


Tomas Heryan, PhD Department of Finance & Accounting	 SILESIA UNIVERSITY FACULTY OF BUSINESS ADMINISTRATION IN KATOWICE		Company	Company	Company	Company	Company	Horizontal analysis (in absolute values)				Vertical analysis (relatively in %)				
			ABC	ABC	ABC	ABC	ABC	1st change	2nd change	3rd change	4th change	2018	2019	2020	2021	2022
			2018	2019	2020	2021	2022									
<b>Current assets</b>	<b>1 075 461</b>	<b>1 362 674</b>	<b>1 049 315</b>	<b>722 964</b>	<b>340 753</b>	287 213	-313 359	-326 351	-382 211	47.16 %	52.92 %	45.47 %	33.24 %	16.22 %		
Cash and cash equivalents	29 770	939	910	403	0	-28 831	-29	-507	-403	1.31 %	0.04 %	0.04 %	0.02 %	0.00 %		
Receivables short-term	954 737	1 271 082	955 575	630 153	334 668	316 345	-315 507	-325 422	-295 485	41.87 %	49.36 %	41.40 %	28.97 %	15.93 %		
Receivables long-term	0	0	0	0	0	0	0	0	0	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %		
Stock/inventories	90 954	90 653	92 830	92 408	6 085	-301	2 177	-422	-86 323	3.99 %	3.52 %	4.02 %	4.25 %	0.29 %		
Other current ass. Prepaid expenses	40 772	45 823	6 931	261	386 558	5 051	-38 892	-6 670	386 297	1.79 %	1.78 %	0.30 %	0.01 %	18.40 %		
<b>Fixed assets</b>	<b>1 163 979</b>	<b>1 166 448</b>	<b>1 251 703</b>	<b>1 461 855</b>	<b>1 373 007</b>	2 469	85 255	200 152	-78 848	51.05 %	45.30 %	54.23 %	66.75 %	65.37 %		
Long-term investments	318	100	100	100	1 302 518	-218	0	1 302 418	0.01 %	0.00 %	0.00 %	0.00 %	62.02 %			
Tangible assets	1 163 204	1 106 255	1 198 233	1 410 414	45 186	-56 949	91 978	212 181	-1 365 228	51.01 %	42.96 %	51.92 %	64.84 %	2.15 %		
Intangible assets	457	60 093	53 370	41 341	25 303	59 636	-6 723	-12 029	-16 038	0.02 %	2.33 %	2.31 %	1.90 %	1.20 %		
<b>TOTAL ASSETS</b>	<b>2 280 212</b>	<b>2 574 945</b>	<b>2 307 948</b>	<b>2 175 080</b>	<b>2 100 318</b>	294 733	-266 996	-132 869	-74 762	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %		
<b>Debt capital</b>	<b>1 219 928</b>	<b>1 323 086</b>	<b>1 384 531</b>	<b>1 400 615</b>	<b>1 431 468</b>	103 158	61 445	16 084	30 853	53.50 %	51.38 %	59.99 %	64.39 %	68.15 %		
Bank loans	75 584	0	0	0	0	-75 584	0	0	0	3.31 %	0.00 %	0.00 %	0.00 %	0.00 %		
Payable short-term	869 011	1 087 798	1 124 889	1 309 863	1 419 605	218 787	37 091	184 974	109 742	38.11 %	42.25 %	48.74 %	60.22 %	67.59 %		
Payables long-term	55 220	62 965	59 942	59 173	3 978	7 745	-3 023	-769	-55 195	2.42 %	2.45 %	2.60 %	2.72 %	0.19 %		
Reserves	220 113	172 323	199 700	31 579	7 885	-47 790	27 377	-168 121	-23 694	9.65 %	6.69 %	8.65 %	1.45 %	0.38 %		
Other liabilities	0	30 504	61 063	24 344	0	30 504	30 559	-36 719	-24 344	0.00 %	1.18 %	2.65 %	1.12 %	0.00 %		
<b>Equity</b>	<b>1 060 284</b>	<b>1 221 355</b>	<b>862 355</b>	<b>750 121</b>	<b>668 850</b>	161 071	-359 000	-112 234	-81 271	46.50 %	47.43 %	37.36 %	34.49 %	31.85 %		
Net income	662 795	989 322	630 322	518 088	436 818	326 527	-359 000	-112 234	-81 270	29.07 %	38.42 %	27.31 %	23.82 %	20.80 %		
Income from previous years	0	0	1	1	0	0	1	0	-1	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %		
Funds from earnings	18 735	37 120	37 119	37 119	37 119	18 385	-1	0	0	0.82 %	1.44 %	1.61 %	1.71 %	1.77 %		
Retained earnings and other reserves	7 563	7 563	7 563	7 563	7 563	0	0	0	0	0.33 %	0.29 %	0.33 %	0.35 %	0.36 %		
Stated capital	371 191	187 350	187 350	187 350	187 350	-183 841	0	0	0	16.28 %	7.28 %	8.12 %	8.61 %	8.92 %		
<b>TOTAL LIABILITIES</b>	<b>2 280 212</b>	<b>2 574 945</b>	<b>2 307 948</b>	<b>2 175 080</b>	<b>2 100 318</b>	294 733	-266 996	-132 869	-74 762	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %		

	2018	2019	2020	2021	2022
<b>TOTAL ASSETS</b>	2 280 212	2 574 945	2 307 949	2 175 080	2 100 318
Fixed assets	1 163 979	1 166 448	1 251 703	1 451 855	1 373 007
Current assets	1 075 461	1 362 674	1 049 315	722 964	340 753

	1st change	2nd change	3rd change	4th change
<b>TOTAL ASSETS</b>	294 733	-266 996	-132 869	-74 762
Fixed assets	2 469	85 255	200 152	-78 848
Current assets	287 213	-313 359	-326 351	-382 211

	2018	2019	2020	2021	2022
Fixed assets	51,05 %	45,30 %	54,23 %	66,75 %	65,37 %
Current assets	47,16 %	52,92 %	45,47 %	33,24 %	16,22 %
Other assets	1,79 %	1,78 %	0,30 %	0,01 %	18,40 %

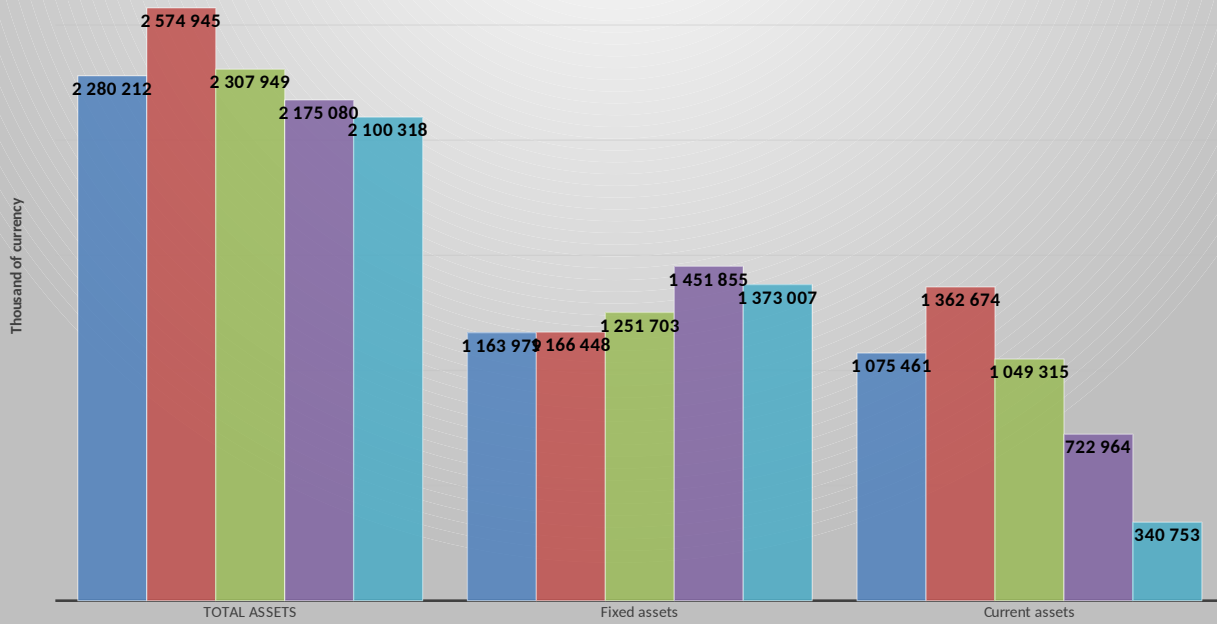
	2018	2019	2020	2021	2022
<b>TOTAL LIABILITIES</b>	2 280 212	2 574 945	2 307 949	2 175 080	2 100 318
Equity	1 060 284	1 221 355	862 355	750 121	668 850
Debt capital	1 219 928	1 323 086	1 384 531	1 400 615	1 431 468

	1st change	2nd change	3rd change	4th change
<b>TOTAL LIABILITIES</b>	294 733	-266 996	-132 869	-74 762
Equity	161 071	-359 000	-112 234	-81 271
Debt capital	103 158	61 445	16 084	30 853

	2018	2019	2020	2021	2022
Equity	46,50 %	47,43 %	37,36 %	34,49 %	31,85 %
Debt capital	53,50 %	51,38 %	59,99 %	64,39 %	68,15 %
Other Liabilities	0,00 %	1,18 %	2,65 %	1,12 %	0,00 %

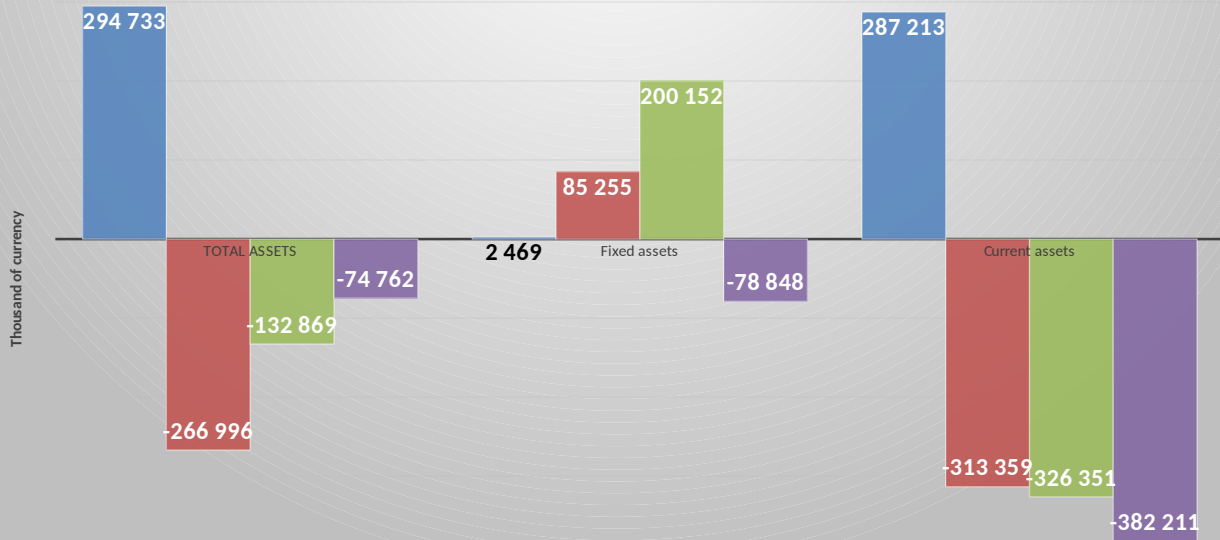


## HORIZONTAL analysis ASSETS



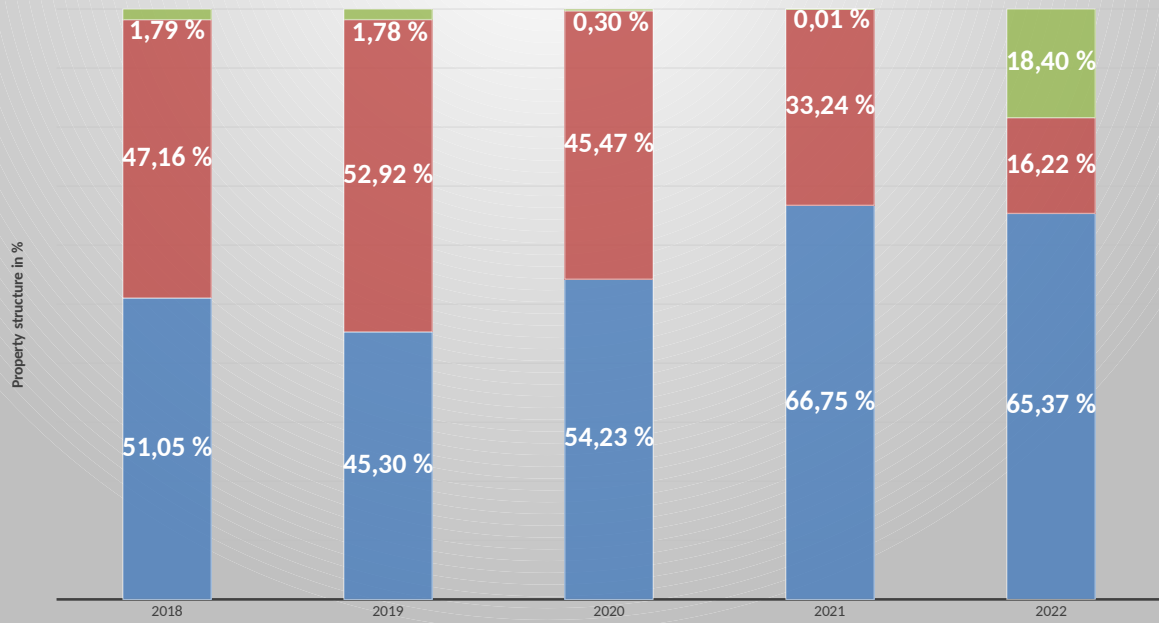


## Main changes among ASSETS



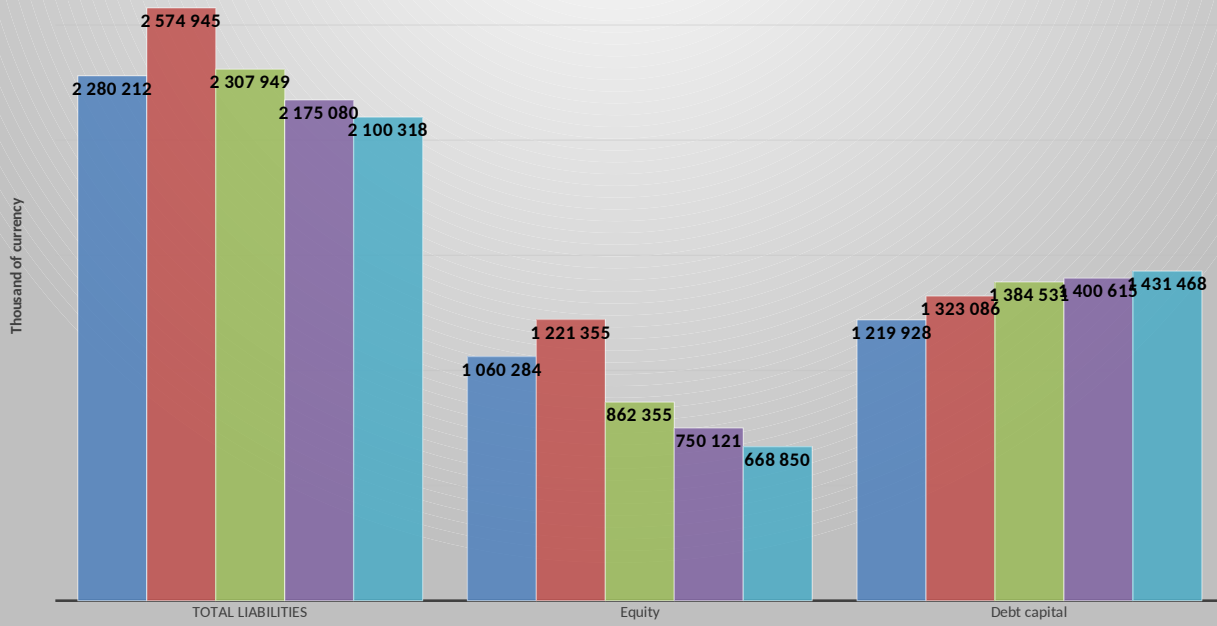


## VERTICAL analysis ASSETS



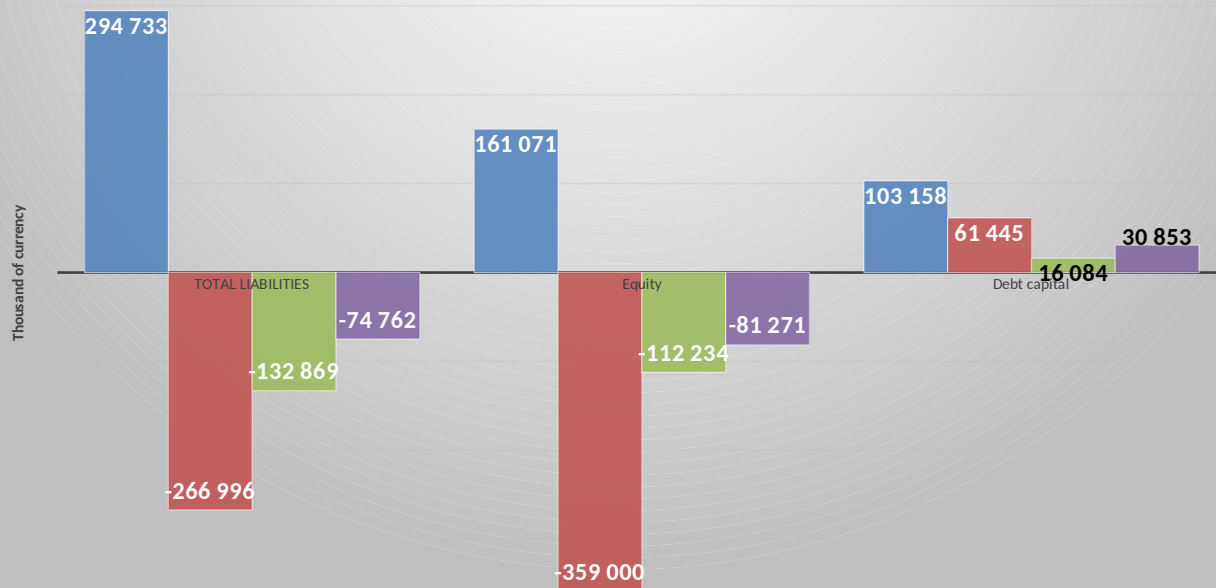


## HORIZONTAL analysis LIABILITIES



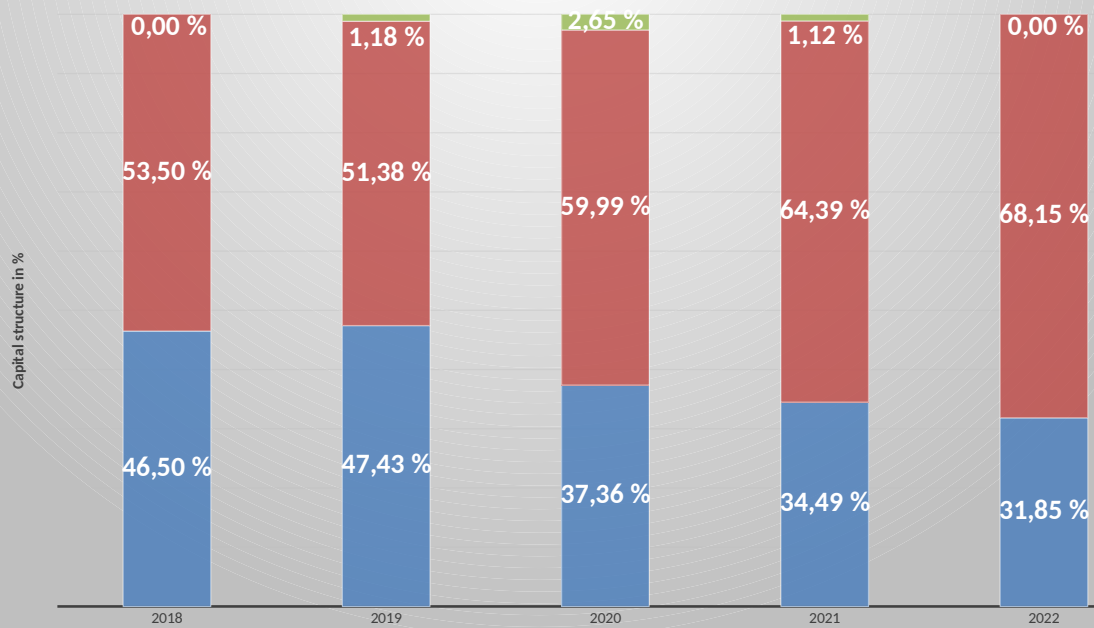


## Main changes among LIABILITIES






## VERTICAL analysis LIABILITIES





Tomaz Heryan, PhD Department of Finance & Accounting	 SILESIAN UNIVERSITY FACULTY OF BUSINESS ADMINISTRATION IN KATOWICE		Company ABC	Company ABC	Company ABC	Company ABC	Company ABC	Horizontal analysis (in absolute values)				Vertical analysis (relatively in %)				
			2018	2019	2020	2021	2022	1st change	2nd change	3rd change	4th change	2018	2019	2020	2021	2022
Receivables long-term	444 662	385 527	457 132	399 379	1 772 479	-59 135	71 605	-57 753	1 373 100	89 %	46 %	96 %	104 %	447 %		
Expenses/costs on sold goods	252 468	297 719	375 437	343 492	1 400 002	45 251	77 718	-31 945	1 056 510	50 %	36 %	78 %	89 %	353 %		
Sales margin	192 194	87 808	81 695	55 887	372 477	-104 386	-6 113	-25 808	316 590	38 %	11 %	17 %	15 %	94 %		
Rendering services	9 949 306	3 981 876	4 251 683	4 585 277	1 639 825	-64 430	369 807	333 394	-2 945 452	78 %	464 %	889 %	1191 %	411 %		
Expenses/costs on rendering services	2 574 675	2 523 684	2 719 677	3 144 807	1 211 258	-50 991	195 993	425 130	-1 933 549	514 %	302 %	568 %	817 %	306 %		
Added value	1 563 825	1 446 000	1 613 701	1 496 357	801 044	-117 825	167 701	-117 344	-695 313	312 %	173 %	337 %	389 %	202 %		
Salaries and wages	588 493	526 934	536 638	599 031	240 795	-61 559	9 704	62 393	-358 236	117 %	63 %	112 %	156 %	61 %		
Taxes and fees	2 289	3 701	1 407	1 227	919	1 412	-2 294	-180	-308	0 %	0 %	0 %	0 %	0 %		
Depreciation / Amortization	186 856	183 491	204 913	224 944	80 126	-3 365	21 422	20 031	-144 818	37 %	22 %	43 %	58 %	20 %		
Sales from fixed asset	43 318	39 010	6 421	4 740	99 747	-4 306	-32 589	-1 681	95 007	9 %	5 %	1 %	1 %	25 %		
Changes among the operating reserves	3 415	-45 148	25 116	-10 366	-19 293	-48 563	70 264	-41 482	-2 927	1 %	-5 %	5 %	-4 %	-5 %		
Other operating revenues	16 826	7 712	44 720	60 006	7 929	-9 114	37 008	5 066	-42 077	3 %	1 %	9 %	13 %	2 %		
Other operating expenses	33 849	23 537	87 477	88 182	2 957	-10 312	63 940	705	-85 225	3 %	3 %	18 %	23 %	1 %		
Transfer of operating revenues	0	0	0	0	0	0	0	0	0	0 %	0 %	0 %	0 %	0 %		
Transfer of operating expenses	0	0	0	0	0	0	0	0	0	0 %	0 %	0 %	0 %	0 %		
Operating profit/loss	779 273	778 821	806 256	648 185	502 458	-452	27 435	-158 071	-145 727	156 %	93 %	169 %	168 %	127 %		
Sales from selling shares	0	349 229	0	0	0	349 229	-349 229	0	0	0 %	42 %	0 %	0 %	0 %		
Sold financial instruments	0	152	0	0	0	152	-152	0	0	0 %	0 %	0 %	0 %	0 %		
Revenues from financial investments	34 736	0	0	0	0	-34 736	0	0	0	7 %	0 %	0 %	0 %	0 %		
Revenues from short-term financial assets	0	0	0	0	0	0	0	0	0	0 %	0 %	0 %	0 %	0 %		
Expenses from short-term financial assets	0	0	0	0	0	0	0	0	0	0 %	0 %	0 %	0 %	0 %		
Revenues from the shares overpricing	0	0	0	0	0	0	0	0	0	0 %	0 %	0 %	0 %	0 %		
Expenses from the shares overpricing	0	0	0	0	0	0	0	0	0	0 %	0 %	0 %	0 %	0 %		
Changes among the financial reserves	0	0	0	0	0	0	0	0	0	0 %	0 %	0 %	0 %	0 %		
Interest revenues	2 262	711	2 072	19	0	-1 551	1 361	-2 053	-19	0 %	0 %	0 %	0 %	0 %		
Interest expenses	1 720	172	3 071	2 316	4 719	-1 548	2 899	-755	2 403	0 %	0 %	1 %	5 %	1 %		
Other financial revenues	41 856	41 752	52 101	75 769	81 511	-104	10 349	23 668	5 742	8 %	5 %	11 %	20 %	21 %		
Other financial expenses	31 935	27 544	75 152	70 577	101 925	-4 391	47 608	-4 575	31 348	6 %	3 %	16 %	18 %	26 %		
Transfer of financial revenues	0	0	0	0	0	0	0	0	0	0 %	0 %	0 %	0 %	0 %		
Transfer of financial expenses	0	0	0	0	0	0	0	0	0	0 %	0 %	0 %	0 %	0 %		
Profit or loss from financial operations	45 199	363 824	-24 050	2 895	-25 123	318 625	-387 874	26 945	-28 018	9 %	44 %	-5 %	1 %	-6 %		
Income taxes	161 677	153 323	151 884	132 992	82 413	-8 354	-1 439	-18 892	-50 579	32 %	18 %	32 %	35 %	21 %		
Profit or loss from ordinary activity	662 795	989 322	630 322	518 088	394 912	326 527	-359 000	-112 234	-123 176	132 %	118 %	132 %	135 %	100 %		
Other revenues	0	0	0	0	61 205	0	0	61 205	0	0 %	0 %	0 %	0 %	15 %		
Other expenses	0	0	0	0	9 464	0	0	9 464	0	0 %	0 %	0 %	0 %	2 %		
Other taxes	0	0	0	0	9 830	0	0	9 830	0	0 %	0 %	0 %	0 %	2 %		
Extraordinary profit/loss	0	0	0	0	41 906	0	0	41 906	0	0 %	0 %	0 %	0 %	11 %		
Net income	501 118	835 999	478 438	385 096	396 311	334 881	-357 561	-93 342	11 215	100 %	100 %	100 %	100 %	100 %		

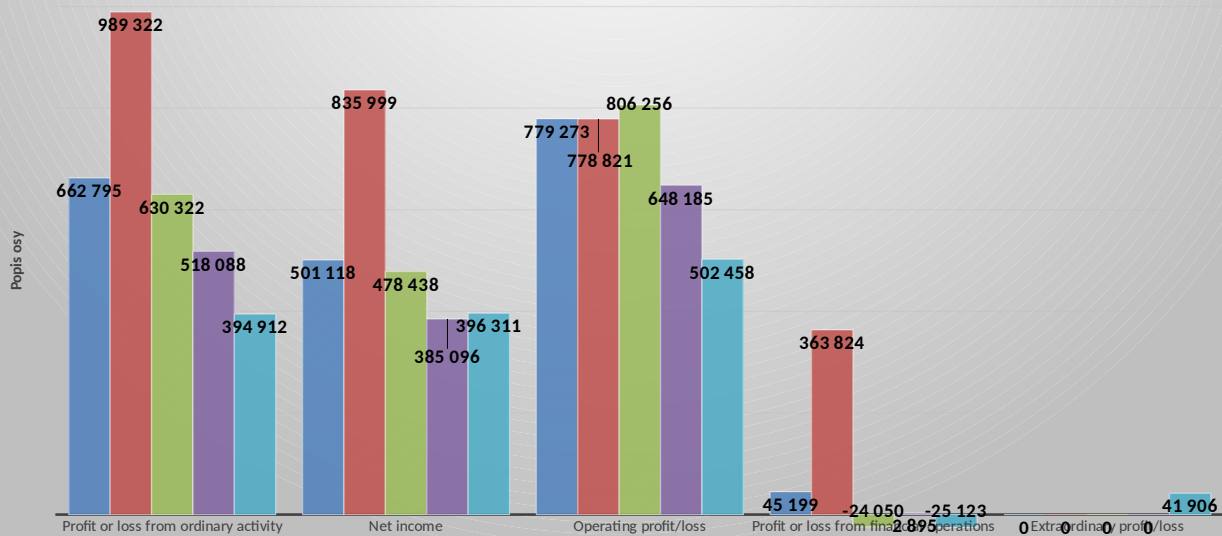
	2018	2019	2020	2021	2022
Profit or loss from ordinary activity	662 795	989 322	630 322	518 088	394 912
Net income	501 118	835 999	478 438	385 096	396 311
Operating profit/loss	779 273	778 821	806 256	648 185	502 458
Profit or loss from financial operations	45 199	363 824	-24 050	2 895	-25 123
Extraordinary profit/loss	0	0	0	0	41 906

	1st change	2nd change	3rd change	4th change
Profit or loss from ordinary activity	326 527	-359 000	-112 234	-123 176
Net income	334 881	-357 561	-93 342	11 215
Operating profit/loss	-452	27 435	-158 071	-145 727
Profit or loss from financial operations	318 625	-387 874	26 945	-28 018
Extraordinary profit/loss	0	0	0	41 906

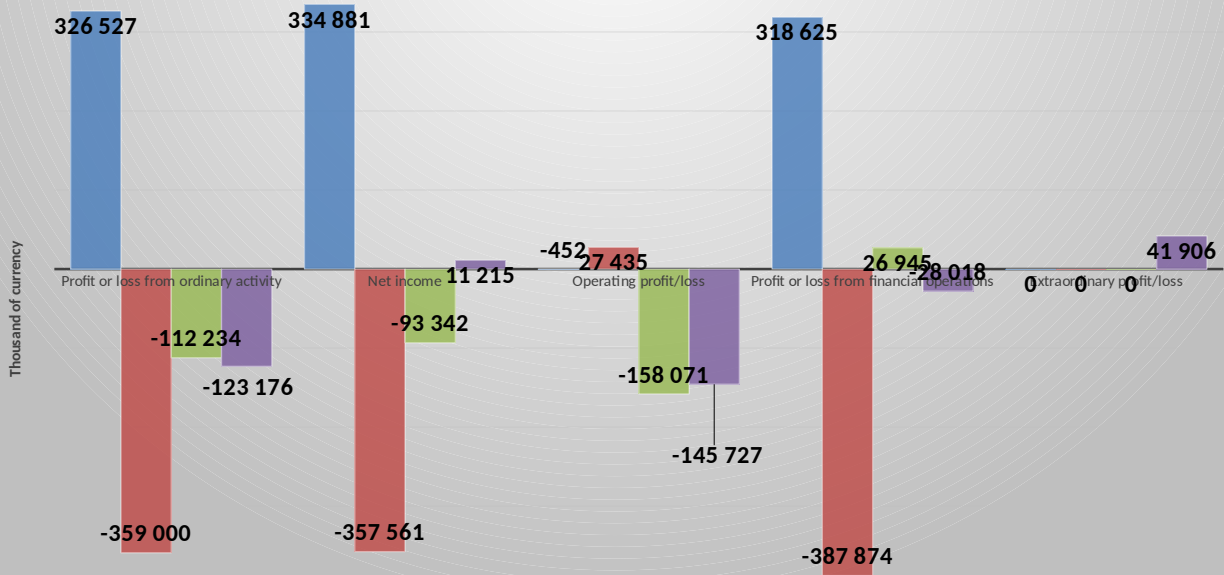


## HORIZONTAL analysis PROFIT & LOSS statement





## Changes among PROFIT & LOSS statement



<b>Liquidity ratios:</b>	2018	2019	2020	2021
Cash Position Ratio (L1) = cash and equivalents / short term liabilities	0,03	0,00	0,00	0,00
Quick test (L2) = (current assets - inventories) / short term liabilities	1,04	1,17	0,85	0,48
Current liquidity (L3) = current assets / short term liabilities	1,14	1,25	0,93	0,55
Working capital = current assets - short term liabilities	<b>130 866</b>	<b>274 876</b>	<b>-75 574</b>	<b>-586 899</b>
Working capital's Turnover = sales / working capital	33,88	16,94	-62,39	-8,50

<b>Return ratios:</b>	2018	2019	2020	2021
ROA = EAT / total assets (return on assets with earnings after tax)	<b>21,98 %</b>	<b>32,47 %</b>	<b>20,73 %</b>	<b>17,70 %</b>
ROI = EBIT / total assets (with earnings before interest and taxes)	34,18 %	30,25 %	34,93 %	29,80 %
ROE = EAT / equity (return on equity)	<b>47,26 %</b>	<b>68,45 %</b>	<b>55,48 %</b>	<b>51,34 %</b>
ROS = EAT / tržby (return on sales)	11,30 %	17,96 %	10,15 %	7,72 %

<b>Activity ratios:</b>	2018	2019	2020	2021
Asset Turnover Ratio = sales / total assets	1,94	1,81	2,04	2,29
Assets' Turnover = 365 / Asset Turnover Ratio (result in days)	187,69	201,87	178,66	159,12
Inventory Turnover Ratio = sales / Inventories	48,75	51,36	50,79	53,99
Inventories' Turnover = 365 / Inventory Turnover Ratio (result in days)	7,49	7,11	7,19	6,76
Receivable Turnover Ratio = sales / pohledávky	4,64	3,66	4,93	7,92
Receivables' Turnover = 365 / Receivable Turnover Ratio (result in days)	78,59	99,65	73,97	46,10
Payable Turnover Ratio = sales / závazky	5,10	4,28	4,19	3,81
Payables' Turnover = 365 / Payable Turnover Ratio (result in days)	71,53	85,28	87,08	95,82
Period of credit from creditors	-7,06	-14,37	13,11	49,72

<b>Debt ratios:</b>	2018	2019	2020	2021
Debt ratio = debt equity / total assets	53,50 %	51,38 %	59,99 %	64,39 %
Equity ratio = equity / total assets	46,50 %	47,43 %	37,36 %	34,49 %
Financial leverage = total assets / equity	2,151	2,108	2,676	2,900
Debt/equity ratio = debt equity / equity	1,151	1,083	1,606	1,867
Interests covering = (EBIT) / interests paid	23,155	28,100	10,307	8,892
Max. interest rate = financial expenses / (equity+bank loans+bonds)	<b>2,96 %</b>	<b>2,27 %</b>	<b>9,07 %</b>	<b>9,72 %</b>
Possibility of other debt taking	YES	YES	YES	YES

2022
0,00
0,24
0,24
<b>-1 078 852</b>
-3,26

2022
<b>18,87 %</b>
23,92 %
<b>59,25 %</b>
11,28 %

2022
1,67
218,28
577,17
0,63
10,49
34,78
2,47
147,54
112,76

2022
68,15 %
31,85 %
3,140
2,140
4,712
<b>15,94 %</b>
<b>YES</b>

	2018	2019	2020	2021	2022
L1 (0.20 - 1.00)	0,03	0,00	0,00	0,00	0,00
L2 (1.00 - 1.50)	1,04	1,17	0,85	0,48	0,24
L3 (1.50 - 2.00)	1,14	1,25	0,93	0,55	0,24

	2018	2019	2020	2021	2022
ROA (EAT)	21,98 %	32,47 %	20,73 %	17,70 %	18,87 %
ROI (EBIT)	34,18 %	30,25 %	34,93 %	29,80 %	23,92 %
ROE (EAT)	47,26 %	68,45 %	55,48 %	51,34 %	59,25 %
ROS (EAT)	11,30 %	17,96 %	10,15 %	7,72 %	11,28 %

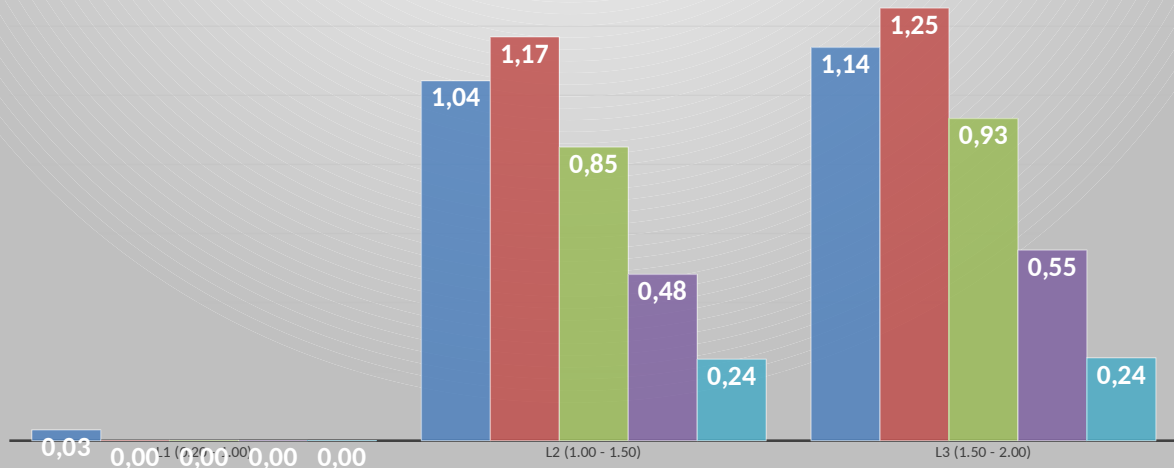
	2018	2019	2020	2021	2022
Inventories' Turnover	7,49	7,11	7,19	6,76	0,63
Receivables' Turnover	78,59	99,65	73,97	46,10	34,78
Payables' Turnover	71,53	85,28	87,08	95,82	147,54
Credit's Turnover	-7,06	-14,37	13,11	49,72	112,76

	2018	2019	2020	2021	2022
Debt ratio	53,50 %	51,38 %	59,99 %	64,39 %	68,15 %
Equity ratio	46,50 %	47,43 %	37,36 %	34,49 %	31,85 %



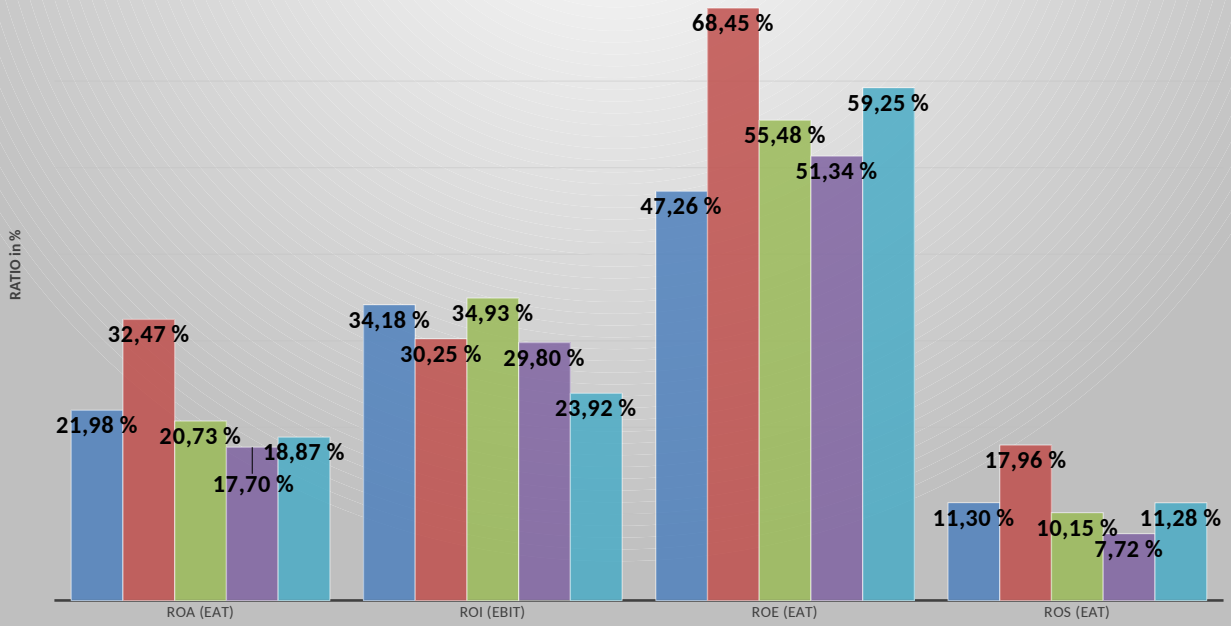
## LIQUIDITY ratios

value of the ratio





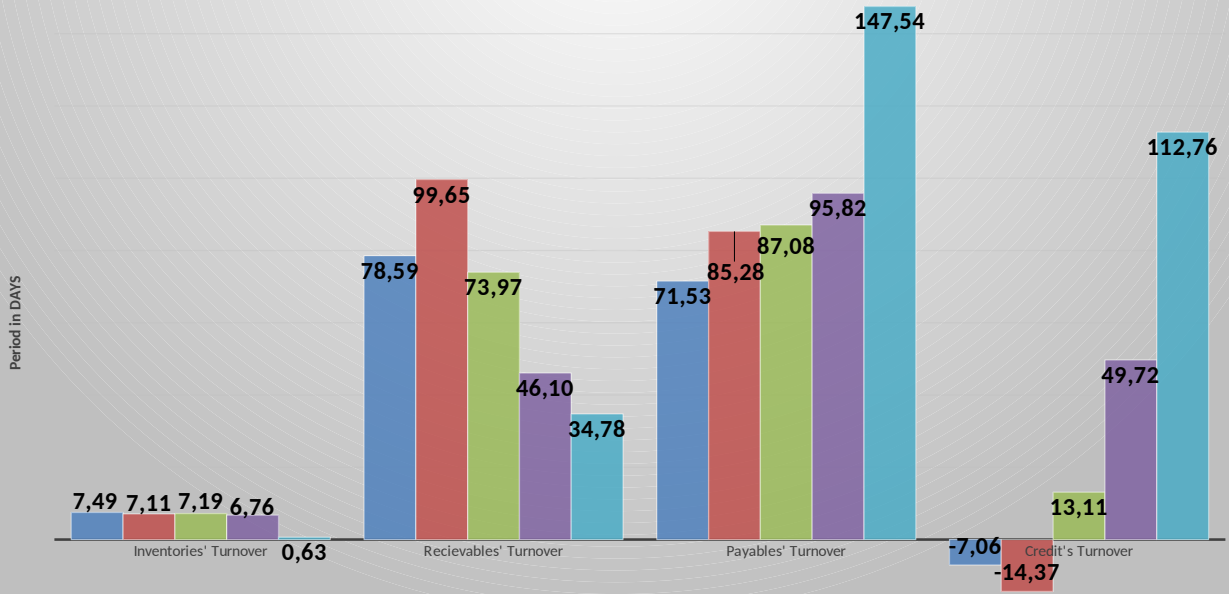
## RETURN ratios







## ACTIVITY ratios





## DEBT ratios

