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ASSESSING THE FINANCIAL CAPACITY OF AGRICULTURAL ENTERPRISES TO SUPPORT SUSTAINABLE DEVELOPMENT

Abstract. This article develops an approach to assessing the financial capacity of agricultural enterprises to support sustainable development. Profitability alone does not show whether an enterprise can finance the next production cycle, meet its obligations on time and allocate resources to long-term improvements. The article proposes combining analysis of capital structure, liquidity, profitability and operating cash flow with calendar-based planning of receipts and payments and assessment of financing needs. It outlines a process for translating accounting data into management decisions and identifies the limitations of financial indicators in sustainability assessment. The practical value of the approach lies in its focus on decisions concerning working capital, credit, leasing and investment.

Keywords: financial capacity, agricultural enterprises, sustainable development, financial resources, cash flows, information and analytical support.

INTRODUCTION.

Sustainable development of an agricultural enterprise depends not only on its production results but also on its ability to preserve operational continuity, withstand financial shocks and invest in improvements over time. A business may report a profit while lacking cash to purchase inputs for the next season; it may also have sufficient liquidity but postpone investments that are important for productivity, resource efficiency or adaptation. For this reason, financial capacity should be assessed as the ability to combine current solvency with the potential to finance future activity.

Agriculture makes this assessment particularly important. Expenditure on seeds, fertilisers, fuel, machinery maintenance and labour often precedes the main receipts from product sales. The timing of receipts is influenced by harvest conditions, market prices, storage and logistics, while debt repayments and other obligations may follow fixed schedules (*OECD & FAO, 2025*). The resulting mismatch between cash inflows and outflows can create financing pressure even when annual operating results appear satisfactory. Financial analysis therefore needs to reflect both the amounts and the timing of resources.

PURPOSE AND METHODOLOGICAL BASIS.

The purpose of the article is to substantiate a practical framework for assessing the financial capacity of agricultural enterprises to support sustainable development and to show how its results can be incorporated into information and analytical support for financial resource management. The framework is based on synthesis of financial-

analysis methods and a process-oriented interpretation of accounting and management information. It is a methodological proposal rather than an empirical assessment of a named enterprise; therefore, the article does not present invented financial results or claim that the framework has already been statistically validated.

1. FINANCIAL CAPACITY AS AN ECONOMIC CONDITION OF SUSTAINABLE DEVELOPMENT.

Financial capacity is broader than the amount of cash available on a particular date. It includes the resources an enterprise can mobilise, the cost and maturity of external financing, the stability of operating cash generation and the flexibility to respond to unexpected events. It should be distinguished from profitability, which measures the result of activity over a period, and liquidity, which focuses on the ability to meet short-term obligations. These characteristics interact, but none can replace the others.

For example, an enterprise can be profitable while experiencing a cash deficit because customers have not yet paid or a large volume of funds is tied up in inventories. Another enterprise may maintain a high current ratio but have low profitability and ageing equipment, limiting its ability to invest. A third may use debt successfully to finance productive equipment, provided that the expected cash flows are sufficient to service the debt. Consequently, the evaluation should identify not only whether the enterprise is financially stable today but also whether its financing structure is consistent with the operating cycle and future plans.

The link with sustainable development is multidimensional. Financial resources can support investments in energy-efficient equipment, storage, water management, soil protection and safer working conditions. At the same time, short-term financial pressure may force managers to postpone maintenance or reduce spending that is important for future resilience. The Food and Agriculture Organization of the United Nations treats productive and sustainable agriculture as a combination of economic, environmental and social dimensions, rather than as an exclusively financial result (*Food and Agriculture Organization of the United Nations [FAO], 2014*). Financial capacity should therefore be considered an enabling condition for sustainability, not a complete measure of it.

2. INDICATORS FOR ASSESSING FINANCIAL CAPACITY.

A useful assessment combines several indicators because each reflects a different aspect of the enterprise's condition. The proposed framework groups them into four blocks: capital structure, short-term solvency, operating performance and cash generation. Their interpretation should be based on comparable periods and the enterprise's production specialization (*Dono et al., 2021*).

The equity ratio characterises the degree of financing independence and the enterprise's ability to absorb losses without an immediate increase in dependence on creditors. The debt-to-equity ratio complements it by showing the relative scale of

liabilities. Neither indicator should be used as a universal threshold without context. Borrowing for seasonal working capital differs from borrowing for long-lived assets, and a manageable level of debt depends on interest rates, repayment terms and the reliability of expected cash flows.

Table 1. Indicators for assessing the financial capacity of agricultural enterprises

Block	Indicator / calculation	Analytical purpose	Caution in interpretation
Capital structure	Equity ratio = equity / total assets	Shows the share of assets financed by equity.	A high ratio does not automatically mean that capital is used efficiently.
Debt burden	Debt-to-equity = liabilities / equity	Shows dependence on borrowed and other external funds.	Consider interest cost, maturity and purpose of liabilities.
Liquidity	Current ratio = current assets / current liabilities	Assesses coverage of short-term obligations.	Inventories and overdue receivables may not convert quickly into cash.
Profitability	ROA = net profit / average assets × 100%	Measures the return generated by assets.	Interpret over several periods and account for unusual yields or prices.
Cash generation	Operating cash flow / current liabilities	Relates cash from operations to short-term obligations.	Seasonality and reporting date may substantially affect the result.

Source: developed by the author based on general financial-analysis methods.

The current ratio is useful as an initial liquidity signal, but its value depends on the composition of current assets. Agricultural inventories may include inputs, growing crops or harvested products that will be sold at different times. Receivables may be overdue or concentrated among a small number of buyers. Thus, a more complete assessment should consider receivables ageing, inventory turnover and the expected timing of sales proceeds. The date of calculation matters: the liquidity position before harvest may differ considerably from that after sales.

Return on assets connects the financial result with the resources used to generate it. A decline can reflect higher input costs, lower selling prices, lower yields or inefficient asset use. However, one reporting period may be distorted by weather, market volatility or one-off expenditure. Trends across several periods, combined with an explanation of the underlying causes, provide a more reliable basis for decisions.

Operating cash flow is particularly important because accounting profit does not necessarily mean that cash has been received. If an enterprise repeatedly reports profits

but has weak operating cash flow, management should examine payment delays, inventory accumulation, cost increases and settlement terms. The cash-flow measure should be interpreted alongside the production calendar (*IFRS Foundation, 2021*) rather than as a stand-alone annual figure.

3. SEASONAL CASH-FLOW PLANNING AND FINANCING CHOICES.

To reflect the specific features of agriculture, ratio analysis should be supplemented with a calendar of expected receipts and payments. Such a calendar should identify major sales receipts, purchases of inputs, wages, taxes, interest, loan principal and planned capital expenditure. It should distinguish confirmed receipts from estimates and show which payments are fixed by contract and which may be rescheduled. The purpose is to detect a potential cash deficit before it becomes an overdue liability.

The calendar also provides a basis for matching the financing instrument to the need. Short-term credit may be appropriate for a temporary seasonal gap when expected sales proceeds will arrive before repayment. Long-term borrowing is more suitable for investments that generate benefits over several production periods. Leasing may help acquire equipment without a large initial payment, but its total cost, payment schedule and contractual obligations must be assessed. Internal funds reduce dependence on creditors, yet committing all available cash to investment can leave insufficient working capital for the next cycle.

Scenario analysis can strengthen the process. A baseline scenario reflects the most reasonable assumptions about output, prices, input costs and payment timing. An adverse scenario can model lower selling prices, reduced yields, delayed customer payments or higher input costs. The purpose is not to forecast every possible event, but to identify which obligations become difficult to meet and what financial buffer is required. This approach makes the assessment forward-looking rather than purely retrospective.

Importantly, financing decisions should be evaluated by more than the nominal interest rate. Relevant criteria include the timing of payments, maturity, flexibility, collateral requirements, exposure to currency or interest-rate changes and the effect on future cash availability. A cheaper instrument may be unsuitable if its repayment date falls before the enterprise expects to receive revenue. The best option is the one that fits the purpose and risk of the financing need while preserving operational continuity.

4. INFORMATION AND ANALYTICAL SUPPORT FOR MANAGEMENT DECISIONS.

The proposed framework can be integrated into information and analytical support through five connected stages: (1) collecting and checking accounting and management data; (2) calculating comparable indicators; (3) interpreting changes against prior periods and the production calendar; (4) linking identified risks to possible management actions; and (5) monitoring the results after a decision has been implemented. This sequence turns financial information into a recurring management process rather than a one-off calculation.

At the data stage, financial statements should be complemented, where available, by bank records, debt schedules, receivables ageing, inventory data and a forecast of planned payments. At the analysis stage, formulas and reporting periods should remain consistent. A change in a ratio should then be investigated: rising debt may result from investment or from persistent operating losses, while falling liquidity may be caused by seasonal input purchases or by worsening collection of receivables. These causes imply different responses.

For example, if the forecast shows a seasonal cash deficit but the enterprise expects sufficient receipts after harvest, management may compare a short-term credit facility with rescheduling supplier payments. If the deficit persists across periods and operating cash flow remains weak, the problem may be structural and require changes to costs, asset use or the financing model. If profitability falls while liquidity remains adequate, the immediate priority may be analysing margins and production costs rather than obtaining additional credit.

Digital spreadsheets or dashboards can help consolidate data, visualise trends and flag indicators that require attention. Nevertheless, software does not guarantee sound analysis. Inconsistent data, poorly selected indicators or failure to account for seasonality can make a dashboard misleading. The information system should be designed around the decisions managers need to make, with transparent formulas, defined data sources and regular updates. Analytical tools support professional judgement; they do not replace it.

5. LIMITATIONS AND DIRECTIONS FOR FURTHER RESEARCH.

The proposed approach has limitations. Financial ratios are influenced by accounting policies, asset valuation, inflation and the selected reporting date. Comparisons between enterprises can be misleading where production specialisation, scale, capital intensity or market access differs. In addition, financial indicators do not directly measure soil quality, water use, emissions, biodiversity or employee well-being. These dimensions require separate indicators and data sources. FAO's framework for sustainable agriculture similarly combines economic, environmental and social aspects (*FAO, n.d.*).

The framework should therefore be treated as the financial component of a broader sustainability assessment. Its practical application requires testing on actual financial statements and management data from agricultural enterprises with different production profiles. Further research should examine how seasonal cash-flow indicators can be integrated with non-financial sustainability measures and whether the combined system improves the selection of financing sources and the timing of investment.

CONCLUSIONS.

Financial capacity is an important condition for sustainable development because it determines whether an agricultural enterprise can meet current obligations, finance

the next production cycle and invest in resilience. A balanced assessment should combine capital structure, liquidity, profitability and operating cash flow rather than rely on one indicator.

The article's practical contribution is a framework that combines financial ratios with seasonal cash-flow planning, scenario analysis and a sequence for converting accounting data into management decisions. It can support choices concerning working capital, credit, leasing and investment, provided that the indicators are interpreted in context. The approach does not replace environmental and social assessment; rather, it offers a financial foundation for a more comprehensive evaluation of sustainable development.

REFERENCES / СПИСОК ДЖЕРЕЛ

1. Dono, G., Buttinelli, R., & Cortignani, R. (2021). Financial sustainability in Italian farms: An analysis of the FADN sample. *Agricultural Finance Review*, 81(5), 719–745. <https://doi.org/10.1108/AFR-07-2020-0107>.
2. Food and Agriculture Organization of the United Nations. (n.d.). Indicator 2.4.1: Proportion of agricultural area under productive and sustainable agriculture. FAO SDG Indicators Data Portal. <https://www.fao.org/sustainable-development-goals-data-portal/data/indicators/Indicator2.4.1-proportion-of-agricultural-area-under-productive-and-sustainable-agriculture>.
3. Food and Agriculture Organization of the United Nations. (2014). Building a common vision for sustainable food and agriculture: Principles and approaches. <https://www.fao.org/3/i3940e/i3940e.pdf>.
4. IFRS Foundation. (2021). IAS 7: Statement of cash flows. <https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards/english/2021/issued/part-a/ias-7-statement-of-cash-flows.pdf>.
5. OECD & Food and Agriculture Organization of the United Nations. (2025). OECD-FAO agricultural outlook 2025–2034. OECD Publishing. <https://doi.org/10.1787/601276cd-en>.