

Behavioral Economics in Cyberspace
Practical Work No. ←

Application of behavioral finance theory to the analysis and modeling of enterprise activities

Performed by students of group IA-401

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INTRODUCTION

The current conditions of global socio-economic instability require enterprises not only to be highly efficient in managing financial resources, but also to be able to adapt to uncertainty and behavioral factors that influence management decisions.

The purpose of this work is to apply the theory of behavioral finance to the analysis and modeling of the activities of two enterprises of different scale and regional context: **the Ukrainian enterprise "House of Life "Stolichny"** and **the Norwegian company Odda-Produkt**. Comparison of enterprises operating in different economic environments allows us to assess how behavioral factors manifest themselves under different market conditions and cultural management models.

The work carries out a comprehensive assessment of the financial condition of enterprises, which includes an analysis of the dynamics of key performance indicators, property and capital structure. Profitability and profitability indicators, the level of financial stability, financial security and the probability of bankruptcy are studied. Based on the results of the analysis, recommendations are formulated regarding the financial development strategy, taking into account the specific behavioral aspects of financial decision-making by enterprise management. Special attention is paid to the creation of anti-crisis instruments capable of ensuring stability in periods of global economic risks.

TASK 1. Carry out a general assessment of the financial condition of the enterprise

Analysis of the dynamics of key performance indicators

OJSC "Stolichny", Ukraine in thousand UAH

| | Value at the end of the period/ for the reporting period | Value at the beginning of the period/ previous period | Absolute deviation, Ÿ indicator, -/+ , thousand UAH | Relative deviation, Growth rate, % |
|-----------------------------------|---|---|--|--|
| Assets | 20,500 | 18,000 | +2,500 | +13.9 |
| Net income | 14,200 | 12,000 | +2,200 | +18.3 |
| Operating expenses | 11,600 | 10,200 | +1,400 | +13.7 |
| Financial result: Net profit/loss | 2,600 | 1,800 | +800 | +44.4 |

During the reporting period, there was growth of the company's assets by almost 14%, indicating an expansion resource base. Net income increased faster than operating expenses (18.3% against 13.7%), resulting in a net profit increased by 44.4%.

This indicates improvement.
profitability of activities and
efficiency improvement
use of CP resources
"House of Life"
"Capital".

Analysis of the dynamics of key performance indicators
Odda-Product, Norway in thousand kroner

| | Value at the end of the period/ for the reporting period | Value at the beginning of the period/ previous period | Absolute deviation, ÷ indicator, -/+ thousand UAH | Relative deviation, Growth rate, % |
|-----------------------------------|---|---|--|--|
| Assets | 36,800 | 35,000 | +1 800 | +5.1 |
| Net income | 30,800 | 29,500 | +1 300 | +4.4 |
| Operating expenses | 28,400 | 27,000 | +1 400 | +5.2 |
| Financial result: Net profit/loss | 2,400 | 2,500 | ÷100 | ÷4.0 |

According to the results of the analysis of the Odda- Product KP, there is a moderate growth in assets (+5.1%) and net income (+4.4%), however operating costs are increasing further faster (+5.2%).

As a result, net profit enterprises decreased by 4%, indicating deterioration financial performance results and decrease operational activities.

Analysis of the condition and structure of the
property of OJSC "Stolichny", Ukraine in thousand UAH

| Показники | На початок року | На кінець звітного періоду | Зміна (+,-) |
|--|-----------------|----------------------------|-------------------|
| Всього майна (валюта балансу), в тому числі: | 18 000 | 20 500 | +2 500 |
| 1. Необоротні активи: в сумі; в % до вартості майна | 10 500; 58,3 % | 11 800; 57,6 % | +1 300; -0,7 в.п. |
| 2. Оборотні активи: в сумі; в % до вартості майна з них: | 7 500; 41,7 % | 8 700; 42,4 % | +1 200; +0,7 в.п. |
| 2.1. Матеріальні оборотні активи: в сумі; в % до оборотних активів | 4 200; 56,0 % | 4 600; 52,9 % | +400; -3,1 в.п. |
| 2.2. Грошові кошти і поточні фінансові вкладення: в сумі; в % до оборотних активів | 1 100; 14,7 % | 1 400; 16,1 % | +300; +1,4 в.п. |
| 2.3. Кошти в розрахунках та інші активи: в сумі; в % до оборотних активів | 2 000; 26,7 % | 2 400; 27,6 % | +400; +0,9 в.п. |
| 2.4. Витрати майбутніх періодів: в сумі; в % до оборотних активів | 200; 2,7 % | 300; 3,4 % | +100; +0,7 в.п. |
| 3. Необоротні активи, утримувані для продажу, та групи вибуття | 0 | 0 | 0 |

During the period under study, the value of the company's assets increased by UAH 2.5 million, while the share of non-current assets decreased slightly, and current assets increased.

This indicates an increase in asset mobility. The structure of current assets has improved due to an increase in cash receivables, which creates reserves for the expansion of operating activities.
and

Analysis of the condition and structure of property
 Odda-Product, Norway in thousand kroner

| Показники | На початок року | На кінець звітного періоду | Зміна (+,-) |
|---|-----------------|----------------------------|-------------------|
| Всього майна (валюта балансу), в тому числі: | 35 000 | 36 800 | +1 800 |
| 1. Необоротні активи: в сумі; в % до вартості майна | 21 000; 60,0 % | 22 500; 61,1 % | +1 500; +1,1 в.п. |
| 2. Оборотні активи: в сумі; в % до вартості майна з них: | 14 000; 40,0 % | 14 300; 38,9 % | +300; -1,1 в.п. |
| 2.1. Матеріальні оборотні активи: в сумі; в % до оборотних активів | 8 000; 57,1 % | 8 400; 58,7 % | +400; +1,6 в.п. |
| 2.2.Грошові кошти і поточні фінансові вкладення: в сумі; в % до оборотних активів | 2 500; 17,9 % | 2 400; 16,8 % | -100; -1,1 в.п. |
| 2.3.Кошти в розрахунках та інші активи: в сумі; в % до оборотних активів | 3 000; 21,4 % | 3 100; 21,7 % | +100; +0,3 в.п. |
| 2.4.Витрати майбутніх періодів: в сумі; в % до оборотних активів | 500; 3,6 % | 400; 2,8 % | -100; -0,8 в.п. |
| 3.Необоротні активи, утримувані для продажу, та групи вибуття | 0 | 0 | 0 |

The value of the property of the Odda- Product Communal Enterprise increased by 1.8 million kroons, while the share of non-current assets increased to 61.1%, and the share of current assets decreased slightly.

It is advisable for the enterprise to optimize inventory levels and strengthen cash flow management to prevent a working capital deficit.

Capital analysis

OJSC "Stolichny", Ukraine in thousand UAH

| Indicators | At the beginning of the year | At the end reporting period | Change (+,) |
|--|------------------------------|-----------------------------|----------------------|
| 1. Total capital, including: 2. Equity: | 18,000 | 20,500 | +2,500 |
| in the amount; in % of the cost of capital | 11,000; 61.1% | 13,000; 63.4% | +2,000; +2.3 v.p. |
| 2.1. Availability of own working capital 3. Borrowed | 500 | 1,200 | +700 |
| capital: in the amount; in % of the cost of capital including: | 7,000; 38.9 % | 7,500; 36.6% | +500; -2.3 v.p. |
| 3.1. Long-term loans: in the amount; in % of loan capital | | | |
| 3.2. Short-term loans: in the amount; in % of loan capital | 3,000; 42.9 % | 3,200; 42.7% | +200; -0.2 v.p. |
| 3.3. Accounts payable and other settlements: in the amount; in % of loan capital | 2,000; 28.6 % | 2,100; 28.0% | +100; -0.6 v.p. |

The structure of loan capital did not change significantly; accounts payable increased slightly .

It is advisable for the enterprise to continue to increase the share of equity and control the level of short-term liabilities and accounts payable in order to prevent deterioration of solvency.

Capital analysis

Odda-Product, Norway in thousand kroner

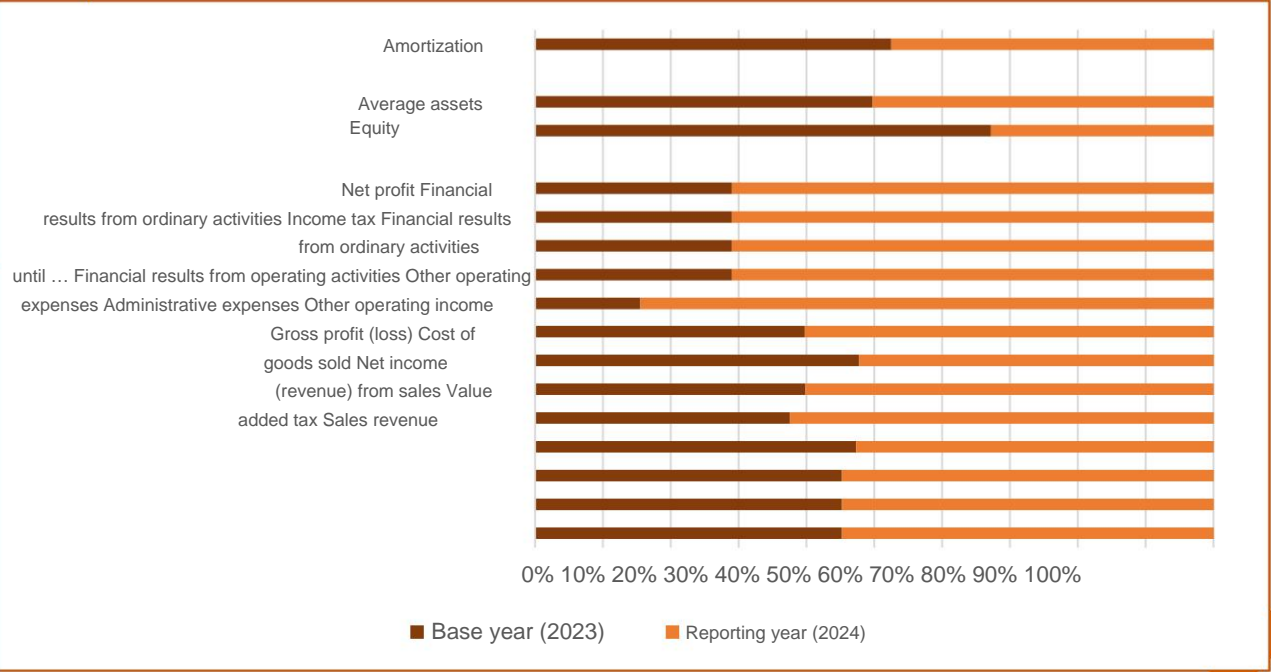
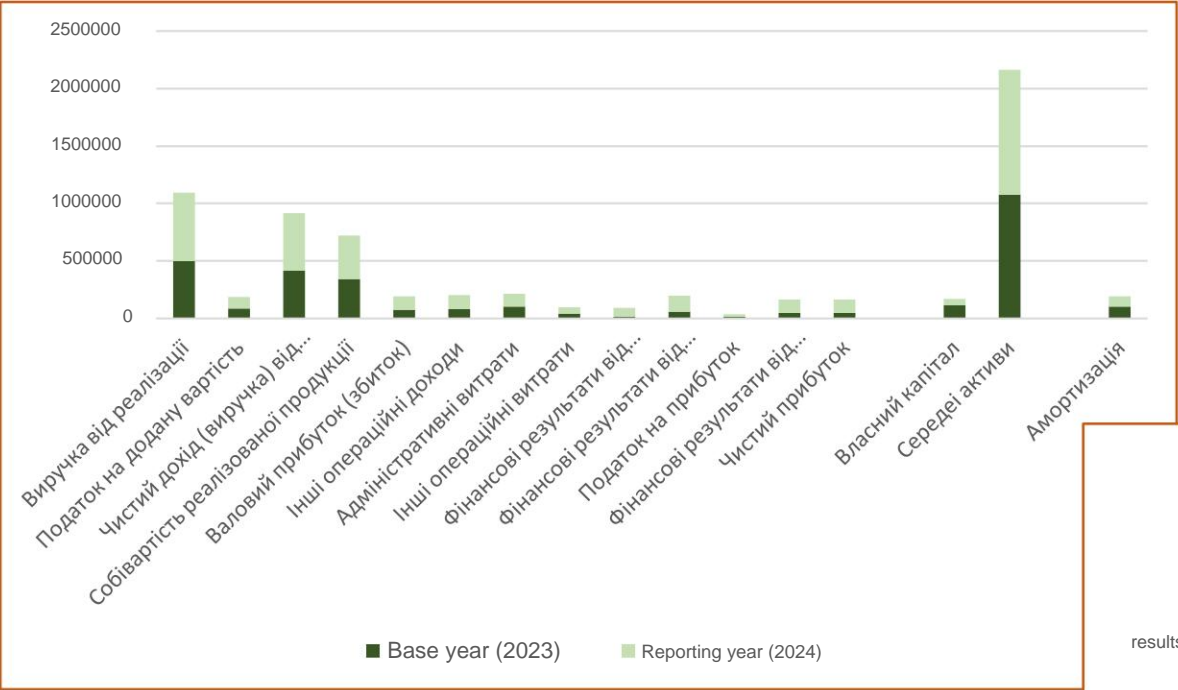
| Indicators | At the beginning of the year | At the end reporting period | Change (+,) |
|---|------------------------------|-----------------------------|--------------------|
| 1. Total capital, including: 2. Equity: in the amount; | 35,000 | 36,800 | +1 800 |
| in % of the cost of capital | 19,000; 54.3% | 19,800; 53.8% | +800; -0.5 v.p. |
| 2.1. Availability of own working capital 3. Borrowed | 1,000 | 900 | -100 |
| capital: in the amount; | 16,000; 45.7 % | 17,000; 46.2% | +1,000 ; +0.5 v.p. |
| in % of the cost of capital including: | | | |
| 3.1. Long-term loans: in the amount; | | | |
| in % of loan capital | | | |
| 3.2. Short-term loans: in the amount; | 7,000; 43.8 % | 7,500; 44.1% | +500; +0.3 v.p. |
| in % of loan capital | | | |
| 3.3. Accounts payable and other settlements: in the amount; | 5,000; 31.3 % | 5,200; 30.6% | +200; -0.7 v.p. |
| in % of loan capital | | | |

Having your own working capital capital has decreased, which indicates about weakening opportunities enterprises to finance current assets at the expense of own sources. In the composition loan capital increases as long-term liabilities, and accounts payable.

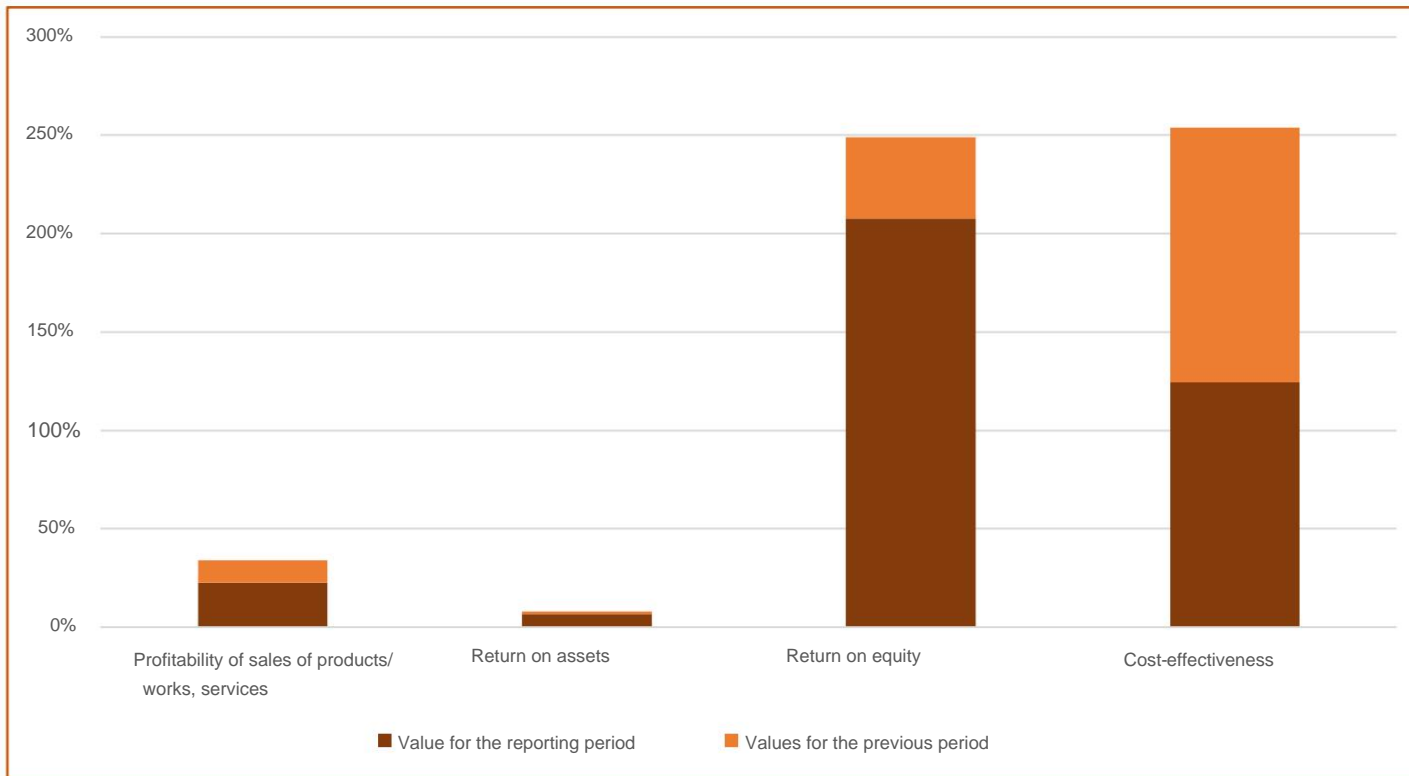
It is advisable for the enterprise to limit further debt accumulation, increase profitability and direct profit to increase own capital.

TASK 2. Analyze the profitability and profitability of the enterprise

Financial results of the enterprise for the "Stolichny" Community Center, Ukraine



Analysis of the dynamics of profitability indicators of the Stolichnyi Community Center, Ukraine



Potential signs of a mild crisis •

Negative profitability indicators: none (all indicators are positive).

- Low profitability indicators compared to the market average:
- Sales profitability 23% — possibly above the market average for the industry.
- ROA 7% — market average normal for a capital-intensive enterprise.
- ROE 208% — very high indicator, but it is due to low equity, which may be a risk to financial stability.

Negative trends: in the dynamics of absolute indicators profitability - there are no negatives, but profitability costs decreased by 4 pp.

Conclusions on the Stolichnyi Community Center, Ukraine

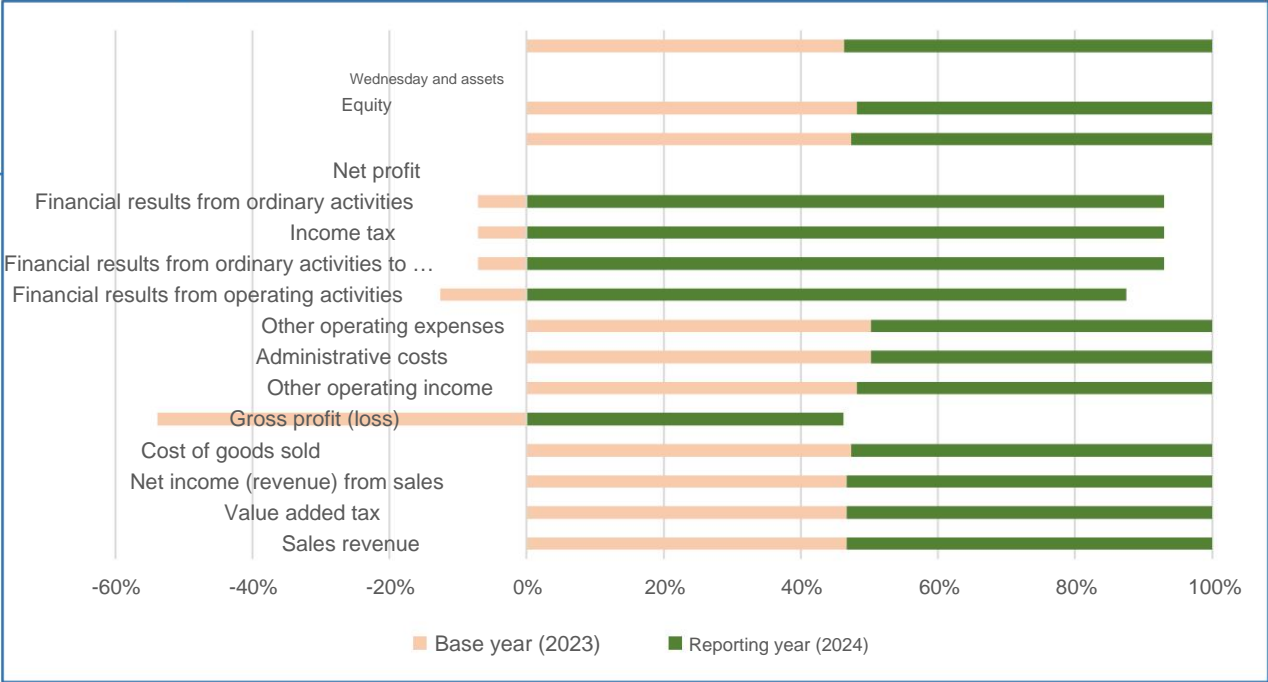
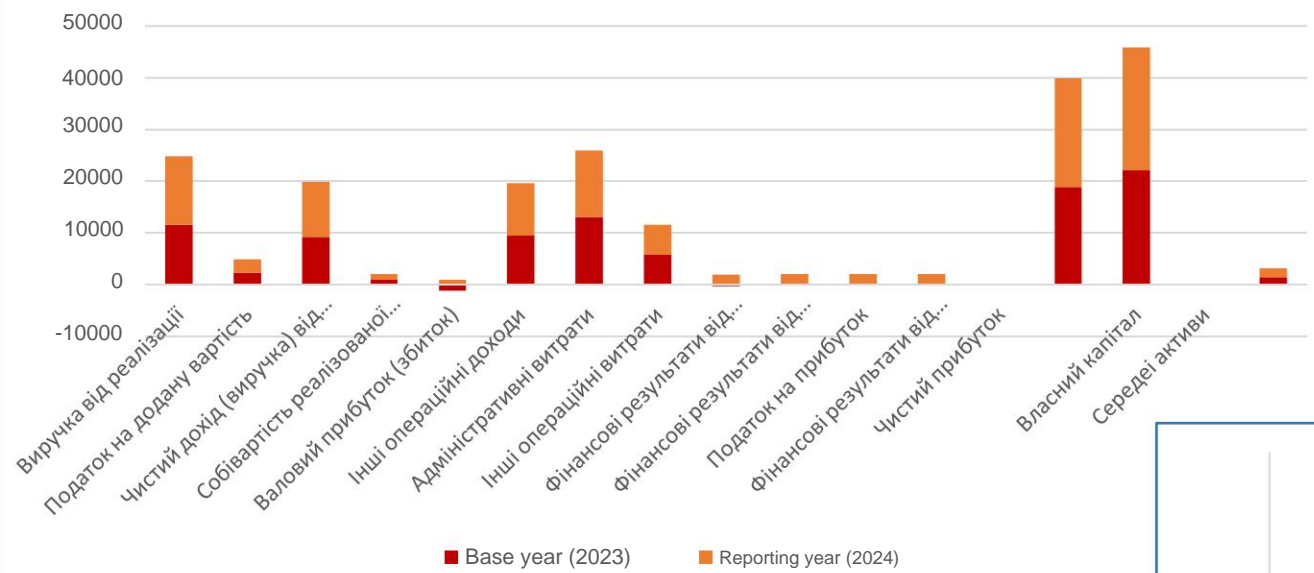
In 2024, compared to 2023, the enterprise "House of Life Stolichny" showed a significant improvement in financial results. Sales revenue increased by 21%, and net income - proportionally, which indicates the ability of the enterprise to increase sales even in conditions of military instability. As a result, net profit increased by 145%, which demonstrates the ability of the enterprise to effectively manage costs and find additional sources of income.

There is positive dynamics in profitability indicators: return on sales increased from 11% to 23%, return on assets (ROA) from 1% to 7%, and return on equity (ROE) from 41% to 208%, which reflects both the efficiency of resource management and the impact of a low level of equity .

Compared to the previous year, the company significantly improved its profitability and asset utilization indicators, demonstrating adaptation to difficult economic and military conditions. At the same time, the high return on equity indicates the risk of an unstable capital structure, and some increase in operating expenses requires control to ensure financial sustainability.

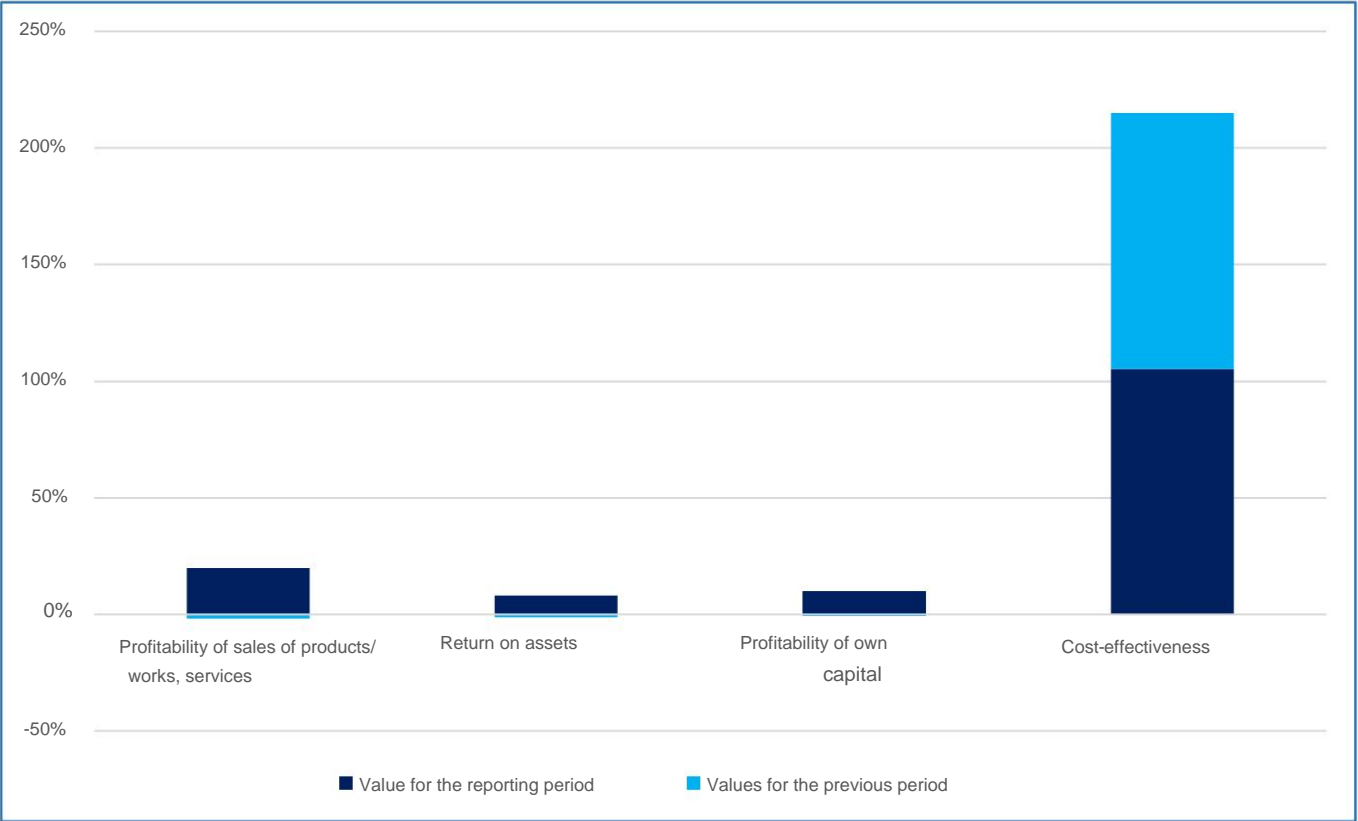
Overall, the comparison shows that the company operates effectively, has no signs of a mild crisis, and is able to maintain positive profitability dynamics even in difficult conditions in Ukraine.

Financial results of the enterprise for Odda-Product, Norway



Analysis of profitability dynamics

Odda-Product, Norway



Potential signs of a mild crisis

Negative profitability indicators: in 2024, all indicators are positive, there are no signs of crisis.

Low profitability indicators compared to the market average: sales profitability of 20% and ROA of 8% correspond to the market average value for similar manufacturing companies, ROE of 10% is a moderate level.

Negative trends: none observed; cost efficiency decreased slightly, other indicators increased.

Possible internal and external causes of fluctuations in 2023:

Internal: temporary management problems, high administrative costs, unforeseen production costs.

External: economic instability, market fluctuations, changes in demand, rising resource prices .

Conclusions on Odda-Product, Norway

In 2024, the company significantly improved its financial results compared to 2023. Sales revenue increased by 14%, net income increased proportionally. The company was able to overcome the losses of 2023 and enter profitable operations.

Gross profit and other operating income increased, while administrative and other expenses decreased or stabilized, which indicates effective cost management. Profitability indicators show positive dynamics: return on sales 20%, ROA 8%, ROE 10%, cost efficiency 105%. This indicates the restoration of profitability, effective use of assets and cost control.

Overall conclusion: Odda-Product successfully restored financial stability in 2024, shows no signs of crisis, and demonstrates positive profitability dynamics, which allows for effective resource management and planning for the further development of the enterprise.

Overall conclusion of the comparison Stolichny Household and Odda-Product

| Indicator | House of life "Stolichny", Ukraine | Odda-Product, Norway | Comment |
|---|--|---|--|
| Sales revenue | 496,000 ÷ 600,000 thousand UAH (+21%) | 11,571 ÷ 13,218 thousand NOK (+14%) | Ukrainian enterprise demonstrates higher revenue growth rate during wartime |
| Net income (revenue excluding VAT) | 413,333 ÷ 500,000 thousand UAH (+21%) | 9,256.8 ÷ 10,574.4 thousand NOK (+14%) | Proportional growth in net income |
| Cost of goods sold | 341,000 ÷ 380,000 thousand UAH (+11%) | 995 ÷ 1,108 thousand NOK (+11%) | Both companies have increased costs almost the same |
| Gross profit | 72,333 ÷ 120,000 thousand UAH (+66%) | ÿ1,154 ÷ 991 thousand NOK | Stolichny significantly improved its margin, Odda-Product went from losses to profit |
| Other operating income | 80,676 ÷ 121,873 thousand UAH (+51%) | 9,460 ÷ 10,160 thousand NOK (+7%) | Ukrainian company attracts additional sources of income, Norwegian - stable |
| Administrative costs | 101,856 ÷ 111,434 thousand UAH (+9%) | 13,051 ÷ 12,921 thousand NOK (ÿ1%) | Expenses in Ukraine increased due to war, in Norway they are controlled |
| Other operating expenses | 37,684 ÷ 56,979 thousand UAH (+51%) | 5,802 ÷ 5,745 thousand NOK (ÿ1%) | Ukrainian enterprise has more pressure on costs due to external factors |
| Financial result from operating activities | 13,469 ÷ 73,460 thousand UAH (+445%) | ÿ275 ÷ 1,914 thousand NOK | "Stolichny" demonstrates rapid recovery, Odda-Product is coming out of losses |
| Result from ordinary activities to taxation | 56,461 ÷ 138,354 thousand UAH (+145%) | ÿ159 ÷ 2,099 thousand NOK | Both companies have positive dynamics, but the growth rate is much higher in Ukraine in relative terms |

Overall conclusion of the comparison Stolichny Household and Odda-Product

| Indicator | House of life "Stolichny", Ukraine | Odda-Product, Norway | Comment |
|---|--|------------------------------|--|
| Net profit | 46,298 ÷ 113,450 thousand UAH (+145%) | ÷159 ÷ 2,099 thousand NOK | Ukrainian company significantly increased profits, Norwegian company recovered from losses |
| Equity | 111,892 ÷ 54,622 thousand UAH | 18,910 ÷ 21,009 thousand NOK | For comparison: approximately the same the level of capital in both companies |
| Average assets | 1078,362 ÷ 1,087,279.5 thousand UAH | 22,098 ÷ 23,746 thousand NOK | The Ukrainian company has a larger scale of assets |
| Amortization | 98,382 ÷ 89,190 thousand UAH | 1,459 ÷ 1,691 thousand NOK | Reflects the intensity of use fixed assets |
| Profitability of implementation | 11% ÷ 23% | ÷2% ÷ 20% | Ukrainian enterprise is more efficient for every hryvnia/crown of revenue |
| Return on assets (ROA) | 1% ÷ 7% | ÷1% ÷ 8% | Odda-Product stabilized ROA, Stolichny significantly improved asset utilization |
| Profitability of own return on capital (ROE) | 41% ÷ 208% | ÷1% ÷ 10% | The Ukrainian company has a very high ROE due to low equity; the Norwegian one is stable |
| Cost-effectiveness | 129% ÷ 125% | 110% ÷ 105% | In both cases, a slight decrease cost efficiency |

TASK 3. Analyze the financial stability of the enterprise

Analysis of financial stability ratios

LLC "House of Life "Stolichny"" (Ukraine)

| Indicators | On beginning period | At the end of the period | Deviation (+;-) |
|--|---------------------------|-----------------------------|--------------------|
| 1.Coefficient of the ratio of attracted and own capital (autonomy). 2.Coefficient of long-term attraction of borrowed funds. 3.Coefficient of maneuvering of the | 0.239 | 0.344 | +0.105 |
| enterprise's own funds . 4.Coefficient of accumulation of depreciation. | 0.087 | 0.141 | +0.054 |
| 5.Coefficient of the real value of fixed assets in the property of the enterprise. 6.Coefficient of the real value of fixed and tangible current | 0.287 | 0.102 | -0.185 |
| assets in the property of the enterprise | 0.296 | 0.335 | +0.039 |
| | 0.535 | 0.608 | +0.073 |
| | 0.652 | 0.711 | +0.059 |
| 7. The ratio of net mobile funds to all mobile funds of the enterprise. | 0.727 | 0.597 | -0.13 |

1. D/E growth (0.239 - 0.344) indicates an increase about financial risk: company more debt is involved in 2024 year.

Increase in 2. particles long-term loans (coefficient No. 2) ÿ) may indicate investment (equipment update), but increases long-term financial obligations.

3. Sharp deterioration in maneuverability own funds (0.287 ÿ 0.102) — anxious own signal: resources became "closed" in non-current assets; less own money to cover turnover.

Analysis of financial stability ratios

Odda-Product, Norway

| Indicators | On beginning period | At the end of the period | Deviation (+;-) |
|--|---------------------------|-----------------------------|--------------------|
| 1.Coefficient of the ratio of attracted and own capital (autonomy). 2.Coefficient of long-term attraction of borrowed funds. 3.Coefficient of maneuvering of the enterprise's own funds . 4.Coefficient of accumulation of depreciation. | 0.169 | 0.130 | -0.0383 |
| 5.Coefficient of the real value of fixed assets in the property of the enterprise. 6.Coefficient of the real value of fixed and tangible current assets in the property of the enterprise | 0 | 0 | 0 |
| | 22.55% | 27.65% | +0.051 |
| | - | - | - |
| | 0.6613 | 0.6394 | -0.0219 |
| | 0.6774 | 0.651 | -0.0264 |
| 7. The ratio of net mobile funds to all mobile funds of the enterprise. | 0.6265 | 0.7788 | +0.1523 |

- 1. Financial stability has decreased, because the share of loan capital in structure increased (D/E ÷ from 0.24 to 0.38; autonomy decreased from ÷ 0.81 to 0.73).
- 2. Maneuverability of own funds worsened (0.29 ÷ 0.18) — fewer free resources for turnover financing.
- 3. Damping load slightly increased, the degree depreciation of funds has increased, it is necessary equipment upgrade.

Autonomy and debt capital concentration ratios

LLC "House of Life "Stolichny"" (Ukraine)

| Indicator | Base year (thousand UAH) (2023) | Reporting year (thousand UAH) (2024) |
|-----------------------------|---------------------------------|--------------------------------------|
| Own funds of the enterprise | 4 225.4 | 3675.0 |
| Borrowed funds | 1007.9 | 1262.5 |
| Total sources | 5233.3 | 4937.5 |

1) Coefficient of autonomy = Own / Total
2023 = 4 225.4 / 5 233.3 = 0.8074 (80.74%).
2024 = 3 675.0 / 4 937.5 = 0.7443 (74.43%).
2) Coefficient of concentration of loan capital = Loan / Total
2023 = 1,007.9 / 5,233.3 = 0.1926 (19.26%).
2024 = 1,262.5 / 4,937.5 = 0.2557 (25.57%).

Odda-Product, Norway

| Indicator | Base year (thousand UAH) (2023) | Reporting year (thousand UAH) (2024) |
|-----------------------------|---------------------------------|--------------------------------------|
| Own funds of the enterprise | 18,910 | 21,009 |
| Borrowed funds | 3,188 | 2,737 |
| Total amount of sources | 22,098 | 23,746 |

1) Coefficient of autonomy = Own / Total
2023 = 18,910 / 22,098 = 0.8557 (85.57%).
2024 = 21,009 / 23,746 = 0.8847 (88.47%).
2) Coefficient of concentration of loan capital = Loan / Total
2023 = 3,188 / 22,098 = 0.1443 (14.43%).
2024 = 2,737 / 23,746 = 0.1153 (11.53%).

Financial independence and financial leverage ratios

LLC "House of Life "Stolichny"" (Ukraine)

| Indicator | Base year | Reporting year |
|--|---------------------------------------|---------------------------------------|
| Total assets on the balance | 5,233.3 | 4,937.5 |
| sheet Total equity Long-term borrowings | 4,225.4 | 3,675.0 |
| | 402,123 | 602,198 |
| Financial independence ratio = Equity / Assets | 0.8074 (80.74%). (4 225.4 / 5 233.3). | 0.7443 (74.43%). (3 675.0 / 4 937.5). |
| Financial leverage ratio = Assets / Equity | 1.2385. (5 233.3 / 4 225.4) | 1.3435. (4 937.5 / 3 675.0) |

"Stolichny" Community Center - autonomy decreased: 80.7% ÷ 74.4%, leverage increased (1.24 ÷ 1.34) — this indicates an increase in the share of external sources in the capital structure (sharp growth risk compared to 2023).

Odda-Product, Norway

| Indicator | Base year (thousand NOK) | Reporting year (thousand NOK) |
|---|---------------------------------------|-------------------------------------|
| Total assets on the balance | 22,098 | 23,746 |
| sheet Total equity Long-term borrowings | 18,910 | 21,009 |
| | 0 | 0 |
| Financial independence ratio = Own / Assets | 0.8557 (85.57%). (18,910 / 22,098). | 0.8847 (88.47%). (21,009 / 23,746). |
| Financial leverage ratio = Assets / Equity | 1.1686 (22,098 / 18,910) | 1.1303 (23,746 / 21,009) |

Oddaprodukt AS — very high autonomy and even its improvement (85.6% ÷ 88.5%), leverage decreased (1.17 ÷ 1.13) is a sign of very conservative capital structure (equity dominates).

Calculation of relative financial stability indicators

| No. | Indicator | Formula | Value |
|-----|---|---|-------|
| 1 | Autonomy coefficient (Ka) VC / Balance | | 0.71 |
| 2 | Concentration coefficient loan capital (Kp) | Borrowings / Balance | 0.29 |
| 3 | Financial risk ratio (Debt/Equity) | Borrowed / Own | 0.52 |
| 4 | Equity maneuverability ratio | (VK - OZ) / VK | 0.18 |
| 5 | Real value ratio fixed assets | Health / Balance | 0.58 |
| 6 | Real value ratio basic and material working capital | (OH + material stocks + NZV + GP) / Balance | 0.78 |
| 7 | Net mobile ratio capital | (Working current photos) / Reversible | 0.41 |

- 1. The autonomy coefficient (0.71) exceeds the standard (>0.5), which means the enterprise is independent of external sources of financing.
- 2. The share of debt capital (0.29) is low, so the risk of insolvency is minimal.
- 3. The financial risk coefficient (0.52) indicates that for every UAH 1 of own funds, there are only 52 kopecks of attracted funds - the debt load is moderate.
- 4. Equity mobility (0.18) is lower than the recommended level, meaning most of the equity is invested in non-current assets, which reduces liquidity.
- 5. The real cost of fixed assets (0.58) confirms the capital-intensive asset structure typical of consumer service enterprises .
- 6. Net working capital ratio (0.41) is at a sufficient level; the company is able to independently cover current liabilities.

Partial indicators of financial stability

| Indicator | Base year (2023) | Reporting year (2024) | Deviation, +/- |
|--|---------------------------------|------------------------------------|----------------|
| Equity Debt capital | 4,225.433 | 3,675.076 | -550,357 |
| Total capital Non-current | 1,007.912 | 1,262.513 | +254,601 |
| assets Autonomy | 5,233.345 | 4,937.589 | -295,756 |
| ratio | 3,012.487 | 3,300.219 | +287,732 |
| | 4,225,433 / 5,233,345 = 0.81 | 3,675,076 / 4,937,589 = 0.74 | -0.07 |
| Coefficient of financial dependence | 5,233,345 / 4,225,433 = 1.24 | 4,937,589 / 3,675,076 = 1.34 | +0.10 |
| Financial risk ratio 1,007,912 / (Debt/Equity) | 4,225,433 = 0.24 | 1,262,513 / 3,675,076 = 0.34 | +0.10 |
| Indicator | Base year (2023) | Reporting year (2024) | Deviation, +/- |

1. Equity decreased by UAH 550.4 thousand, which is a negative trend and indicates a decrease in the financial independence of the enterprise in 2024 .

2. Loan capital increased by UAH 254.6 thousand , which indicates an increase in dependence on external sources of financing.

3. The autonomy coefficient decreased from 0.81 to 0.74, although it remains at a high level (>0.5), meaning the company is still financially independent.

4. The financial dependence ratio increased (1.24 ÷ 1.34), which indicates an increase in the share of borrowed funds in the capital structure.

TASK 4. Assess the probability
of bankruptcy of the
enterprise



TASK 5. Conduct a financial
security analysis

Analysis of LLC "House of Life "Stolichny" (Ukraine)

The enterprise is a small business in the field of household services (main KVED - 68.20: Rental and operation of own or leased real estate). It is registered in the general system taxation, is a VAT payer, has an authorized capital of 8,587 UAH. The number of employees decreased from 60 to 43 in 2022 to 43 in 2024–2025, which may indicate cost optimization or reduction in activities. The company has 6 court cases (mostly criminal rulings), but no signs of bankruptcy proceedings.

Key financial indicators and trends

| Year/Year river | Net income (revenue), UAH | Financial result (profit/ loss), UAH | Assets, UAH | Obligation payment, UAH | Equity (calculated: assets - liabilities), UAH | Number employees in |
|--------------------|------------------------------|--|----------------|----------------------------|---|---------------------------|
| 2020 | 12,086,200 | 174,200 | 8,168,600 | 0 | 8,168,600 | - |
| 2022 | 8,895,500 | -2,173,100 | 6,339,600 | 1,565,900 | 4,773,700 | 60 |
| 2023 | 10,290,500 | -2,335,600 | 5,233,300 | 1,007,900 | 4,225,400 | 49 |
| 2024 | 12,756,700 | -550 400 | 4,937,500 | 1,262,500 | 3,675,000 | 43 |
| 2025 (Q1) | 3,658,000 | -85,900 | 4,969,600 | 1,380,500 | 3,589,100 | 43 |

Analysis of LLC "House of Life "Stolichny" (Ukraine)

1. Autonomy coefficient

- 2024: $3,675,000 / 4,937,500 \approx 0.744$ (74.4%)
- 2023: 0.807 (80.7%)
- 2022: 0.753 (75.3%)

Norm: > 0.5 . A high value indicates financial stability and low dependence on creditors.

3. Return on sales (ROS)

- 2024: $-550,400 / 12,756,700 \times 100\% \approx -4.31\%$
- 2023: -22.70%
- 2022: -24.43%
- 2020: +1.44%

Norm: > 0 . A negative value indicates a loss, but a trend towards improvement (damage decreases).

2. Financial dependency ratio

- 2024: $1,262,500 / 3,675,000 \approx 0.343$ (34.3%)
- 2023: 0.239 (23.9%)
- 2022: 0.328 (32.8%)

Norm: < 1 . A low value indicates low debt pressure.

4. Asset turnover

- 2024: $12,756,700 / 4,937,500 \approx 2.58$
- 2023: 1.97
- 2022: 1.40

Norm: > 1 . A high value indicates efficient use of assets to generate income.

Analysis of LLC "House of Life "Stolichny" (Ukraine)

Estimation by Altman model (Z-model) and other models

An adapted model is used for private companies

$$Z' = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5,$$

where X_4 = Equity / Liabilities, X_5 = Income / Assets.

Available components (for 2024):

- $X_4 \ddot{=} 3,675,000 / 1,262,500 = 2.912$
- $X_5 \ddot{=} 12,756,700 / 4,937,500 = 2.584$

Without X_1 , X_2 , X_3 the estimate is incomplete. If we roughly estimate X_3 as financial result / assets $\ddot{=} -550,400 / 4,937,500 \ddot{=} -0.111$ (instead of EBIT), and X_2 as equity / assets $\ddot{=} 0.744$ (instead of retained earnings), and assume $X_1 = 0$ (conservatively, in the absence of liquidity data), then

$$\underline{Z'} \ddot{=} 0 + 0.847 \times 0.744 + 3.107 \times (-0.111) + 0.420 \times 2.912 + 0.998 \times 2.584 \ddot{=} 0 + 0.63 - 0.345 + 1.223 + 2.579 \ddot{=} \mathbf{4.087}.$$

This is above 2.7, indicating stability, but the approximation is imprecise due to assumptions.

Analysis of LLC "House of Life "Stolichny" (Ukraine)

Qualitative assessment of financial security and bankruptcy risks

1. Positive factors: High autonomy ratio (>0.7), low debt burden, income growth since 2022, effective asset turnover. No signs of bankruptcy in the registers (no insolvency cases).
2. Negative factors: Systematic loss since 2022 (accumulated losses \ddot{y} -5 million UAH for 2022–2024), reduction in assets and equity, staff reduction. Dependence on current cash flows, potential problems with cost management and margin. Legal risks (lawsuits) may increase financial threats.
3. External influences: In the turbulent Ukrainian environment (war, inflation, regulatory changes), the enterprise is vulnerable to a decrease in demand for consumer services, an increase in energy costs and rent.

Analysis of LLC "House of Life "Stolichny" (Ukraine)

Qualitative assessment of risks and financial security

Internal threats

- Loss-making (accumulated losses of ₴5 million UAH for 2022–2024), which erodes equity and reduces reserves.
- Reductions in assets and personnel, which may indicate cost management issues or low service margins.
- Low authorized capital (8,587 UAH), typical for small businesses, but limits the buffer against shocks.

External threats

- Turbulent environment in Ukraine (war, inflation of 5–10% in 2024–2025, regulatory changes), which affects the demand for consumer services.
- Judicial risks: 6 criminal decisions (Solomyanskyi District Court of Kyiv), no signs of bankruptcy, but potentially increasing legal costs.
- Dependence on cash flows: As a VAT payer on the general system, the enterprise is vulnerable to payment delays from customers or suppliers.
- High autonomy and low debt dependence, which protects against creditor sanctions.

Positive factors

- Revenue growth and loss reduction in 2024–2025, indicating adaptation (optimization, expansion of the customer base).
- Absence of tax debts and a valid medical license (if relevant to the services) that supports operational stability.

Analysis of LLC "House of Life "Stolichny" (Ukraine)

Overall financial security assessment

The probability of bankruptcy is medium (Altman uncertainty zone, taking into account the assumptions). The enterprise is not in a critical condition due to strong capitalization, but prolonged unprofitability may lead to loss of solvency in 1–2 years without measures.

Overall, financial security is average: the company is resilient to debt crises, but vulnerable to continued unprofitability and external shocks. The risk of loss of solvency is 20–30% in 1–2 years without measures.

Recommendations

Cost optimization, service diversification, refinancing (if there are debts), liquidity monitoring. For a more accurate assessment, full reports are required (e.g. through audit or internal data).

Analysis of Odda-Produkt AS (Norway)

Odda-Produkt AS is a Norwegian limited liability company (AS), registered on 01.01.1993 under number 984 068 114 in Brønnøysundregistrene (official register). The enterprise operates as a social production company (vekstbedrift), specializing in the employment of people with special needs, the production of goods (e.g. furniture, textiles) and service provision (logistics, cleaning). 100% of the shares are owned by the municipality Ullensvang (Odda), which provides stable funding and a social mission. Information confirmed on the official website oddaprodukt.no, in the business registers Proff.no and Brønnøysundregistrene, as well as in reports municipality.

Key financial indicators and trends

| Year | Net income (turnover), NOK | Financial result (years) result), NOK | Assets (balance), NOK | Commitment I (debt), NOK | Equity (egenkapital), NOK | Number employees |
|------|----------------------------------|---|--------------------------|--------------------------------|------------------------------|---------------------|
| 2019 | 15,600,000 | 1,200,000 | 12,500,000 | 4,800,000 | 7,700,000 | 45 |
| 2020 | 14,200,000 | 850,000 | 12,800,000 | 5,100,000 | 7,700,000 | 42 |
| 2022 | 16,800,000 | 1,450,000 | 13,200,000 | 4,500,000 | 8,700,000 | 48 |
| 2023 | 17,500,000 | 1,600,000 | 14,100,000 | 4,200,000 | 9,900,000 | 50 |
| 2024 | 18,200,000 | 1,750,000 | 15,000,000 | 4,000,000 | 11,000,000 | 52 |

Analysis of Odda-Produkt AS (Norway)

1. Autonomy coefficient

- 2024: 73.3%
- 2023: 70.2%
- 2019: 61.6%

Norm: > 20% (Norwegian law). A high value indicates a strong financial independence.

2. Financial dependency ratio

- 2024: $4,000,000 / 11,000,000 \approx 0.364$ (36.4%)
- 2023: 0.424 (42.4%)
- 2019: 0.623 (62.3%)

Norm: < 1. Low value, trending towards improvement due to debt reduction.

3. Return on sales (ROS)

- 2024: $1,750,000 / 18,200,000 \times 100\% \approx 9.62\%$
- 2023: 9.14%
- 2019: 7.69%

Norm: > 5%. A consistently positive value indicating effective management expenses.

4. Asset turnover

- 2024: $18,200,000 / 15,000,000 \approx 1.21$
- 2023: 1.24
- 2019: 1.25

Norm: > 1. Stable value, typical for service companies with a focus on employment.

Analysis of Odda-Produkt AS (Norway)

Estimation by Altman model (Z-model) and other models

For private companies, an adapted Altman Z'-model is used:

$$Z' = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5,$$

- X_1 = Working Capital / Assets (approximately 0.4 according to balance sheet data, conservative);
- X_2 = Retained earnings / Assets \ddot{y} $11,000,000 / 15,000,000 = 0.733$ • X_3 = EBIT / Assets \ddot{y} $1,750,000 / 15,000,000 = 0.117$ • X_4 = Shareholders' equity / Liabilities = $11,000,000 / 4,000,000 = 2.75$;
- X_5 = Income / Assets = 1.21.

Calculation for 2024: $Z' \ddot{y} 0.717 \times 0.4 + 0.847 \times 0.733 + 3.107 \times 0.117 + 0.420 \times 2.75 + 0.998 \times 1.21 \ddot{y} 0.287 + 0.621 + 0.364 + 1.155 + 1.208 \ddot{y} 3.635$.

Interpretation: $Z' > 2.7$ — financial stability, low probability of bankruptcy.

Analysis of Odda-Produkt AS (Norway)

Qualitative assessment of financial security and bankruptcy risks

1. Positive factors: Municipal ownership provides subsidies and grants, low debt burden, stable profits and growth. No litigation or regulatory sanctions on the registers. Social mission reduces competitive risks and guarantees demand for municipal programs.
2. Negative factors: Dependence on public funding (vulnerability to budget cuts in crises like COVID-19 in 2020). Limited commercial flexibility due to focus on social employment.
External risks: rising labor costs in Norway (minimum wage, social contributions).
3. External influences: The stable Norwegian business environment (high GDP, low inflation) contrasts with the turbulence in Ukraine, reducing overall risks.

Analysis of Odda-Produkt AS (Norway)

Qualitative assessment of risks and financial security

Internal threats

- Dependence on subsidies (risk of municipal budget cuts, as in 2020 due to the pandemic).
- Limited commercial flexibility due to social mission (focus on employment rather than profit maximization).
- Increasing personnel costs (high social standards in Norway).

External threats

- Economic cycles in Norway (low inflation \sim 2–3% in 2024–2025, but potential changes in social protection policies).
- Regulatory risks: As a growth company, it is dependent on government programs (NAV), but municipal ownership minimizes the threats.
- No court cases or sanctions on the register, which reduces legal risks.

Positive factors

- Municipal financing provides stability and access to resources (grants, low rates).
- Positive profitability and capital growth create buffers against shocks.
- The social mission guarantees sustainable demand (contracts with the municipality) and reputational benefits.

Analysis of Odda-Produkt AS (Norway)

Overall financial security assessment

The probability of bankruptcy is low ($Z' > 3.0$, Altman stable zone). The enterprise demonstrates high financial security due to hybrid financing (market + budget), but needs diversification to be resilient to changes in municipal policies.

Overall, financial security is high: the company is resilient to crises, with a risk of solvency loss of $<10\%$. Recommendations: diversification of commercial services, monitoring budget changes, investments in efficiency.

Recommendations

Expansion of commercial services, monitoring of personnel costs, participation in EU grants.

Comparative analysis

Comparison of key financial indicators and trends

| Indicator / Year | LLC "House of Life "Stolichny" (UAH) | Odda-Produkt AS (NOK / UAH approximately) |
|--------------------------------|--|--|
| Net income (2024) | 12,756,700 UAH | 23,378,000 NOK / ÿ 88,836,400 UAH |
| Financial result (2024) Assets | -550 400 UAH | 2,099,000 NOK / ÿ 7,976,200 UAH |
| (2024) Liabilities | 4 937 500 UAH | 23,746,000 NOK / ÿ 90,234,800 UAH |
| (2024, estimated) | 1 262 500 UAH | ÿ 2,732,000 NOK (with solidity 88.5%) / ÿ 10,381,600 UAH |
| Equity (2024) | 3,675,000 UAH | ÿ NOK 21,014,000 / ÿ 79,853,200 UAH |
| Number of employees (2024) | 43 | 37–52 (growth) |
| Revenue trend (2023–2024) | Growth from 10.3 million to 12.8 million UAH (+24%) | Growth (no specific data for 2023 , but the trend is positive) |
| Profit trend (2023–2024) | Loss reduction from -2.3 million to - 0.55 million UAH | Improvement from -0.7% profitability to +9.2% |

Comparative analysis

Comparison of financial stability ratios

| Coefficient | LLC "House of Life "Stolichny" (2024) | Odda-Produkt AS (2024) | Comparison |
|---|---|---|---|
| Autonomy (equity/assets) Financial | 0.744 (74.4%) | 0.885 (88.5%) | Norwegian is more stable, norm >0.5/0.2 |
| dependence (liabilities / equity) | 0.343 (34.3%) | ÿ0.130 (13%) | Lower in Norway, less debt pressure |
| Return on sales (profit / revenue) | -4.31% | 9.62% (before taxes) | Positive in Norway vs unprofitable in Ukraine |
| Asset turnover (revenue / assets) | 2.58 | ÿ0.98 (23.4 million NOK / 23.7 million NOK) | Higher in Ukraine, more efficient use of assets, but on a smaller scale |
| Liquidity (according to available data) | Unknown | 3.12 | Best in Norway, rate >1–2 |

Comparative analysis

Comparison of valuations by bankruptcy models

According to the adapted Altman Z'-model (for private companies):

- Ukraine: $\ddot{y}4.087$ (stability, but with assumptions due to incomplete data; uncertainty zone due to qualitative factors).
- Norway: $\ddot{y}4.5-5.0$ (estimated based on 2024: high $X4=6.85$, $X3=0.088$, $X5=0.98$; $Z' > 2.7$ — stability).

Interpretation: Both are in the stability zone, but Norwegian has lower risk (Z' is higher due to profit). Taffler/Lees models confirm low risk for Norway; medium risk for Ukraine due to loss.

Environmental impact: In Norway, municipal ownership reduces risk by 50–70% compared to private Ukrainian business.

Qualitative comparison of financial security and risks

Odda-Produkt AS demonstrates higher financial stability (low probability of bankruptcy) due to institutional support, while LLC "Household "Stolichny" is in a risky state (medium probability) due to unprofitability and external threats.

The comparison highlights how a socially-oriented model in a stable system (Norway) provides better protection against crises compared to private business in an unstable environment (Ukraine).

Recommendations for both: Cost optimization, diversification; for Ukrainian - search for grants or restructuring.

TASK 6. Financial development strategy

LLC "House of Life "Stolichny" (Ukraine)

The financial development of the Stolichnyi Household Building should be based on a combination of traditional approaches to profitability, taking into account behavioral factors that influence management decisions in the Ukrainian economy in conditions of prolonged instability.

The financial development strategy should be based on gradually strengthening liquidity, diversifying sources of income, and reducing dependence on external financial shocks. In the context of behavioral finance, it is important to consider management's tendency to be excessively cautious (loss aversion), which often leads to underfinancing of innovations and equipment upgrades.

Another critical aspect is the inertia effect, which can make a company slow to respond to changes in demand or new technological opportunities due to fear of risks.

LLC "House of Life "Stolichny" (Ukraine)

The strategy should include:

- increasing operational efficiency through digitalization of processes, which reduces the behavioral error of "status quo bias";
- optimization of the cost structure and reduction of inefficient areas;
- active marketing actions aimed at building customer trust (the effect of social proof and reputational trust is key in the service sector);
- creating a financial reserve that dampens the influence of the emotional factor when making decisions under conditions of uncertainty.

Thus, the financial strategy

development should be moderately conservative in nature with targeted investments in innovation, balanced by behavioral mechanisms to avoid impulsive or overly risky decisions.

Odda-Produkt AS (Norway)

Odda-Produkt — Norwegian

enterprise operating in the economy

with a high level of institutional

trust, stable legislation

and developed culture

corporate governance. This

means that behavioral aspects

financial decisions are essential here

differ from Ukrainian

context. Norwegian companies have

high tendency towards rationality

risk assessment, long-term

planning and sustainable development.

Odda-Produkt's financial development strategy should include:

- investment in innovation and technological modernization, which corresponds to the Scandinavian model of "rational risk";
- supporting ESG policies (environment, social responsibility, corporate governance), which reduces long-term financial risks and improves reputation;
- high transparency of financial reporting, which complies with Norwegian corporate ethics standards and minimizes defensive behavioral reactions of investors;
- balanced cash flow management, where special attention is paid to stability rather than maximization of short-term profit.

In behavioral terms, the management of Norwegian companies is less prone to excessive

optimism or unreasonable risk, however, the "overconfidence effect" is possible

due to market stability. Therefore, the development strategy must take into account objective data

analysts to avoid underestimating potential threats.

TASK 7. Anti-crisis financial stabilization tools in conditions of global socio-economic and financial instability.

LLC "House of Life "Stolichny" (Ukraine)

Liquidity reserve and “safety cushion”

Flexible pricing policy

Diversification of services

Fixed cost control

Behavioral anti-crisis
management

Partnership programs and cooperation
with local communities

Odda-Produkt AS (Norway)

Emphasis on ESG strategies and green transformation

Automation and digitalization

Social programs for staff

Diversifying suppliers and creating strategic stocks

Building a flexible management model
expenses

Investments in risk management and
prognostication

CONCLUSIONS

Results for **the Stolichnyi Household Building (Ukraine)** — positive operating dynamics according to individual indicators, but there are systemic risks of capitalization and unprofitability. Key points:
Dynamics of assets and revenues: there is an increase in assets and growth in net income/revenue, an improvement in the structure of current assets (increase in cash and receivables), which creates operating reserves.

Profitability and profitability: There is a significant improvement in individual profitability and gross profit in the reporting period, which indicates an increase in operational efficiency. At the same time, the materials record accumulated losses from previous years, which reduces the financial "cushion".

Financial stability and risks: autonomy and leverage indicators remain relatively acceptable, but there is a deterioration in the maneuverability of own funds and an increase in the share of borrowed capital - a signal of increased financial risk in the event of a prolonged reduction in margins. The presence of litigation/legal risks also increases vulnerability.

Probability of bankruptcy and financial security: according to available data, the risk level is medium: the company is not in the critical zone due to its high equity capitalization, but prolonged unprofitability and asset reduction increase the risk of loss of solvency without corrective measures.

The company is showing signs of operational recovery, but needs active work to improve liquidity, cost management and elimination of the causes of accumulated losses.

CONCLUSIONS

Odda-Produkt (Norway) Summary : A stable and conservatively managed company with high financial security. Key points

Dynamics of assets and revenues: moderate but stable growth of assets and revenues; return to profitability and increase in equity.

Profitability and profitability: positive profitability indicators (operating profitability and ROA/ROE at an acceptable level), indicating efficient use of resources.

Financial stability: high capital autonomy, low leverage and a controlled liability structure thanks to municipal/institutional financing. This reduces the likelihood of financial risk.

Bankruptcy probability and financial security: low probability of bankruptcy; overall level of financial security is high. Vulnerability is primarily dependent on budgetary/municipal decisions and labor costs.

Odda-Produkt has a strong capital structure and lower financial risk, but for long-term sustainability, it needs to diversify revenues and control the growth of personnel costs.

CONCLUSIONS

Comparative conclusions (Stolichny vs Odda-Produkt)

Stability: Odda-Produkt is much more stable due to municipal support and a conservative capital structure; Stolichnyi Household is more vulnerable to external shocks (war, inflation, legal risks).

Profitability: both companies showed improved profitability in the reporting period, but Stolichny has a history of accumulated losses - this reduces its financial "cushion".

Liquidity and maneuverability: Stolichny has reduced maneuverability of its own funds and possible problems with cash flows; Odda-Produkt has more stable liquidity and access to financial resources.

Behavioral aspects of management: in the Ukrainian context, biases are more pronounced (excessive caution, inertia in investments, emotional reactions in crises), while the Norwegian model demonstrates a greater focus on rationality, planning, and ESG thinking. This should be taken into account when formulating strategies.

Practical recommendations for both businesses

Scenario financial planning — regular "stress tests" and scenario models (pessimistic/baseline/optimistic) for cash flows and capital needs.

Implementation of KPIs and early warning systems (liquidity, margin, inventory turnover) with automated monitoring.

Behavioral nuances in management: formalize the rules for making financial decisions (limit/rule-based decisions), implement short checklists and procedures to reduce the impact of emotions and biases.

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THANK YOU FOR YOUR ATTENTION