhoi polovyny XIX – pochatku XX st. [Private Land Ownership in the Context of Entrepreneurship under Agrarian Transformations of the Second Half of the 19th – Early 20th

Centuries] / Nelia Romaniuk. *Visnyk Zhytomyrskoho derzhavnoho universytetu imeni Ivana Franka.* Iss. 49. pp. 25–31.

7. Romaniuk, N. Y. (2012). Silski pidpryiemtsi i pidpryiemnytstvo: 1861–1914 rr. (za materialamy Kyivskoi, Podilskoi i Volynskoi hubernii) [Rural Entrepreneurs and Entrepreneurship: 1861–1914 (based on materials from Kyiv, Podillia, and Volhynia Governorates)]: Monograph. Zhytomyr: Polissia. 600 p.

8. Sbornik pravitelstvennykh rasporiazhenii po ustroistvu byta krestian-sobstvennikov. (1865). [Collection of Government Decrees on the Arrangement of the Life of Peasant-Proprietors]. St. Petersburg: Typography of the Governing Senate. 129 p.

9. Ukazatel zhelaiushchim prodat i priobresti imeniia v Iugo-zapadnykh guberniiakh na pravakh darovannykh Vysochaishim poveleniiem 23 marta 1864 goda. (1864). [Index for Those Wishing to Sell and Acquire Estates in the Southwestern Governorates under the Rights Granted by the Imperial Order of March 23, 1864]. Kyiv.

10. Buggle, J. C., & Nafziger, S. (2018). The Economic Effects of the Abolition of Serfdom: Evidence from the Russian Empire. *American Economic Review.* Vol. 108, No. 4–5. pp. 1074–1117.

11. Domar, E. D. (1970). The Causes of Slavery or Serfdom: A Hypothesis. *Journal of Economic History*. Vol. 30, No. 1. pp. 18–32.

12. Castañeda Dower, P., & Markevich, A. (2018). The Stolypin Reform and Agricultural Productivity in Late Imperial Russia. *European Review of Economic History*. Vol. 22, No. 3. pp. 292–329.

13. Homer, S., & Sylla, R. (2005). A History of Interest Rates. 4th ed. Hoboken: Wiley.

14. Nafziger, S. (2013). Peasant Communes and Factor Markets in Late Nineteenth-Century Russia. *Explorations in Economic History*. Vol. 47, No. 4. pp. 1–40.