

Analysis of liquidity, solvency, and business activity PAC "Klyuchi" of the Nerchinsky district of the Trans-Baikal Territory

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Abstract. The article discusses the liquidity, solvency of the enterprise, and the importance of their analysis for the purposes of effective enterprise management. During the analysis, data from financial statements are used, the collected information is processed using analytical methods. The article presents the theoretical essence and significance of assessing the business activity of an organization. The analysis of the main performance indicators of the PAC "Klyuchi" for the period from 2017 to 2021 was carried out, factors that directly affect the business activity of the enterprise were identified, and recommendations aimed at the equity capital growth were proposed [11].

1 Introduction

PAC "klyuchi" is located in the southeastern part of the Nerchinsky district of the Trans-Baikal Territory. The central estate is located in the village of Nizhniye Klyuchi, 22 km from the district center of the city of Nerchinsk and 293 km from the regional center of the city of Chita.

The natural and climatic conditions of the PAC "Klyuchi" allow to develop one of the main branches of agriculture - animal husbandry. Natural and climatic conditions also allow cultivating all zoned crops.

PAC "Klyuchi" was founded in 1993, formed on the lands provided by the administration of the Nerchinsky district from the land of the Joint-Stock Company "Balzoy" into ownership with the preservation of the right of inheritance in the amount of 180 hectares.

2 Materials and Methods

The cooperative was created for the purpose of production, processing, and sale of agricultural products through a retail network, by supplying agricultural products to legal entities on the basis of contracts.

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Table 1. Key performance indicators PAC "Klyuchi" for 2017-2021.

Indicator	2017	2018	2019	2020	2021	2021 in % to 2017
Cost of gross output, thousand rubles	28 207.0	21 906.0	37 860.0	38 040.0	38 644.0	137.0
Revenue from sales, thousand rubles	21 918.0	16 071.0	17 850.0	29 710.0	24 182.0	110.3
Area of agricultural land, ha	6800.0	6800.0	6800.0	6800.0	6800.0	100.0
Including: arable land, ha	2520.0	2520.0	2520.0	2520.0	2520.0	100.0
Average annual number of staff, people	20.0	17.0	15.0	10.0	13.0	65.0
Average annual cost of fixed assets, thousand rubles	22 146.0	27 286.0	28 181.0	28 841.5	30 195.5	136.3
Average annual cost of working capital, thousand rubles	14 750.0	20 142.0	25 593.0	26 723.0	27 309.0	185.1
Conditional livestock at the end of the year, cond. head	1141.0	1251.0	1271.0	586.0	537.0	47.1
Energy resources, hp	4517.0	4784.0	4534.0	4679.0	4679.0	103.6
Cost of products sold, thousand rubles	21 306.0	16 193.0	18 939.0	32 599.0	24 002.0	112.6
Profit (loss) from sales, thousand rubles	612.0	(122.0)	(1089.0)	(2888.0)	180.0	29.4
Other income (subsidies), thousand rubles	2201.0	2344.0	5343.0	2953.0	2279.0	103.5
Other expenses, thousand rubles	1.0	-	8.0	46.0	-	-
Net profit (loss), thousand rubles	2812.0	2222.0	4246.0	19.0	2459.0	87.4
Profitability level, %	13.2	13.7	22.4	0.05	10.2	77.3

The table data show that gross output in 2021 compared to 2017 increases by 34.0%, revenue increases only by 10.3%. The cost of fixed and current asset increases especially noticeably – by 36.3% and 85.1%, respectively. There is a reduction in the number of labor potential by 7 people. Energy resources have increased, which indicates the efficient use of technology. The company has an insignificant profit from its main activity in the reporting year – 180.0 thousand rubles. But the subsidies received for the development of the company's activities help to increase it to 2459.0 thousand rubles. As a result, the profitability level in 2021 amounted to 10.2%, but in comparison with 2017 this indicator decreases by 3.0 percentage points.

3 Results and Discussion

The analysis of the liquidity of the balance sheet consists in comparing the funds on the asset, grouped by the degree of their liquidity and arranged in descending order of liquidity, with commitments on the liability, grouped by their maturity dates and arranged in ascending order of terms.

Based on the balance sheet of PAC "Klyuchi", let's compare the funds by asset and by liability, grouped by the degree of maturity and presented in Table 2.

Table 2. Grouping of balance sheet assets according to the liquidity degree in the PAC "Klyuchi" for 2017-2021.

Assets	2017	2018	2019	2020	2021
The most liquid assets (A1), page1250+ page1240	113.0	178.0	313.0	128.0	3.0
Fast-selling assets (A2) Line1230+line1260	112.0	302.0	873.0	264.0	126.0
Slow-selling assets (A3) Line1210+line1220	14 564.0	15 651.0	24 407.0	26 331.0	27 180.0
Hard-to-sell assets (A4) Line1100-line1170	14 564.0	18 374.0	16 105.0	14 385.0	15 743.0
Balance	29 353.0	34 505.0	41 698.0	41 108.0	43 052.0

Table 3. Grouping of balance sheet liabilities by the liquidity degree in the PAC "Klyuchi" for 2017-2021.

Liabilities	2017	2018	2019	2020	2021
Maturing liabilities (P1) Line 1520	1756.0	4725.0	3135.0	2527.0	2012.0
Short-term liabilities (P2) Line 1510+1540+1550	1756.0	4725.0	-	-	-
Long-term liabilities (P3) Line 1400	-	-	-	-	-
Permanent liabilities (P4) Line 1300+page1530+ Line 1540	27 558.0	29 780.0	38 563.0	38 581.0	41 040.0
Balance	31 070.0	39 230.0	41 698.0	41 108.0	43 052.0

Based on the grouped data, we will compare the ratio of groups of assets and liabilities presented in Table 4.

Table 4. Comparison of group totals by asset and liability at PAC "Klyuchi" for 2018-2021.

2018		2019	
A1<P1	-4547.0	A1<P1	-2822.0
A2<P2	-4423.0	A2>P2	873.0
A3 >P3	15 651.0	A3 >P3	24 407.0
A4<P4	-11 406.0	A4<P4	-22 458.0
2020		2021	
A1<P1	-2399.0	A1<P1	-2009.0
A2>P2	264.0	A2>P2	126.0
A3 >P3	26 331.0	A3 >P3	27 180.0
A4<P4	-24 196.0	A4<P4	-25 297.0

Let's make a conclusion based on the results obtained. For all the years, the company has A1<P1 – this means that it cannot pay off its urgent obligations by using highly liquid assets. From the very beginning of 2019 A2>P2 – therefore, the farm can make a payment on debts using quickly liquid assets. With the obtained value A3>P3, the company has the opportunity to cover its obligations with the help of slowly liquid assets. During the entire period A4 <P4 – this indicates that there is an opportunity to repay the actually existing debt obligations. It turns out that all ratios except A1<P1 characterize the enterprise as

liquid.

The material resources of the PAC "Klyuchi" include cash and stock in the warehouse. The assessment of the state of material resources turnover of the PAC "Klyuchi" is presented in Table 5.

Table 5. Analysis of the turnover of material resources at PAC "Klyuchi" for 2017-2021.

Indicators	2017	2018	2019	2020	2021	Absol. change (+,-)
Revenue from sales, thousand rubles	21 918.0	16 071.0	17 850.0	29 710.0	24 182.0	2264.0
Cost of material resources, thousand rubles	29 353.0	34 505.0	41 698.0	41 108.0	43 052.0	13 699.0
Working capital turnover	0.75	0.46	0.43	0.72	0.56	-0.19

The results allow to conclude about the increase in material resources by 13,699 thousand rubles in the reporting period compared to the baseline. The turnover ratio on the balance sheet shows the number of turns that is necessary for the return on enterprise capital. If the turnover is higher, then the solvency of the company is better and its financial stability is stronger. Methodically, it is provided: if the turnover coefficient of material assets is greater than 1, then the farm can be considered profitable. The decrease in the coefficient proves that the company's production stocks are increasing, or the demand for finished products is decreasing. According to the results obtained, it is clear that there is a decrease in the turnover ratio, it is less than 1. This means that the farm is leaving the profitability level.

Solvency is an important indicator of the financial state of the enterprise. It shows to farms to pay their urgent obligations on time. The indicators calculated below characterize the solvency of the enterprise under study.

Table 6. Analysis of solvency at the PAC "Klyuchi" for 2020-2021.

Indicator	At the beginning of 2020	At the beginning of 2021	At the end of 2021	Normative value
1. Ratio of borrowed funds to own	-	-	-	< 1
2. Absolute liquidity ratio	0.1	0.05	0.002	> 0.2-0.7
3. Quick liquidity ratio	0.38	0.16	0.06	0.7-0.8 ≥ 1.5
4. Current liquidity ratio	8.2	10.6	13.6	≥ 2
5. Working capital to current assets ratio	0.88	0.56	0.90	≥ 0.1
6. Maneuverability coefficient	0.58	0.63	0.62	-
7. Coefficient of financial independence (autonomy)	0.92	0.94	0.95	≥ 0.5

The table data indicate that the current liquidity ratio tends to increase over three years, but still above the normative value. This means that the company is not at risk at the moment. This coefficient shows that the current assets of the farm are larger than short-term liabilities. The working capital to current assets ratio is higher than the norm, which has a positive effect on the economic activity of the enterprise. The ratio of own and borrowed funds does not have a calculated indicator, due to the fact that there are no borrowed funds

in the farm. Consequently, the company has no debt obligations. The maneuverability coefficient indicates the financial stability of the enterprise, it has no regulatory significance, but it is believed that this indicator should increase. This means that the financial condition is improving. The most basic of the above coefficients is the coefficient of financial independence or autonomy. Its normative value is ≥ 0.5 , our company is characterized by higher indicators. Thus, this indicator qualifies the high business activity of the farm.

Profitability indicators reflect the results of the company's activities, their value shows the ratio of the effect with cash or used resources. In turn, these indicators are used in the analysis to study economic activity, they serve as an instrument of investment policy and pricing.

The profitability coefficients in economic and financial activities are presented in Table 7.

Table 7. Profitability coefficients in the economic and financial activities of PAC Klyuchi for 2017-2021.

Indicator	2017	2018	2019	2020	2021	2021 in % to 2017
1. Coefficient of main activity profitability	0.06	0.06	0.02	0.0004	0.06	100.0
2. Return on sales ratio	12.8	13.8	23.8	0.06	10.2	79.8
3. Return on equity	6.0	6.5	11.0	0.05	6.0	100.0
4. Return on assets ratio	13.5	12.8	26.3	0.1	15.6	115.5

The obtained values indicate that the assets of the enterprise are used efficiently, which means that it does not fall into the risk zone. Positive values of return on equity characterize business efficiency. You can quickly calculate how the owners' funds invested in the company's capital are used. Throughout the study period, the company manages to maintain the profitability of capital at a high level and thereby determine the degree of attractiveness for investors. Thus, having calculated the profitability indicators, we can say that the company is successful and conducts its production activities efficiently.

Let's look at Table 8 to which type of financial stability the PAC "Klyuchi" belongs.

Table 8. Calculation of absolute indicators of financial stability in PAC "Klyuchi" for 2017-2021.

Indicators	2017	2018	2019	2020	2021
Availability of own working capital (OWC)	18 523.0	16 630.0	22 458.0	24 196.0	25 297.0
Availability of own and long-term sources of stock financing (OLS)	18 523.0	16 630.0	22 458.0	24 196.0	25 297.0
Total value of the main sources of reserves formation (MSR)	21 872.0	20 142.0	25 593.0	26 723.0	27 309.0
Surplus/shortage (Δ OWC)	2398.0	-3512.0	6353.0	9811.0	9554.0
Surplus/shortage (Δ OLS)	2398.0	-3512.0	6353.0	9811.0	9554.0
Surplus/shortage (Δ MSR)	5747.0	0	9488.0	12338.0	11566.0
3-factor model	M = (1,1,1)	M= (-1,-1,-1)	M= (1;1;1)	M= (1;1;1)	M= (1;1;1)

The type of financial stability according to the constructed model in the PAC "Klyuchi" is absolute financial stability, excluding 2018. There is a high level of solvency. PAC "Klyuchi" does not depend on creditors.

The farm has its own working capital in full, it is liquid, it can pay off its payment obligations, the PAC "Klyuchi" purposefully does not enter into debt obligations and does not plan to do so yet in the near future.

The analysis of the effective use of the company's assets implies the calculation of various indicators and the turnover ratio of working capital. All taken together, the indicators characterize the turnover of capital and the duration of one turnover. In addition, the turnover of accounts receivable and accounts payable, inventories, and return on equity is assessed. The calculated indicators will show an assessment of the economy business activity. It, in turn, will give an analysis of the dynamism of the company's development and the effective use of economic potential.

Let's consider the indicators of business activity of the enterprise according to Table 9.

Table 9. Indicators of business activity of PAC "Klyuchi" for 2017-2021.

Indicator	Formula	2017	2018	2019	2020	2021	2021 in % to 2017
Total capital turnover ratio (TRc)	$Ok = \text{sales revenue} / \text{balance sheet total}$	0.58	0.43	0.42	0.72	0.56	96.5
Turnover ratio of working capital (TRwc)	$TRwc = \text{revenue from sales} / \text{value of working capital}$	1.48	0.79	0.70	1.09	0.88	59.4
Duration of turnover (Dt)	$Dt = 365 / TRwc$	246.6	462.0	521.4	334.8	414.8	168.2
Turnover ratio of inventories (TRi)	$TRi = \text{sales revenue} / \text{value of inventories and costs}$	0.88	0.81	0.73	1.13	0.89	101.1
Duration of turnover of material assets (Dma)	$Dma = 365 / TRi$	414.8	450.6	500.0	323.0	410.1	98.8
Turnover ratio of accounts receivable (TRar)	$TRar = \text{sales revenue} / \text{accounts receivable for the period}$	52.0	49.6	20.44	112.5	192.0	Incr. 3.7 times
Turnover duration (Dar)	$Dar = 365 / TRar$	7.0	7.3	17.8	3.2	1.9	27.1
Turnover ratio of accounts payable (TRap)	$TRap = \text{sales revenue} / \text{accounts payable}$	5.2	4.6	5.7	11.5	12.0	Incr. 2.3 times
Turnover duration (Dap)	$Dap = 365 / TRap$	70.2	79.3	64.0	31.8	30.4	43.3
Equity Capital Turnover Ratio (TRec)	$TRec = \text{revenue from sales} / \text{amount of equity}$	0.62	0.47	0.46	0.77	0.59	95.1
Operational cycle	$Do = Dar + Dma$	421.8	457.9	517.8	526.2	412.0	97.7

duration (Do)							
Financial cycle duration (Cf)	$Cf = Do - Dap$	391.6	378.6	453.8	494.4	381.6	97.4

The table data indicate that the speed of all funds of the enterprise is slightly reduced, this is indicated by the coefficient of total capital turnover. It decreases in the reporting year compared to the baseline by 3.5%. The turnover ratio of working capital has been declining in dynamics for five years, in general, we can say that the ruble of current assets accounts for only 0.88 rubles of revenue in 2021. The duration of turnover of current assets increases by 68.2% or by 168.2 days. The duration of the turnover of material assets is slightly reduced - by only 4 days. Therefore, the transition of material assets into monetary equivalent is improving. It should be noted that the duration of the turnover of accounts receivable is decreasing at the enterprise, since its value is decreasing in dynamics, but revenue, on the contrary, is increasing. The turnover ratio of accounts payable increases by more than 2 times. This indicates that the turnover rate of the company's debt is increasing and the period of covering urgent debt is shortening. The operational cycle duration is shortened, which means that the time of the transition of material resources into money is decreasing at the enterprise. Therefore, the time of withdrawal of funds from circulation is reduced by exactly 10 days.

4 Conclusion

The analysis of the financial condition of the enterprise allowed to draw the following conclusions:

- the company has a profit mainly due to subsidies received from the state;
- in general, the company is liquid;
- there is a decrease in the profitability indicator;
- the turnover rate of working capital is decreasing;
- the company is not at risk for the analyzed period;
- the company has no debt obligations;
- the company is characterized by high business activity;
- the assets of the enterprise are used effectively;
- there is absolute financial stability at the PAC "Klyuchi".

References

1. I.T. Abdukarimov, M.V. Bepalov, *Financial and economic analysis of economic activity of commercial organizations (business activity analysis)*: Textbook (M.: SIC Infra-M, 2017) 320 p.
2. V.R. Bank, A.V. Taraskina, *Theory of economic analysis* (M.: Finance and Statistics, 2019) 536 p.
3. K.B. Borodulina, System management **1(30)** (2018) URL: <http://elibrary.ru/item.asp?id=25815295>
4. M.A. Vakhrushina, *Analysis of financial statements*: Textbook / Edited by M.A. Vakhrushina, 2nd ed (M.: University textbook: INFRA-M, 2018) 431 p.
5. V.A. Volnin, A.A. Koroleva, Financial Bulletin: finance, taxes, insurance, accounting **1** (2019)
6. S.U. Gapaeva, Young scientist **12**, 279-282 (2018)
7. L.T. Gilyarovskaya, A.V. Endovitskaya, *Analysis and assessment of financial stability of commercial organizations*: textbook. manual for university students studying in the

- specialties 080109 "Accounting, analysis and audit", 080105 "Finance and credit" (M.: UNITY-DANA, 2017) 159 p.
8. E.S. Erina, *Fundamentals of analysis and diagnostics of the financial condition of the enterprise: textbook* (M.: Publishing House MSSU, 2018) 96 p.
 9. M.N. Ermakova, *Analysis of liquidity in conditions of financial crisis, Analysis and modern information technologies in ensuring economic security of business and the state Collection of scientific papers and results of joint research projects*. RUE named after G.V. Plekhanov. (Moscow, 2018) URL: <http://elibrary.ru/item.asp?id=25745248>
 10. S.I. Zhminko, V.V. Shol, A.V. Petukh, et al., *Complex economic analysis: Textbook*, (Moscow: Forum, 2018) 368 p.
 11. V. A. Tomashevskaya, M.N. Adushev, *Young scientist* **12(116)**, 1473-1476 (2016) URL: <https://moluch.ru/archive/116/31663/>.