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Methodology for the Assessment and Improvement of Accounting for Loss Allowances for Expected Credit Losses on Impaired Financial Assets under IFRS 9: the Case of Receivables of Ukrainian Agricultural Enterprises

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Abstract. *In conditions of martial law, macroeconomic instability, high credit risks, and deterioration in counterparties' solvency, the problem of reliably assessing receivables and forming reserves for expected credit losses becomes particularly urgent. However, traditional approaches to assessing reserves for doubtful debts do not fully meet the requirements of risk management and the predictive assessment of credit risks required by IFRS 9. This article aims to reveal the practical aspects of applying the expected credit loss measurement methodology under IFRS 9 "Financial Instruments" and to improve the primary, synthetic, and analytical accounting for loss allowances for impairment of financial assets, using the example of receivables of Ukrainian agricultural enterprises. The research methodology includes abstract-logical, monographic, comparative, and computational-constructive (including the ECL method provided for in IFRS 9 "Financial Instruments") methods, as well as a systematic approach, analysis, and synthesis. The article presents a simplified methodological approach to assessing expected credit losses based on payment history, receivables due dates, and analysis of counterparties' payment reliability. The authors proposed a system of color-coded debtors' credit risk zones based on ECL levels and signs of default. Also, they improved the organization of analytical accounting for financial assets by separating sub-accounts for expected credit losses directly on receivables accounts. An important part of the research results is samples of primary documents and analytical accounting registers developed by the authors for calculating and summarizing information on reserves for expected credit losses. The results of this study can be used to increase the reliability of financial reporting, improve risk management systems, strengthen the economic security of agricultural enterprises in Ukraine, and adapt national accounting practices to international financial reporting standards.*

Keywords: *IFRS, accounting, loss allowances for impairment of financial assets, receivables, expected credit losses (ECL), financial instruments, agricultural enterprises, synthetic and analytical accounting, primary accounting.*

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Методологія оцінки та удосконалення обліку резервів під очікувані кредитні збитки від знецінення фінансових активів за нормами МСФЗ 9: приклад дебіторської заборгованості агропідприємств України

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Анотація. *В умовах воєнного стану, макроекономічної нестабільності, високого рівня кредитних ризиків і погіршення платоспроможності контрагентів особливої актуальності набуває проблема достовірної оцінки дебіторської заборгованості та формування резервів під очікувані кредитні збитки. Однак, традиційні підходи до оцінки резервів сумнівних боргів не повною мірою відповідають вимогам ризик-менеджменту та концепції прогнозного оцінювання кредитних ризиків, передбаченої МСФЗ 9. Метою цієї статті є розкриття практичних аспектів застосування методології оцінки очікуваних кредитних збитків відповідно до МСФЗ 9 «Фінансові інструменти» та вдосконалення первинного, синтетичного та аналітичного обліку резервів на збитки від знецінення фінансових активів на прикладі дебіторської заборгованості українських сільськогосподарських підприємств. Методологія дослідження включає абстрактно-логічний, монографічний, порівняльний та обчислювально-конструктивний (включаючи метод ECL, передбачений МСФЗ 9 «Фінансові інструменти») методи, а також системний підхід, аналіз та синтез. У статті представлено спрощений методичний підхід до оцінки очікуваних кредитних збитків на основі історії платежів, строків виникнення дебіторської заборгованості та аналізу платіжної благонадійності контрагентів. Автори запропонували систему кольорових зон кредитного ризику дебіторів залежно від рівня ECL та ознак дефолту, а також удосконалили організацію аналітичного обліку фінансових активів шляхом виокремлення субрахунків резервів під очікувані кредитні збитки безпосередньо на рахунках обліку дебіторської заборгованості. Важливою частиною результатів дослідження є розроблені авторами зразки первинних документів і регістрів аналітичного обліку для розрахунку та узагальнення інформації про резерви під очікувані кредитні збитки. Результати цього дослідження можуть бути використані для підвищення достовірності фінансової звітності, удосконалення системи ризик-менеджменту та зміцнення економічної безпеки аграрних підприємств України, а також адаптації національної облікової практики до міжнародних стандартів фінансової звітності.*

Ключові слова: *МСФЗ, облік, резерви під знецінення фінансових активів, дебіторська заборгованість, очікувані кредитні збитки, резерви, фінансові інструменти, аграрні підприємства, синтетичний і аналітичний облік, первинний облік.*

INTRODUCTION

Reliable asset measurement is a key prerequisite for preparing objective financial statements, as it ensures a true and fair presentation of an enterprise's financial position, liquidity, and solvency. Distortion of asset values leads to misstatement of financial results, deterioration in the quality of managerial decision-making, and loss of confidence among investors, creditors, and other users of financial reporting.

The implementation of IFRS 9 "Financial Instruments" has intensified the challenge of developing a reliable methodology for measuring expected credit losses. Unlike the previous incurred-loss model, IFRS 9 introduces a forward-looking approach to credit risk assessment that considers future economic conditions, macroeconomic scenarios, and the probability of counterparty default.

The issue of measuring expected credit losses (ECL) and accounting for loss allowances for financial asset impairments becomes even more relevant under martial law in Ukraine and prolonged macroeconomic uncertainty, which significantly increases credit risk and complicates cash flow forecasting. Destruction of production and logistics infrastructure, temporary occupation of certain territories, export restrictions, inflationary processes, risks of asset losses, and deterioration in debtors' financial condition necessitate a revision of traditional approaches to measuring loss allowances for ECL. Under such conditions, standard measurement models adapted to a stable economic environment lose their relevance. At the same time, the application of professional judgment and scenario analysis becomes a key element in the preparation of accounting information. Therefore, the practical implementation of IFRS 9 requirements by Ukrainian agricultural enterprises is particularly relevant and timely, given the specific characteristics of Ukraine's agricultural sector and the current challenges of the wartime economy.

LITERATURE REVIEW

The methodological foundations, challenges, and hypotheses surrounding the application of expected credit loss assessment have been examined by numerous researchers, with a focus on the business and banking sectors. López-Espinosa et al. (2021) described early evidence on the effect of global regulation mandating a switch from loan loss provisioning (LLP) based on incurred credit losses (ICLs) to LLP based on expected credit losses (ECLs). Schutte et al. (2020) developed a methodology to calculate expected credit loss (ECL) using a transparent, modularised approach that utilizes three components: probability of default (PD), loss given default (LGD), and exposure at default (EAD). Allini et al. (2024) discuss ECL disclosures expected to provide greater transparency on credit risk and loan loss provisions, and also present the economic implications of the ECL model for firm performance.

At the same time, Breed et al. (2023) have developed the Forward-Looking IFRS 9 Methodology, focusing on incorporating macroeconomic and macroprudential information into the calculation of expected credit losses. They propose deriving a credit risk index from historical defaults to approximate the portfolio's default behavior. Miu and Ozdemir (2023) propose a model that more accurately captures credit losses, both in terms of Expected Credit Losses under IFRS-9 and Current Expected Credit Losses, and in unexpected tail events when measuring Credit Value at Risk. Pastiranová and Witzany (2022) tested and did not reject the hypothesis that the rules for establishing provisions for expected credit losses under IFRS 9 have a procyclical effect, using a sample of European Union member states for the period from the first quarter of 2015 to the third quarter of 2020.

Several Ukrainian researchers have also examined the theoretical and practical foundations for implementing IFRS 9 in accounting and reporting practice. In particular, Musiiets et al. (2024) examined the approaches of such banks of Ukraine as JSC CB PrivatBank, JSC State Export-Import Bank of Ukraine, and JSC Raiffeisen Bank to the assessment of expected credit losses in a period of high uncertainty and the development of strategies for managing the existing credit risk, which is strategically important for Ukraine. Melnyk and Moroz (2020) tested a comprehensive mathematical model for calculating the expected credit losses provision and proposed accounting entries to record it in the accounts. Snigurska (2017) explained the link between approaches to the classification of financial assets and the need to value assets for the purpose of establishing provisions, and outlined the key components of the provision calculation for each asset type.

Some researchers has examined the issue of establishing provisions and reserves within the accounting and analytical system of agricultural enterprises (Sadovska et al., 2026); the conceptual foundations of establishing reserves as an accounting object (Dubinina et al., 2017); contemporary challenges and prospects for the accounting of provisions (Kovalenko, 2023); methodological convergence of the accounting of provisions and sustainability reporting in Ukraine's post-war recovery strategy (Zamula & Travin, 2026); the formation of provisions for future expenses and payments in accounting and control systems as one of the ways to reduce business risks in a crisis, etc. (Predko, 2016); organisational aspects of internal control over corporate capital reserves (Demska, 2020), etc.

In this article, based on our previous research (Zhuk et al., 2022), we test the ECL approach using Ukrainian agricultural enterprises as a case study, in close conjunction with the refinement of impairment accounting for financial assets.

RESEARCH OBJECTIVE

This article aims to reveal the practical aspects of applying the expected credit loss measurement methodology in accordance with IFRS 9 "Financial Instruments" and to improve the primary, synthetic, and analytical accounting for loss allowances for impairment of financial assets, using the example of receivables of Ukrainian agricultural enterprises.

RESEARCH METHODOLOGY

The theoretical and methodological basis of the study comprises the fundamental principles of the dialectical method of cognition, in particular induction and deduction. To achieve the stated objective and accomplish the research tasks, the following methods were also applied: abstract-logical, monographic, comparative, and computational-constructive methods (including the ECL method provided for in IFRS 9 "Financial Instruments"), as well as system approach, analysis, and synthesis methods.

The information base of the study includes scholarly works of domestic and foreign researchers on accounting, analysis, reporting, and financial management; reference and methodological materials; materials of synthetic and analytical accounting of Ukrainian agricultural enterprises; materials of the Public Organization Federation of Auditors, Accountants, and Financiers of the Agro-Industrial Complex of Ukraine; as well as the authors' own observations.

RESULTS AND DISCUSSION

According to IFRS 9, an entity shall recognise a loss allowance for expected credit losses (ECL) on a financial asset (which shall be measured at amortised cost / at fair value through other comprehensive income), a lease receivable, a contract asset or a loan commitment and a financial guarantee contract (including loan commitments other than those loan commitments; commitments to provide a loan at a below-market interest rate) (IFRS Foundation, 2026).

Thus, "expected credit losses – is the weighted average of credit losses with the respective risks of a default occurring as the weights. An entity shall measure ECL of a financial instrument in a way that reflects:

– an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes;

– the time value of money;

– reasonable and supportable information that is

available without undue cost or effort at the reporting date about past events, current conditions, and forecasts of future economic conditions" (IFRS Foundation, 2026).

Settlement operations are undoubtedly among the most important objects of accounting, accounting for the majority of an enterprise's cash flows. At the same time, they are exposed to inflation, currency, credit, and market risks, as well as risks of non-payment and non-fulfillment of obligations, which become particularly aggravated under martial law in Ukraine. Therefore, there is a need to reconsider approaches to measuring receivables and recording related transactions within the accounting system.

According to IFRS 9 "Financial Instruments", when determining default for the purpose of assessing the risk of its occurrence, an entity shall apply a definition of default that is consistent with the definition used for internal credit risk management purposes for the relevant financial instrument and shall, where appropriate, consider qualitative indicators (for example, financial covenants) (IFRS Foundation, 2026).

For the security-oriented transformation of receivables accounting, we propose interpreting default as a probability-weighted event that entails the risk of non-payment and credit losses, requiring the application of different measurement bases and the use of significant professional judgment.

There are two approaches to applying the expected credit loss model. The *general approach* applies to all financial assets measured at amortized cost or fair value, as well as to issued loan commitments and financial guarantee contracts.

When measuring *ECL*, the following components are taken into account: probability of default (*PD*), loss given default (*LGD*), and exposure at default (*EAD*):

$$ECL = PD * LGD * EAD \qquad (1)$$

According to practitioners' opinions, one disadvantage of this methodology is the complexity of developing internal models to estimate default probabilities and its orientation toward the Basel capital concept. Therefore, given the complexity of applying this methodology to each debtor, we propose a simplified methodological approach to measuring ECL based on payment history and the application of significant professional accounting judgment.

For financial assets, a credit loss represents the present value of the difference between:

– the contractual cash flows that are due to an entity under the contract; and

– the cash flows that the entity expects to receive (IFRS Foundation, 2026).

At the same time, when applying the above calculation, it is important to take into account the aging of receivables and repayment terms, which enables the expected credit loss rate to be determined for each separate group of debtors. Taking into consideration the contractual practices of Ukrainian agricultural enterprises, we consider it appropriate to calculate the expected credit loss rate (ECL) for the following aging periods of receivables:

– for receivables outstanding for more than 2 years (ECL_2):

$$ECL_2 = 1 - (\frac{\sum_{i=1}^{n} repaid_{i_2}}{\sum_{i=1}^{n} total_{i_2}}), \qquad (2)$$

where $\sum_{i=1}^{n} repaid_{i_2}$ – the total amount of repaid receivables for the period exceeding 24 months;

$\sum_{i=1}^{n} total_{i_2}$ – the total nominal value of the financial asset (receivables) exceeding 24 months;

n – the number of debtors;

– for receivables outstanding for 1–2 years (ECL_1):

$$ECL_1 = ((1 - (\frac{\sum_{i=1}^{n} repaid_{i_1}}{\sum_{i=1}^{n} total_{i_1}}) \cdot ECL_2), \qquad (3)$$

where $\sum_{i=1}^{n} repaid_{i_1}$ – the total amount of repaid receivables for the period of 13–24 months;

$\sum_{i=1}^{n} total_{i_1}$ – the total nominal value of the financial asset (receivables) outstanding for 13–24 months;

n – the number of debtors;

– for receivables outstanding for up to 1 year (ECL_0):

$$ECL_0 = ((1 - (\frac{\sum_{i=1}^{n} repaid_{i_0}}{\sum_{i=1}^{n} total_{i_0}}) \cdot ECL_1), \qquad (4)$$

where $\sum_{i=1}^{n} repaid_{i_0}$ – the total amount of repaid receivables for the period of up to 12 months;

$\sum_{i=1}^{n} total_{i_0}$ – the total nominal value of the financial asset (receivables) with an ageing period of up to 12 months;

n – the number of debtors.

When assessing whether recognition of ECL over the lifetime is required, an entity shall consider reasonable and supportable information available without undue cost or effort that may affect the credit risk associated with a financial instrument (IFRS Foundation, 2026).

It should be noted that, in addition to considering the ECL indicator, it is also appropriate to apply an analysis of the payment reliability rating, which involves taking into account:

– the value of rejected and returned products;

– the amount of penalties for failure to comply with contractual deadlines;

– claims history;

– the frequency of breaches of contractual terms.

According to this method, we propose classifying all debtors into three threshold levels and assigning them to color-coded payment reliability zones (Figure 1).

Let us consider the proposed approach using the example of the agricultural enterprise "ABC" (a real agricultural enterprise in Ukraine, the name of which is not disclosed to preserve the commercial confidentiality of both the enterprise and its counterparties) (Table 1).

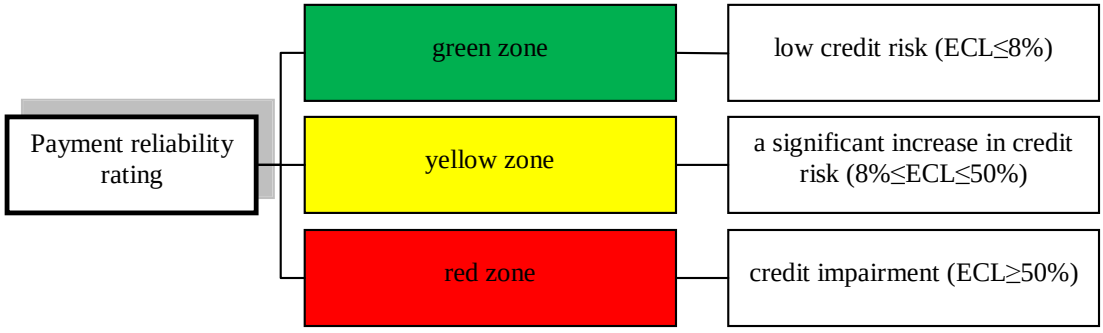

Figure 1. Characteristics of color-coded zones based on ECL and the payment reliability rating of debtors

Source: developed by the authors.

Table 1. Initial data for calculating ECL on settlements with buyers and customers, as of 01.04.2026

Indicator		Counterparty A_1	Counterparty A_2	Counterparty A_3
Amount of receivables by aging period, thousand UAH	up to 12 months	732 612,50	135 750,00	147 750,00
	13–24 months	58 362,50	36 024,00	-
	more than 24 months	64 525,00	-	-
Amount of repaid receivables by aging period, thousand UAH	up to 12 months	507 891,50	246 974,00	180 870,00
	13–24 months	37 095,00	-	-
	more than 24 months	18 600,00	30 232,50	-

Source: calculated by the authors based on the internal reporting and accounting registers of the agricultural enterprise.

Based on the above data, the amount of ECL will be as follows:

$$ECL_2 = 1 - \left(\frac{\sum_{i=1}^{n} repaid_{i_2}}{\sum_{i=1}^{n} total_{i_2}}\right) = 1 - \left(\frac{18600{,}00+30232{,}50}{64525{,}00}\right) = 0.2432, \text{ or } 24.3\ \% -$$

for the period exceeding 2 years or 24 months;

$$ECL_1 = \left((1 - \left(\frac{\sum_{i=1}^{n} repaid_{i_1}}{\sum_{i=1}^{n} total_{i_1}}\right) \cdot ECL_2\right) = \left((1 - \frac{37095{,}00}{58362{,}50+36024{,}00}\right) \cdot 0.2432 = 0.1476, \text{ or } 14.76\ \% -$$

for the period of 1–2 years or 13–24 months;

$$ECL_0 = \left((1 - \left(\frac{\sum_{i=1}^{n} repaid_{i_0}}{\sum_{i=1}^{n} total_{i_0}}\right) \cdot ECL_1\right) = \left((1 - \frac{507891{,}50 + 246974{,}00 + 180870{,}00}{732612{,}50 + 135750{,}00 + 147750{,}00}\right) \cdot 0.1476 = 0.0117,$$

or 1.17% for the period of up to 1 year or 12 months.

The effective organization of primary, analytical, and synthetic accounting for transactions involving financial assets is an important prerequisite for generating complete, timely, and reliable information on receivables, financial instruments, cash, and other assets of agricultural enterprises. Primary accounting ensures documentary evidence of business transactions and provides the basis for controlling settlements with counterparties. In contrast, analytical accounting enables the detailed classification of information by types of financial assets, repayment periods, levels of credit risk, and categories of debtors. Synthetic accounting, in turn, provides generalized data for presentation in financial statements and for the formation of an information base for managerial decision-making.

The proper organization of accounting is particularly important in the formation of ECL loss allowances under IFRS 9 “Financial Instruments”, as the quality of the accounting system determines the ability to identify the risks of non-repayment of financial assets on time. For agricultural enterprises, this issue is critical due to the seasonal nature of production, dependence on external markets, high operational risks, and the impact of wartime factors on counterparties' solvency. Imperfections in accounting procedures or insufficient detail in analytical accounting may lead to the understatement of loss allowances and to distortions in asset measurement and financial results, negatively affecting the reliability of financial reporting and the effectiveness of the enterprise management system.

We have developed a primary document and an analytical accounting register that will serve as the basis for the security-oriented recording of transactions involving financial assets in accordance with the proposed approach, including:

- Calculation of Loss Allowance Rates for Expected Credit Losses (Appendix 1).
- Calculation of Loss Allowance Rates for Expected Credit Losses for Holding-Type Counterparties (Appendix 2).
- Consolidated Statement of Loss Allowances for Expected Credit Losses (Appendix 3).

The need to use two forms of the Calculation of Loss Allowance Rates for ECL is determined by the specific nature of data sources used to assess potential credit losses for counterparties of different organizational and legal forms. In particular, for domestic buyers, households, and state/municipal companies, a key source is payment history. In contrast, for holding-type counterparties, the assessment is based on securities yield indicators and the dynamics of financial market indicators.

The simplified approach is applied to trade receivables, contract assets, and lease receivables. For such financial assets, at each reporting date, a loss allowance is recognized equal to lifetime ECL. As a rule, for calculation purposes, entities use a provision matrix, which is analogous to the methodology proposed in the National Accounting Standard (NAS) of Ukraine 10 "Receivables" for the creation of an allowance for doubtful debts (The Ministry of Finance of Ukraine, 2020). Under such a matrix, loss allowances are calculated for receivables grouped by aging period and payment delinquency terms. The source data for provision matrices generally consists of historical information on overdue payments and write-offs of bad receivables. However, in the absence of detailed guidance in IFRS 9 "Financial Instruments", approaches to calculating provisioning percentages in such matrices may differ significantly depending on the availability and quality of historical data.

According to the current National Accounting Standard (NAS) 10 "Receivables", current receivables that constitute a financial asset (except for acquired receivables and receivables held for sale) are included in the balance sheet at net realizable value. To determine the net realizable value at the reporting date, an allowance for doubtful debts is calculated (The Ministry of Finance of Ukraine, 2020), for the accounting of which Account 38 "Allowance for Doubtful Debts" is designated (The Ministry of Finance of Ukraine, 2025).

First of all, in our opinion, the current title "Allowance for Doubtful Debts" does not meet the requirements of risk management and the strengthening of enterprise economic security, since the very concept of "doubtfulness" should be considered from the perspective of covering ECL arising from non-fulfillment or partial fulfillment of contractual obligations. Moreover, under IFRS 9, the requirements for the recognition, measurement, and accounting of transactions involving financial assets, from a risk management perspective, all financial asset transactions may represent a potential source of economic risk. Therefore, it is advisable to introduce separate subaccounts for loss allowances for ECL within receivables accounts, while the practical relevance of using Account 38 "Allowance for Doubtful Debts" would disappear. At the same time, we propose applying the default approach provided in IFRS 9, which allows for greater analytical detail, given the need to calculate loss allowances for ECL with different probabilities of non-payment (Figure 2).

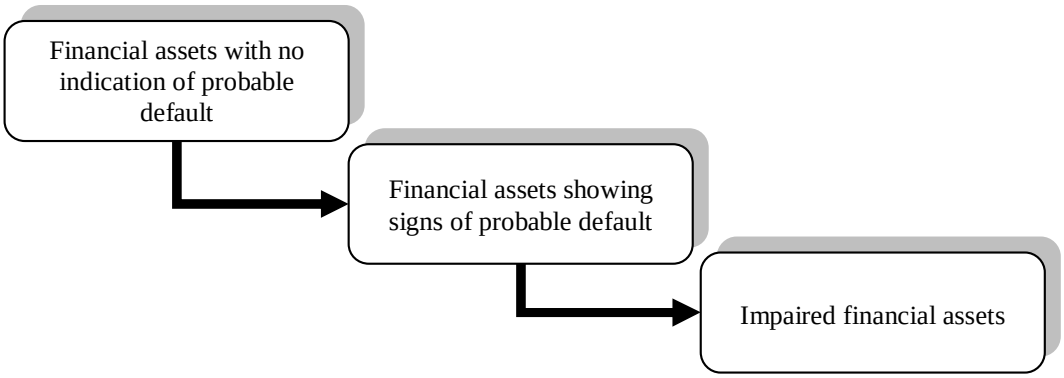

Figure 2. Levels of analytical representation of risks arising from ECL from transactions involving financial assets

Source: (IFRS Foundation, 2026).

The logic of such analytical detailing lies in the need to accumulate information on both the value of the financial asset itself (active account/subaccount) and the loss allowance for expected credit losses (contra-asset analytical account).

We believe that at the initial stage of developing a security-oriented accounting policy for an agricultural enterprise, it is appropriate to apply the proposed approach to long-term receivables, settlements with buyers and customers, and other debtors (Table 2).

Table 2. Proposals for the structure of accounting accounts in the context of the security-oriented recording of transactions involving specific financial assets

Current approach (the Chart of Accounts)		Proposed approach	
Code	Name	Code	Name
1	2	3	4
18	Long-term receivables	18	Long-term receivables
181	Receivables for property transferred under finance lease	181	Receivables for property transferred under finance lease
		181.1	*Nominal value of the financial asset arising from settlements for property transferred under finance lease**
		181.11	*Loss allowance for expected credit losses on financial assets without signs of default*
		181.12	*Loss allowance for expected credit losses on financial assets with signs of default*
		181.13	*Loss allowance for credit-impaired financial assets*
		181.14	*Discounting effect of long-term receivables for property transferred under a finance lease*
Subaccounts 182, 183		The same as for Subaccount 181	
36	Settlements with buyers and customers	36	Settlements with buyers and customers
361	Settlements with domestic buyers	361	Settlements with domestic buyers
		361.1	*Nominal value of the financial asset arising from settlements with domestic buyers and customers**
		361.11	*Loss allowance for expected credit losses on financial assets without signs of default*
		361.12	*Loss allowance for expected credit losses on financial assets with signs of default*
		361.13	*Loss allowance for credit-impaired financial assets*
		361.14	*Discounting effect of receivables from settlements with domestic buyers*
Subaccounts 362, 363, 364		The same as for Subaccount 361	
37	Settlements with various debtors	37	Settlements with various debtors
373	Settlements on accrued income	373	Settlements on accrued income
		373.1	*Nominal value of the financial asset arising from settlements on accrued income**
		373.11	*Loss allowance for expected credit losses on financial assets without signs of default*
		373.12	*Loss allowance for expected credit losses on financial assets with signs of default*
		373.13	*Loss allowance for credit-impaired financial assets*
		373.14	*Discounting effect of receivables from settlements on accrued income*
Subaccounts 374, 375, 377, 379		The same as for Subaccount 373	

**According to the requirements of IFRS 9 "Financial Instruments".*

Source: developed by the authors based on the Chart of Accounts for accounting of assets, capital, liabilities, and business operations of enterprises and organizations (The Ministry of Finance of Ukraine, 2025).

By applying the proposed approach, it becomes possible to synthesize a system of account correspondences for the security-oriented recording of transactions involving financial assets, in particular settlements with debtors (Table 3).

Table 3. Proposals for accounting transactions involving financial assets (settlements with debtors) in the system of accounting accounts

No.	Description of business transaction	Basis (primary document)	Account correspondence	
			Debit	Credit
1	Revenue from the sale of agricultural products recognized	Contract, consignment note)	*361.1 "Nominal value of the financial asset arising from settlements with domestic buyers and customers"*	701 "Revenue from sales of finished products"
2	Reduction of revenue by the amount of VAT	Tax invoice	701 "Revenue from sales of finished products"	641 "Settlements for taxes"
3	Recognition of loss allowances for expected credit losses at the reporting date:			
3.1	– for counterparties with low credit risk	Calculation of Loss Allowance Rates for Expected Credit Losses	944 "Doubtful and bad debts"	*361.11 "Loss allowance for expected credit losses on financial assets without signs of default"*
3.2	– for counterparties with a significant increase in credit risk		944 "Doubtful and bad debts"	*361.12 "Loss allowance for expected credit losses on financial assets with signs of default"*
3.3	– for credit-impaired assets		944 "Doubtful and bad debts"	*361.13 "Loss allowance for credit-impaired financial assets"*
4	Reclassification of a counterparty at the reporting date due to changes in default indicators	Calculation of Loss Allowance Rates for Expected Credit Losses	*361.12 "Loss allowance for expected credit losses on financial assets with signs of default"*	*361.11 "Loss allowance for expected credit losses on financial assets without signs of default"*

Source: developed by the authors based on the Chart of Accounts for accounting of assets, capital, liabilities, and business operations of enterprises and organizations (The Ministry of Finance of Ukraine, 2025).

The financial statements at the reporting date will present information on the nominal value of financial assets and the amount of loss allowances for expected credit losses, which will provide the basis for determining the net realizable value of receivables and including it in the balance sheet total.

CONCLUSIONS

The conducted study confirmed that under the implementation of IFRS 9 "Financial Instruments", the issue of measuring expected credit losses and forming loss allowances for impairment of financial assets becomes particularly relevant for enterprises of the agro-industrial complex of Ukraine. Wartime challenges, macroeconomic instability, disruptions in logistics chains, risks of non-payment, and deterioration in counterparties' financial condition significantly increase uncertainty in the measurement of receivables and require the development of security-oriented accounting approaches.

The results of this study include improved methodology for measuring ECL based on payment history, receivable aging periods, and professional accounting judgment, as well as a justification for the counterparties' payment reliability ratings. The proposed system for the analytical recording of loss allowances for expected credit losses directly within financial asset accounts allows information to be detailed by credit risk level and signs of default. In addition, specialized primary documents and analytical accounting registers developed by the authors to calculate loss allowances for expected credit losses and to summarize information on financial assets enhance the analytical, control, and informational functions of accounting.

Agricultural enterprises can apply the proposed approaches to developing a security-oriented accounting policy in credit risk management and financial asset measurement. The use of improved accounting accounts, analytical subaccounts, primary documents, and accounting registers will enhance the reliability of receivables measurement, ensure the timely recognition of loss allowances for expected credit losses, and improve the quality of financial reporting. The practical implementation of the proposed recommendations will strengthen the economic security of agro-industrial enterprises, and adapt national accounting practices to IFRS.

Prospects for further research include the development of digital models for measuring expected credit losses using artificial intelligence and Big Data technologies, the improvement of default forecasting methodologies under wartime economic conditions, and the development of industry-specific approaches to credit risk assessment for different categories of agro-industrial enterprises.

Declaration of Conflicting Interests

The authors declared their affiliation with the journal in which this article is published as editors. For this reason, the article was reviewed by external independent experts under a separate editorial procedure.

CRediT Author Statement

Stanislav Vasylishyn: Conceptualization, Writing – Original Draft, Supervision; **Inna Gryshova:** Methodology, Data Curation, Writing – Review and Editing; **Nataliia Zhuk:** Validation, Visualization, Data Curation, Writing – Review and Editing; **Yuliia Nezhyd:** Resources, Software, Writing – Review and Editing.

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Appendix 1

«ABC» LTD
(Enterprise name)

Identification Code (USREOU) *XXXXXXXX*

CALCULATION OF LOSS ALLOWANCE RATES FOR EXPECTED CREDIT LOSSES FOR GROUP "A" DEBTORS as of *«01» April 2026*

Basis for calculation *Payment history*
Significant judgments *Analysis period – previous 2 years*

Counter-party	Analytical data on receivables (contract, etc.)	Saldo as of 31.12.2025	Ageing period of receivables by periods, thousand UAH:				Saldo as of 31.12.2024	Ageing period of receivables by periods, thousand UAH:		
			up to 12 months	13-24 months	more than 24 months	more than 36 months		up to 12 months	13-24 months	more than 24 months
A_1	Contract No. 00353 dated 05 June 2018	835 475.00	732 612.50	58 362.50	35 000.00	9 500.00	480 500.00	390 520.00	64 980.00	25 000.00
A_2	Contract No. 00271 dated 10 March 2018	171 774.00	135 750.00	36 024.00	-	-	250 232.50	220 000.00	-	30 232.50
A_3	Contract No. 00403 dated 31 October 2018	147 750.00	147 750.00	-	-	-	180 870.00	180 870.00	-	-

Amount of repayments by periods, thousand UAH			ECL, %			Analytical account code
12 months	13-24 months	more than 24 months	up to 1 year	1-2 years	more than 2 years	
350 270.00	37 095.00	18 600.00	1.17%	14.76%	24.32%	361.11, 181.11
246 974.00	-	30 232.50				
180 870.00	-	-				

Prepared by *Settlement accountant* _____ *Surname, first name*
Checked by *Chief accountant (CFO)* _____ *Surname, first name*

Appendix 2

«ABC» LTD
(Enterprise name)

Identification Code (USREOU) *XXXXXXXX*

CALCULATION OF LOSS ALLOWANCE RATES FOR EXPECTED CREDIT LOSSES FOR HOLDING-TYPE COUNTERPARTIES
GROUP OF DEBTORS "HOLDING 'A' COUNTERPARTIES"

as of *«01» April 2026*

Basis for calculation *Adjusted yield on corporate bonds*

Significant judgments *Consideration of reliable data sources; data range – the most recent year*

Indicator	Arithmetic operation	Value	Data source
Nominal coupon yield rate of Holding "A" bonds	x	18%	Prospectus
Risk-free securities rate (U.S. government securities)	subtraction	2%	Financial market data
Conditional direct investment risk in Ukraine	subtraction	4.5%	According to Bloomberg data
Conditional risk related to maturity period	subtraction	2.8%	According to Bloomberg data
Conditional risk of investing in Company A securities, additional investor return	subtraction	4%	Analytical data of the Economic Security Service (ESS)
Net credit risk	x	***5%***	x
Analytical accounting code	x	***361.11***	x

Prepared by *Settlement accountant* _____ *Surname, first name*
Checked by *Chief accountant (CFO)* _____ *Surname, first name*

Appendix 3

«ABC» LTD
(Enterprise name)

Identification Code (USREOU) *XXXXXXX*

CONSOLIDATED STATEMENT OF LOSS ALLOWANCES FOR EXPECTED CREDIT LOSSES

as of *April* 2026

No	Group of financial assets	Counterparty	Analytical data on receivables (contract, etc.)	Signs of debtor default	Financial asset account	Group of debtors	Nominal amount of receivables at the reporting date	Amount of discount / effect of cash flow discounting	Expected loss / credit loss rate	Amount of loss allowance as of 30.04.2026	Amount of loss allowance as of 01.01.2026	Amount of creation/reversal of loss allowance	Account for loss allowances for ECL	Basis for calculating expected credit losses
1	Long-term receivables (1040)	A	*Contract No. XX dated XX.XX.XXXX*	Low credit risk	183.3	Group "A" debtors	560 000.00	258 000.00	24.32%	55 310.11	43 250.12	12 059.99	183.11	Payment history
2	Receivables for products, goods, works, and services (1125)	A	*Contract No. XX dated XX.XX.XXXX*	Low credit risk	361.1	Group "A" debtors	460 000.00	–	0.37%	2 628.26	4 280.00	–1 651.74	361.11	Payment history
		B	*Contract No. XX dated XX.XX.XXXX*	Significant increase in credit risk	361.1	State / municipal companies	85 000.00	–	9%	7 650.00	4 281.00	3 369.00	361.12	Payment history
		C	*Contract No. XX dated XX.XX.XXXX*	Low credit risk	361.1	Holding "A" counterparties	985 000.00	–	5%	49 250.00	42 500.00	6 750.00	361.11	Adjusted yield on corporate bonds
		D	*Contract No. XX dated XX.XX.XXXX*	Credit-impaired asset	362.1	Other companies	18 000.00	–	100%	18 000.00	1 500.00	16 500.00	362.13	Payment history
		E	*Contract No. XX dated XX.XX.XXXX*	Low credit risk	377.1	State / municipal companies	46 000.00	–	6%	2 760.00	1 500.00	1 260.00	377.11	Adjusted yield on domestic government bonds
		F	*Contract No. XX dated XX.XX.XXXX*	Low credit risk	377.1	Households	28 500.00		10.00%	2,350.00	2,700.00	150.00	377.11	NBU statistics on household loans
		G	*Contract No. XX dated XX.XX.XXXX*	Significant increase in credit risk	362.1	Group "A" debtors	50 000.00	–	18.31%	9,157.30	852.12	8,305.18	361.12	Payment history
3	Receivables on accrued income (1140)	C	*Contract No. XX dated XX.XX.XXXX*	Low credit risk	373.1	Holding "A" counterparties	8 000.00	–	5%	400.00	430.00	–30.00	373.11	Payment history
4	Notes receivable (1120)	A	*Contract No. XX dated XX.XX.XXXX*	Low credit risk	341.1	Group "A" debtors	50 000.00	5,000	0.57%	257.11	980.00	–722.89	341.11	Payment history
	TOTAL	x	x	x	x	x	**2 290 500.00**	**263 000.00**	x	**143 262.79**	**102 293.24**	**45 969.55**	x	x

Prepared by *Settlement accountant* _____ *Surname, first name*

Checked by *Chief accountant (CFO)* _____ *Surname, first name*