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Reforming Master Programmes in Finance in Armenia and Moldova / REFINE

An Erasmus+ Capacity Building Project (2017-2020)

THE COURSE RAU ... Financial Statement Analysis...

University. Russian-Armenian
Teacher: Karen Nersesyan



BASIC INFORMATION



TITLE OF THE COURSE	Financial statement analysis
TEACHERS	Karen Nersesyan
YEAR OF THE COURSE	1
SEMESTER OF THE COURSE	2
LANGUAGE	English, russian
NUMBER OF ECTS CREDITS	6

LEARNING OUTCOMES



- On successful completion of these programs, students will be able to:
- Recommend a course of action to a prospective client by using a framework or model to analysis financial statements and other relevant data.
- Analyse the performance of a company using trend analysis, common-size financial statements and segment reporting.
- Evaluate the accounting implications of an economic event by applying the principles, standards, and practices of financial accounting.
- Advise managers of how strategic business risks relate to internal controls, financial reporting, tax, and/or audit using authoritative literature, fieldwork, surveys, archival, or other research data.
- Identify and describe complex business problems in terms of analytical models.

SYLLABUS OF THE COURSE



WEEK	TOPIC
1	The financial analysis acceptance tool managerial making decisions development strategies the company.
2	Objectives and stages of the financial analysis, sources information for analysis.
3-5	Complex analysis approach financial state of the company
6-8	System indicators in the assessment financial performance company.
9-11	Accounting ratios to measure performance.
12-14	Forecasting Financial statements

TEACHING METHODOLOGY



- The methodologies course used in the various subjects have been devised and planned so that this theoretical/practical approach is adopted throughout our programs. Groups are small, allowing maximum interaction between instructors and students and among the students themselves. Teaching methodologies include the following: Lectures and analysis of teaching notes,
- analysis and discussion of case studies in small groups as well as in class, sessions with invited speakers, teamwork and class presentations, financial modeling and simulations, individual reading and research, role-play sessions, etc.

TEACHING METHODOLOGY



- The practical approach adopted for teaching all subjects (reflection, analysis, action and evaluation) aims to help students acquire and consolidate their knowledge, focusing always on decision-making and professional practice.
- Everyday classes are complemented by a series of extracurricular activities (lectures, seminars, workshops, visits, practical training, etc.) to help participants expand their knowledge, focus their careers, gain professional experience, and try out initiatives and proposals drawn up by experts in different fields of action.

Labour market relevance of the course



- Financial analysts with master's degrees have the best chances of career advancement. For example, some analysts advance to portfolio manager positions, which give them the responsibility for selecting a portfolio's investments and supervising other analysts. Other analysts become fund managers, responsible for buy and sell decisions for mutual funds or hedge funds.

Assessment and grading



To be granted the course of Financial Statement Analysis credential, students must:

Complete all core and topics (6 in total) and demonstrate mastery of the topics through completion of course materials, control works, essays, case studies and assessments.

After passing through each topic, the student writes a quiz and makes case study. After completing half of the course, the student passes an intermediate exam in writing. At the end of the course, the student is required to submit an essay on a pre-selected topic. The final exam will be checked by the student.

Earn a minimum passing grade of 50% in each course assessment.

Assessment and grading



Assessment test	Assessment weight	form
Control work	10%	In writing
Essay	10%	In writing
Case study	10%	In writing
Mid exam	20%	In writing
Final exam	50%	In writing

References



- 1. Бернштейн Анализ финансовой отчетности/ - М.: Финансы и статистика, 2016. - 624 с.
- 2. В.В. Ковалев Финансовый анализ/ - М.: Финансы и статистика, 2017. - 432 с.
- 3. Financial Statement Analysis: A Practitioner's Guide, 4th Edition
Martin S. Fridson, Fernando Alvarez, July 2011
- 4. Analysis of Financial Statements, 3rd Edition
by CFA Frank J. Fabozzi, Pamela Peterson Drake
• Publisher: John Wiley & Sons
• Release Date: November 2012
- 5. Financial Statement Analysis: A Practitioner's Guide. 2011.
Martin S. Fridson, CFA and Fernando Alvarez.
• Reviewed by Christopher Shayne, CFA

Course assignments



During the course, students are offered assignments in the form of control work, essays, case studies, mid exam, final exam. During control work, the ability to understand the basic methods of financial analysis is checked. Students are given the option of writing essays on pre-designed topics. Homework is applied to ensure continuity of learning. Assignments for teaching examples are important. We use a ready-made excel program for financial analysis. Students are required to carry out practical examples with practical examples. Such an analysis. The final grade is determined on the basis of the intermediate and final exam.

Course assignments

Case study



- Case study. For financial ratio analysis is select Plant of Pure Iron OJSC . Plant of Pure Iron OJSC (the “Company”) is a legal successor of Clean Iron Development and Industrial Plant founded in 1968. In 1995 the Company was reorganized and renamed as Plant of Pure Iron OJSC.
- The Company’s principal activity is molybdenum concentrate processing into ferro-molybdenum and sintered molybdenum metal. In 2015 the Company started to provide molybdenum concentrate processing services. Till 2015 and during 2017 the Company also produced and sold its own ferro-molybdenum and sintered molybdenum metal.

Course assignments

Case study



Financial position statement

	Year ending <u>31.12.2016</u>	Year ending <u>31.12.2017</u>
(in thousands dram)		
Assets		
Current Assets		
Cash and cash equivalents	\$ 761 287	\$ 671 781
Marketable Securities	996 074	7 798 267
Accounts Receivable	377 382	12 537 552
Inventories	<u>1 344 336</u>	<u>743 003</u>
Total Current Assets	3 479 079	21 750 603
Long-Term Assets		
Property & Equipment at cost	69 921 061	59 284 140
Less Accumulated Depreciation	10 210 500	15 120 101
Net Property & Equipment	<u>59 710 561</u>	<u>44 164 039</u>
Total Long-Term Assets	59 710 561	44 164 039
TOTAL ASSETS	<u>\$63 189 640</u>	<u>\$65 914 642</u>
Liabilities		
Current Liabilities		
Accounts Payable	\$ 160 104	\$ 123 595
Current tax payable		357 517
Taxes Payable	125 866	74 723
Other Current Liabilities	32 540	27 399
Current Portion of Longterm Debt	<u>410</u>	<u>828 852</u>
Total Current Liabilities	318 920	1 412 086
Long-Term Liabilities		
Bank credit	2 759 415	2 022 000
Total Long-Term Liabilities	<u>2 759 415</u>	<u>2 022 000</u>
TOTAL LIABILITIES	<u>\$ 3 078 335</u>	<u>\$ 3 434 086</u>
Equity		
Share capital	\$ 690 930	\$ 690 930
Fair value reserve	9 421 469	9 742 366
Retained Earnings	<u>49 998 906</u>	<u>52 047 360</u>
TOTAL EQUITY	<u>\$60 111 305</u>	<u>\$62 480 656</u>

Course assignments

Case study



Comrehensive incom statement		Year ending
		<u>31.12.2017</u>
Revenues		(in thousands dram)
Revenue		\$ 8 601 376
Allowance for Sales Returned		-
Net Sales Revenues		8 601 376
TOTAL SALES		8 601 376
Expenses		
Cost of Goods Sold		4 935 082
Gross Profits		3 666 294
Operating Expenses:		
Selling & Marketing		282 652
General Administrative		795 697
Total Operating Expenses		1 078 349
Operating Income		2 587 945
Interest Expenses:		
Interest on Loans		850
Interest on Mortgage Bonds		2 310
Total Interest Expenses		3 160
Earnings Before Taxes		2 584 785
Tax		530 126
NET INCOME		<u>2 054 659</u>

Common size analysis



Balance Sheet

	Year ending <u>31.12.2016</u>	Year ending <u>31.12.2017</u>
Assets	(% of Total Assets)	
Cash	1,20%	1,02%
Marketable Securities	1,58%	11,83%
Accounts Receivable	0,60%	19,02%
Inventories	2,13%	1,13%
Total Current Assets	5,51%	33,00%
Net Property & Equipment	94,49%	67,00%
TOTAL ASSETS	<u>100,00%</u>	<u>100,00%</u>
Liabilities		
Current Liabilities	0,50%	2,14%
Long-Term Liabilities	4,37%	3,07%
TOTAL LIABILITIES	<u>4,87%</u>	<u>5,21%</u>
Equity		
TOTAL EQUITY	<u>95,13%</u>	<u>94,79%</u>
TOTAL LIABILITIES & EQUITY	<u>100,00%</u>	<u>100,00%</u>

Key Points per Review of the Common Size Balance Sheet:

- 1 The company is fairly liquid since current assets are 61% of total assets.
About 55% of all assets are tied up in either Accounts Receivable or Inventories.
- 2 Therefore, it is very important to effectively manage these two assets on the Balance Sheet.
The company does not appear to be too overly leveraged in debt with a debt leverage below 60%
- 3

Common size analysis



Income Statement

	Year ending 31.12.2017 (% of Total Net Sales)
NET SALES	100,00%
Cost of Goods Sold	57,38%
Gross Margin	42,62%
Operating Expense	12,54%
Operating Margin	30,09%
Interest Expense	0,04%
Earnings Before Taxes	30,05%
Tax Expense	6,16%
NET INCOME	23,89%

Key Points per Review of the Common Size Income Statement:

- 1 Cost of products sold represents 75% of all costs the company incurs
- 2 Operating costs appear to be modest at 14%
- 3 Return on Sales is rather low at 4.45%

Ratio analysis



	Year ending 31.12.2017
Liquidity Ratios	
1. Current Ratio = Current Assets / Current Liabilities	15,40
2. Acid Test or Quick Ratio = (Current Assets - Inventories - Prepaid Expenses) / Current Liabilities	14,88
3. Operating Cash Flow to Current Liabilities	1,83

Ratio analysis



Asset Management Ratios

4. Accounts Receivable Turnover = Annual Credit Sales / Average

Receivable Balance

1,33

5. Accounts Receivable Collection = 360 Days / Accounts Receivable Turnover

270,27

6. Inventory Turnover = Cost of Goods Sold / Average Inventory

4,73

7. Days Held in Inventory = 360 Days / Inventory Turnover

76,13

8. Fixed Asset Turnover = Sales / Average Net Fixed Assets

0,17

9. Total Asset Turnover = Sales / Average Total Assets

0,13

Ratio analysis



Leverage Ratios

10. Debt Ratio = Total Debt / Total Assets	<input type="text" value="0,05"/>
11. Debt to Equity Ratio = Total Debt / Total Equity	<input type="text" value="0,05"/>
12. Times Interest Earned = Earnings Before Interest and Taxes / Interest	<input type="text" value="818,97"/>

Ratio analysis



Profitability Ratios

13. Gross Profit or Margin = (Sales - Cost of Goods Sold) / Sales	<input type="text" value="0,43"/>
14. Operating Income Ratio = Operating Income / Sales	<input type="text" value="0,30"/>
15. Return on Sales = Earnings after Taxes / Sales	<input type="text" value="0,24"/>
16. Return on Investment = Earnings after Taxes / Average Total Assets	<input type="text" value="0,03"/>
17. Return on Equity = Earnings after Taxes / Average Owners Equity	<input type="text" value="0,20"/>

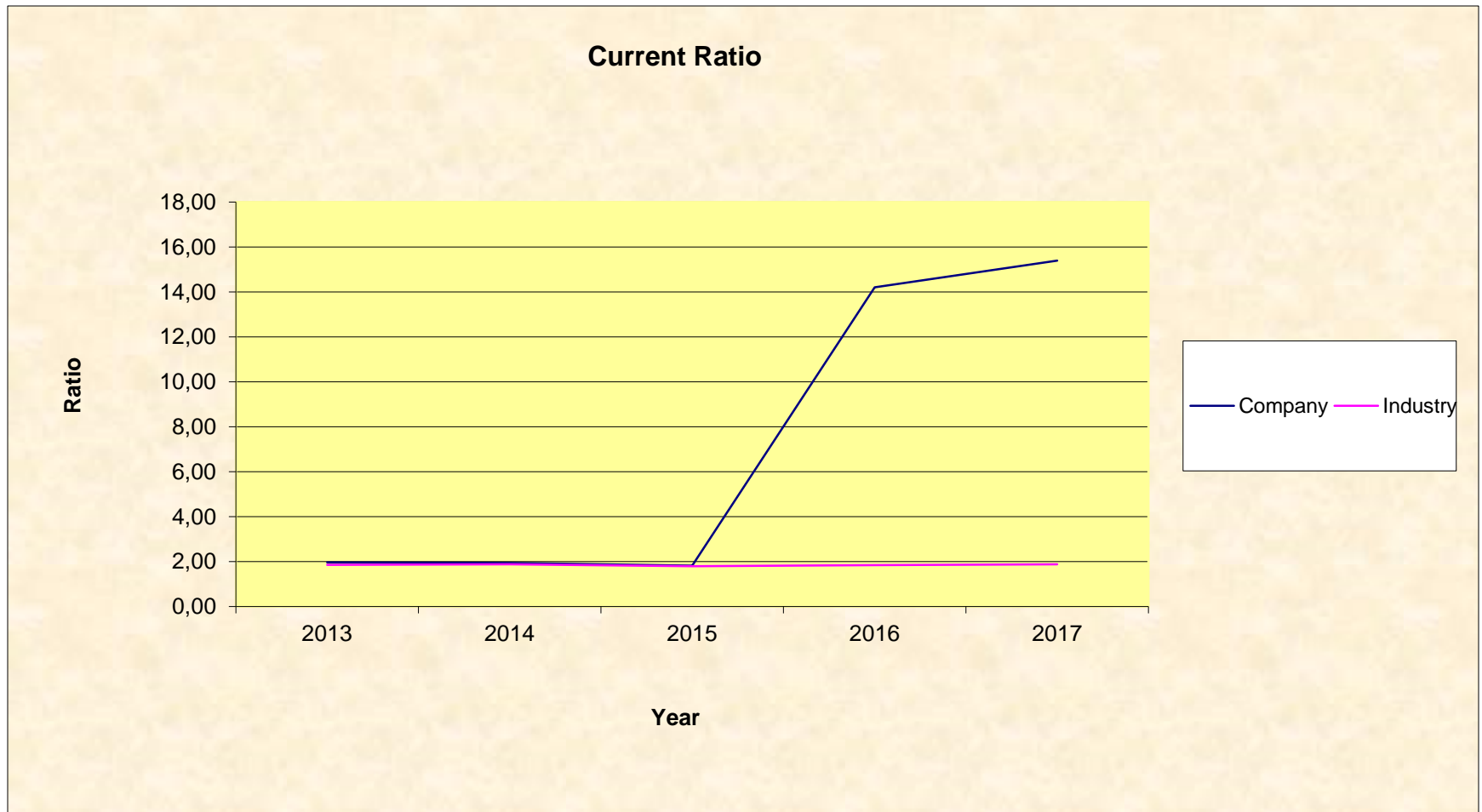
Industry trend analysis



1. Current Ratio Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	1,97	1,94	1,82	14,21	15,40
Industry	1,86	1,88	1,80	1,84	1,88

Industry trend analysis



Industry trend analysis



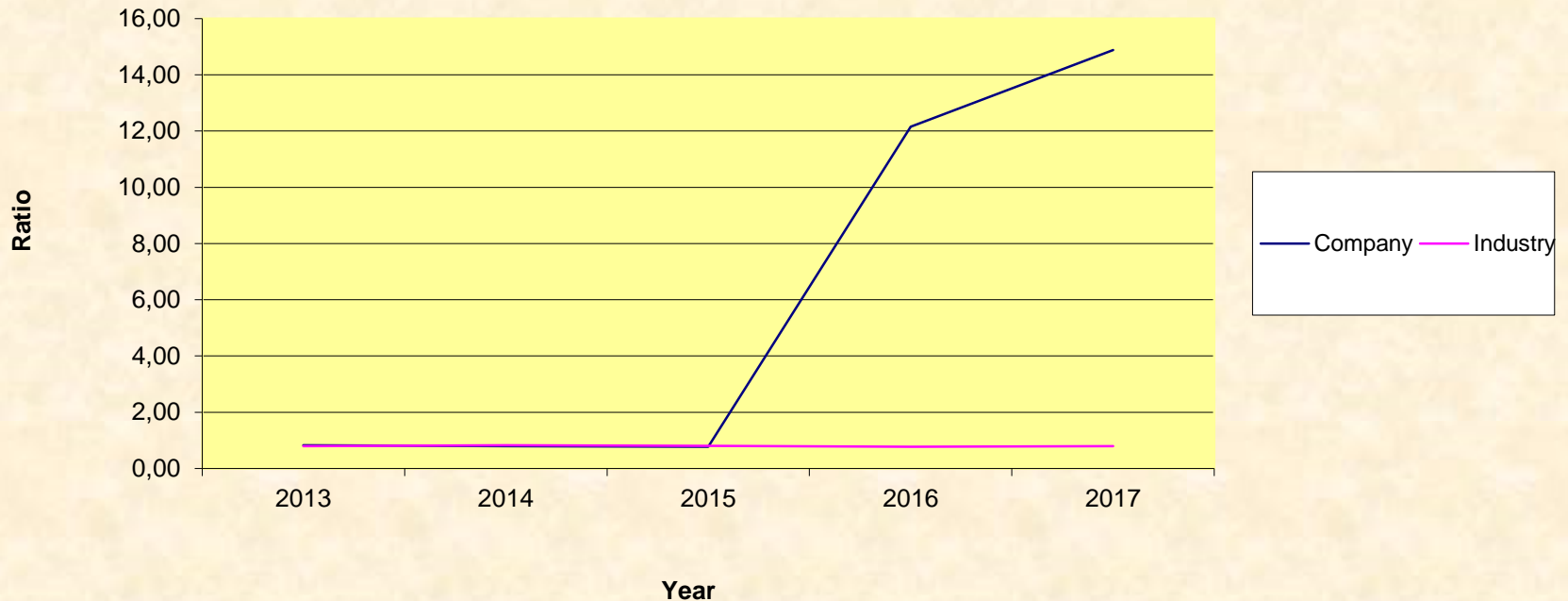
2. Acid Test or Quick Ratio Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	0,83	0,79	0,77	12,15	14,88
Industry	0,80	0,83	0,81	0,77	0,79

Industry trend analysis



Acid Test Ratio



Industry trend analysis



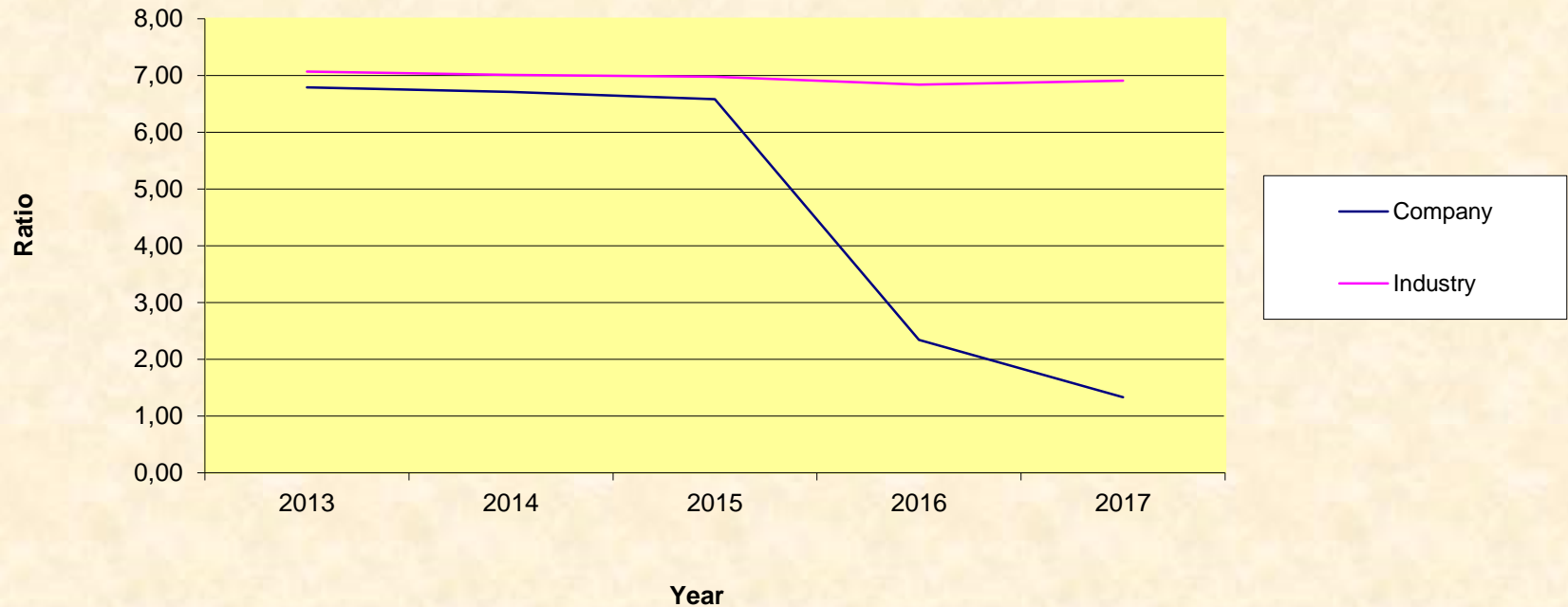
3. Accounts Receivable Turnover Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	6,79	6,71	6,58	2,34	1,33
Industry	7,07	7,01	6,98	6,84	6,91

Industry trend analysis



Receivable Turnover Ratio



Industry trend analysis



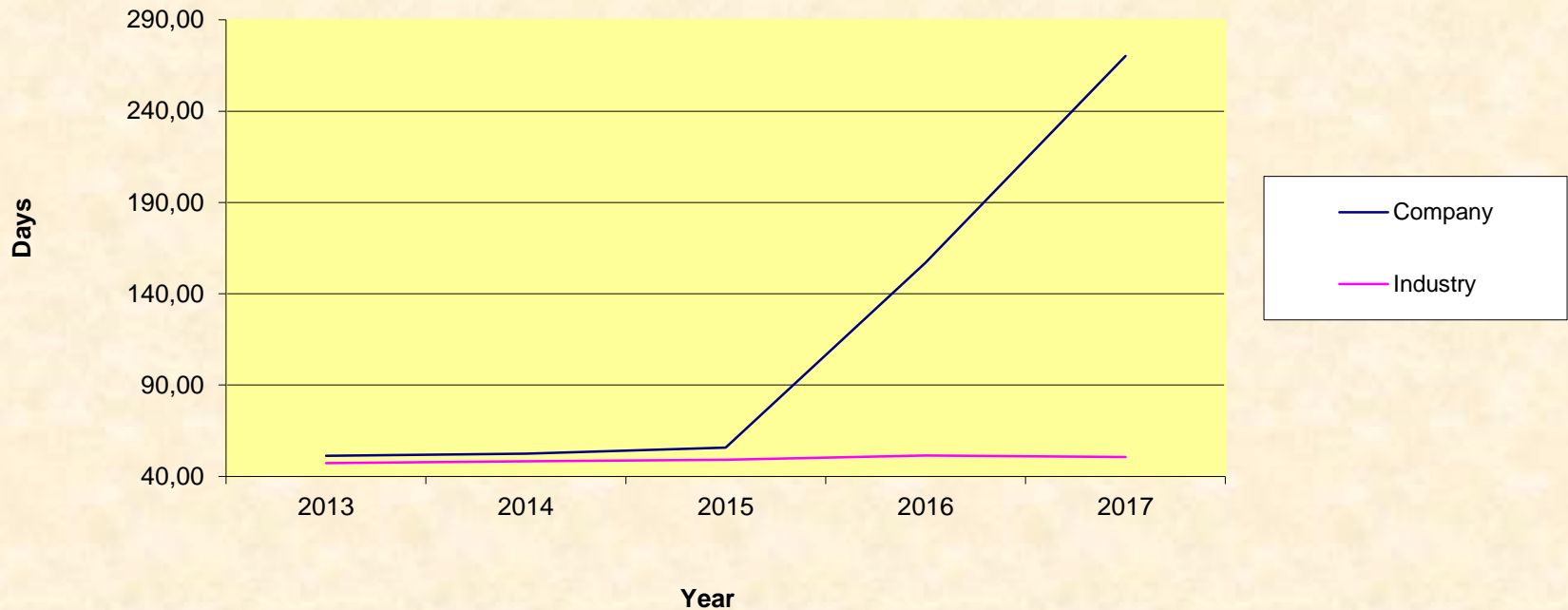
4. Accounts Receivable Collection Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	51,30	52,41	55,73	157,08	270,27
Industry	47,26	48,33	49,02	51,44	50,62

Industry trend analysis



Receivable Collection in Days



Industry trend analysis



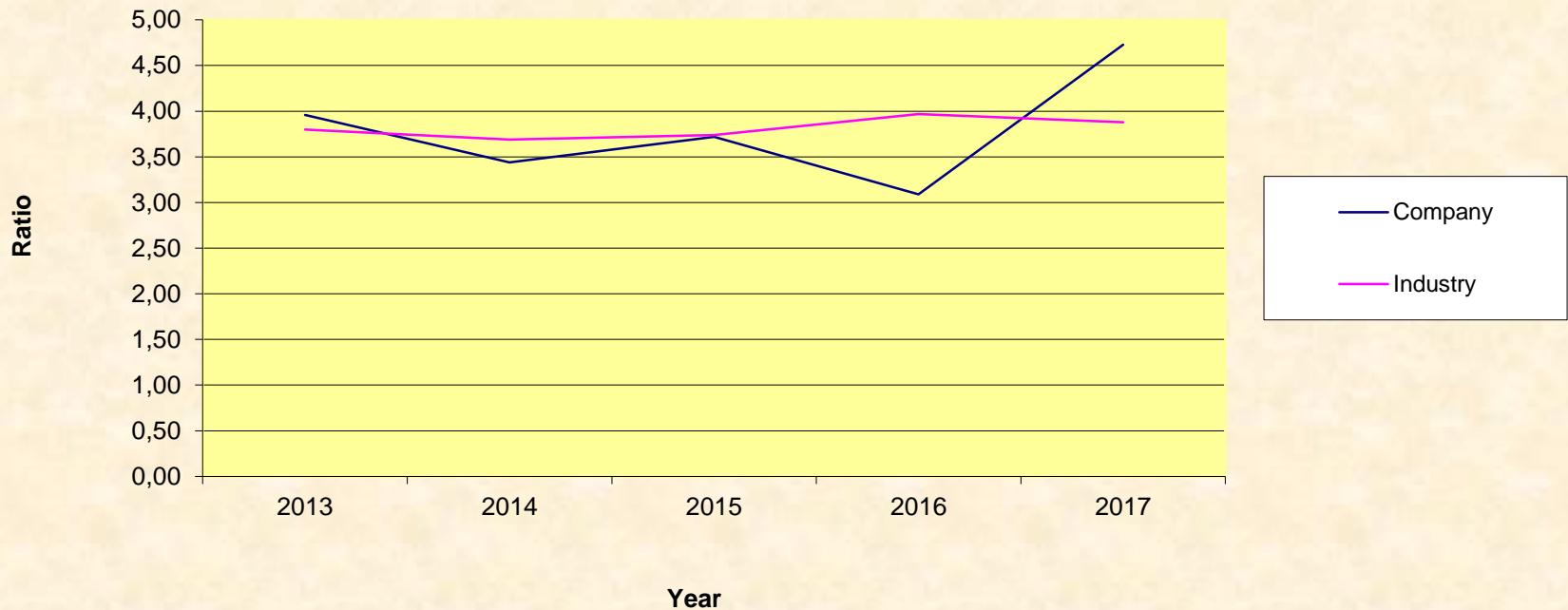
5. Inventory Turnover Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	3,96	3,44	3,72	3,09	4,73
Industry	3,80	3,69	3,74	3,97	3,88

Industry trend analysis



Inventory Turnover Ratio



Industry trend analysis



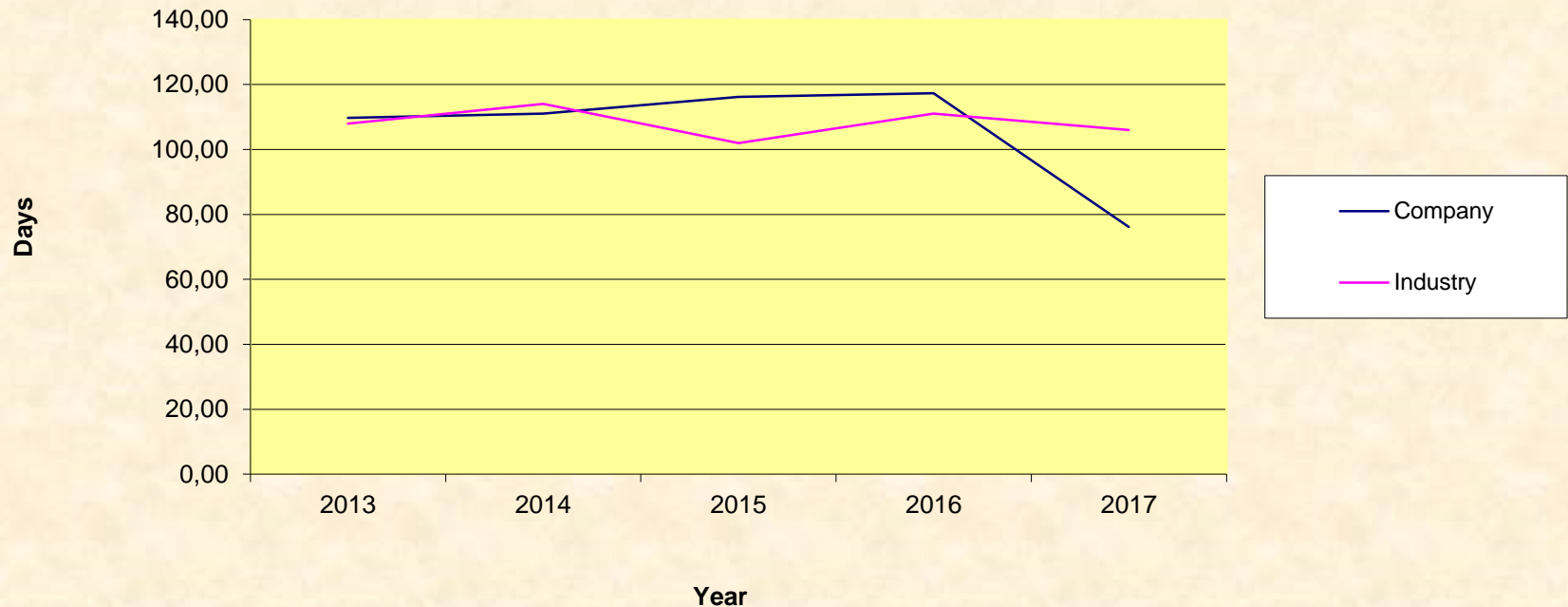
6. Days Held in Inventory Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	109,77	111,08	116,20	117,33	76,13
Industry	108,00	114,00	102,00	111,00	106,00

Industry trend analysis



Days Held in Inventory



Industry trend analysis



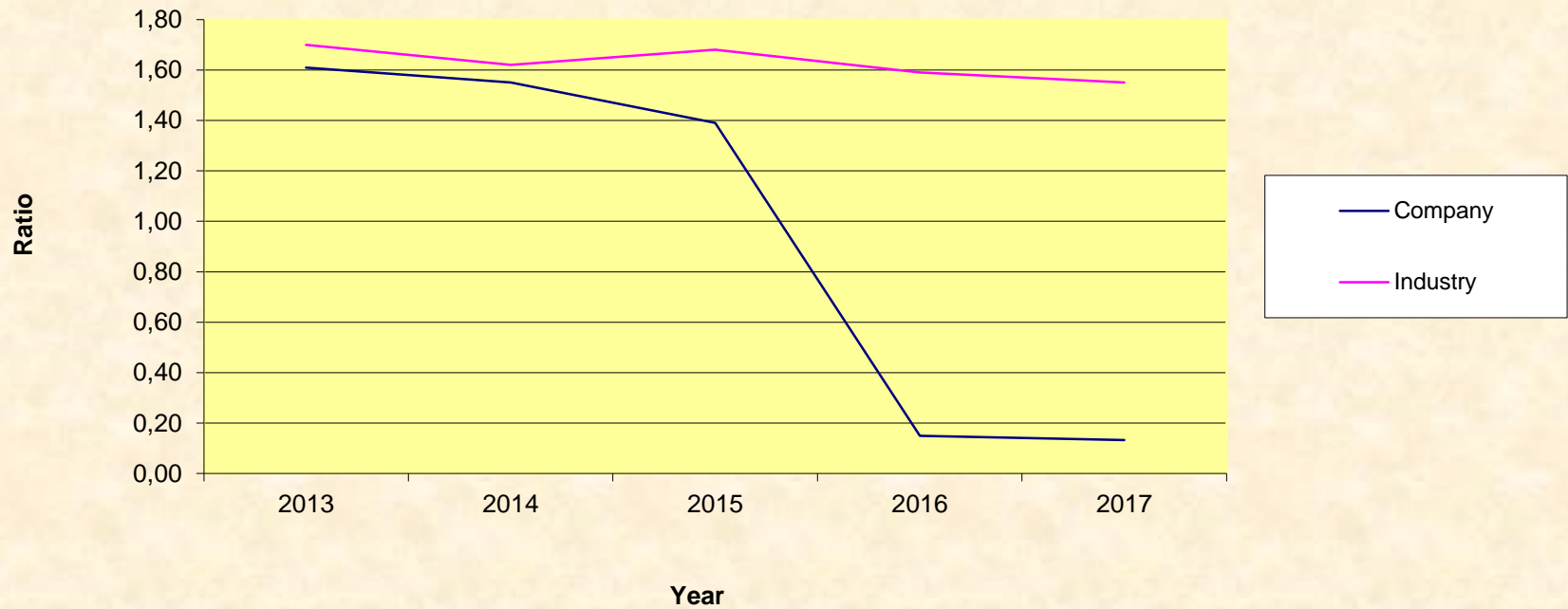
7. Total Asset Turnover Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	1,61	1,55	1,39	0,15	0,13
Industry	1,70	1,62	1,68	1,59	1,55

Industry trend analysis



Total Asset Turnover Ratio



Industry trend analysis



8. Debt Ratio Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	0,61	0,67	0,51	0,30	0,05
Industry	0,65	0,61	0,63	0,72	0,69

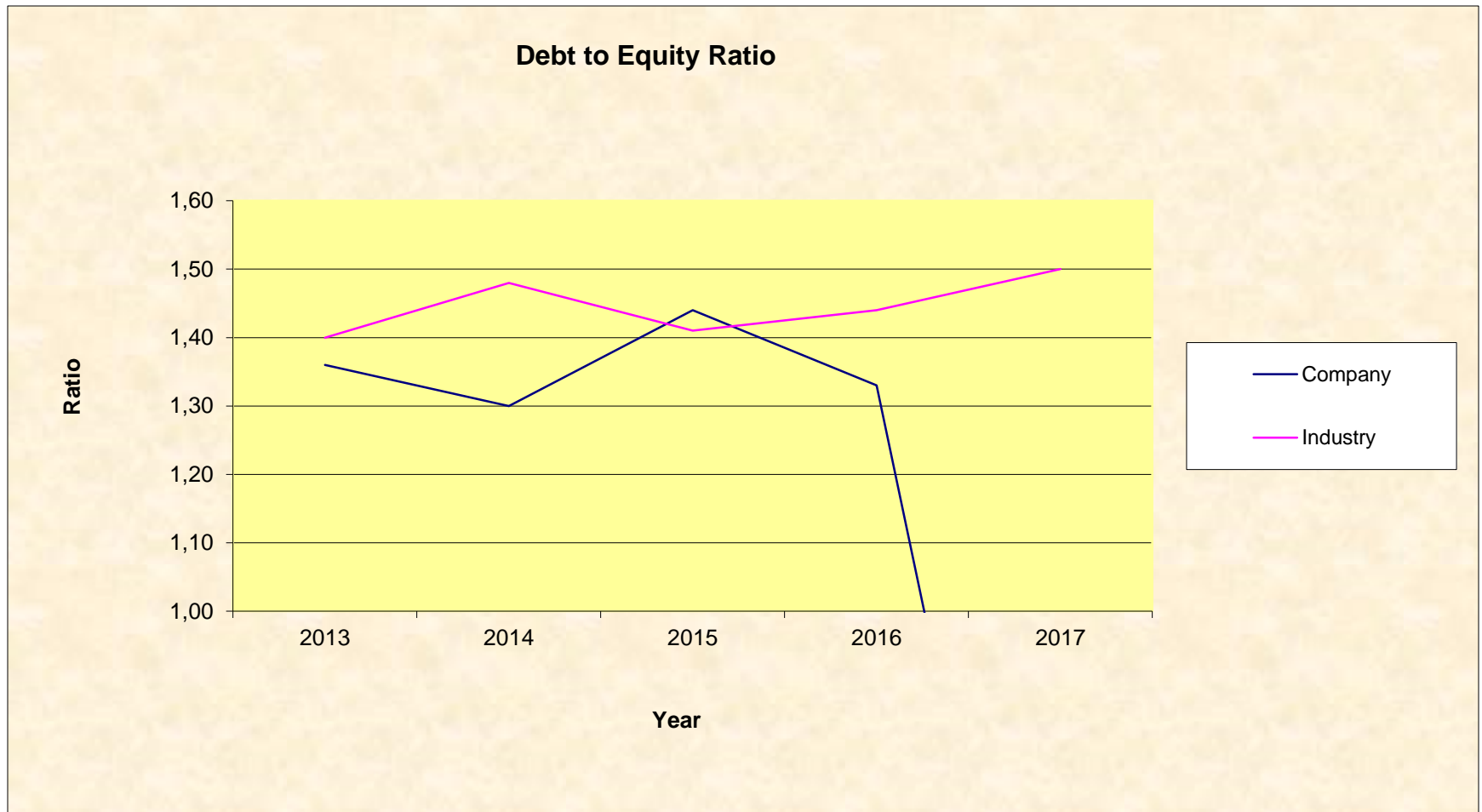
Industry trend analysis



9. Debt to Equity Ratio Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	1,36	1,30	1,44	1,33	0,05
Industry	1,40	1,48	1,41	1,44	1,50

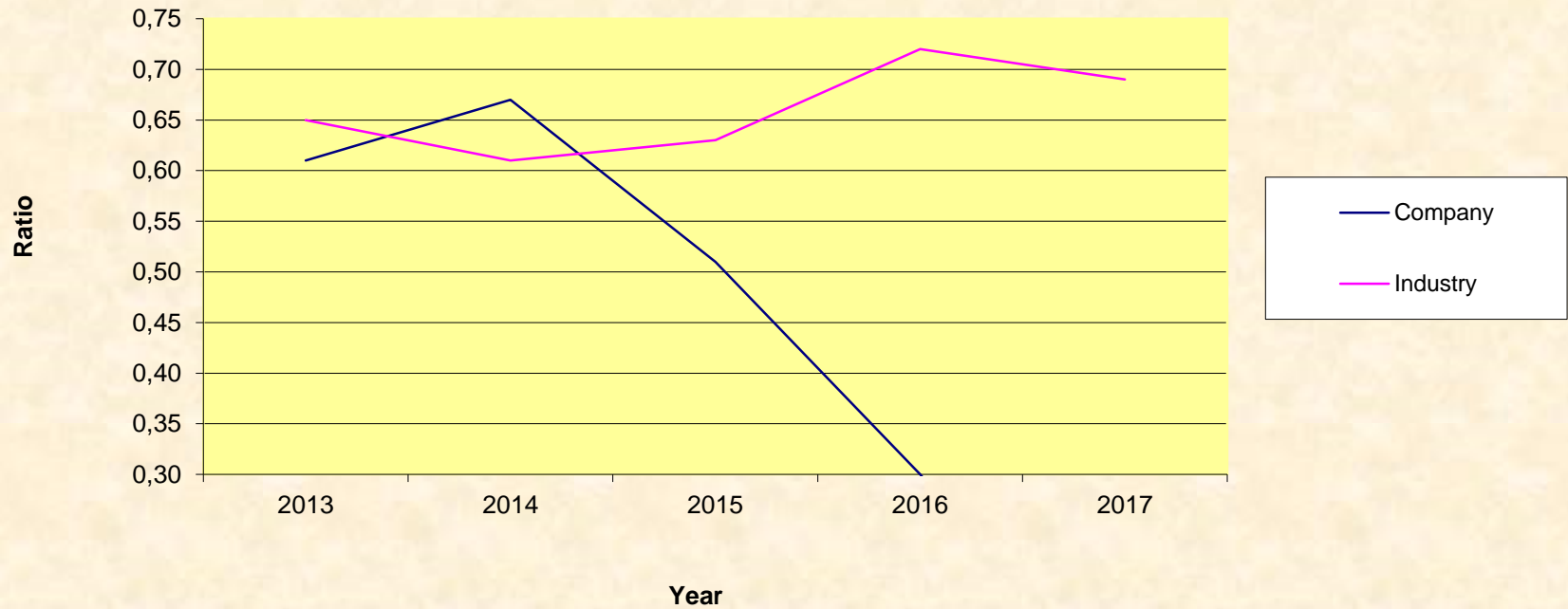
Industry trend analysis



Industry trend analysis



Debt Ratio



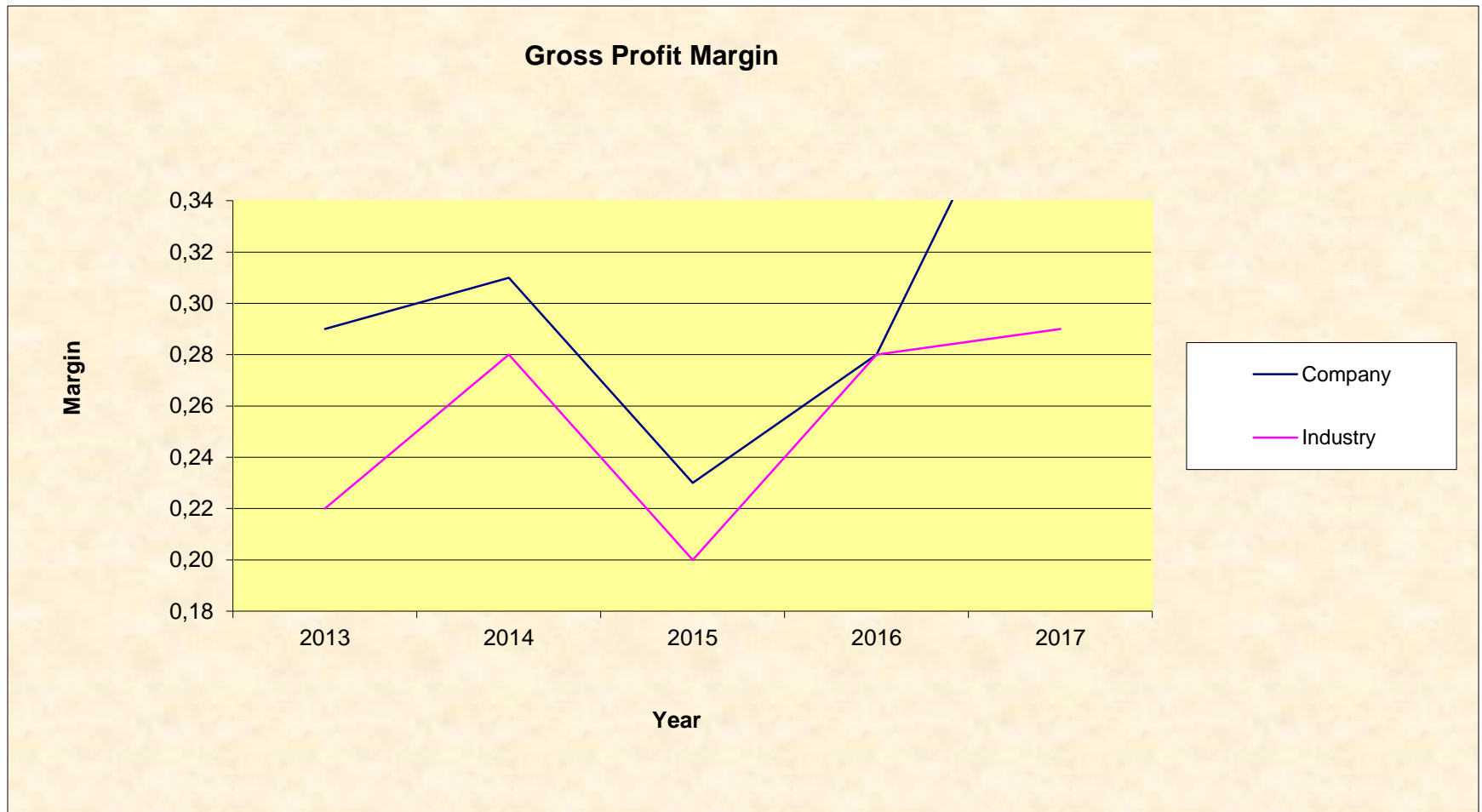
Industry trend analysis



10. Gross Profit or Margin Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	0,29	0,31	0,23	0,28	0,43
Industry	0,22	0,28	0,20	0,28	0,29

Industry trend analysis



Industry trend analysis



11. Operating Income Ratio Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	0,07	0,11	0,08	0,14	0,30
Industry	0,14	0,08	0,09	0,11	0,13

Industry trend analysis



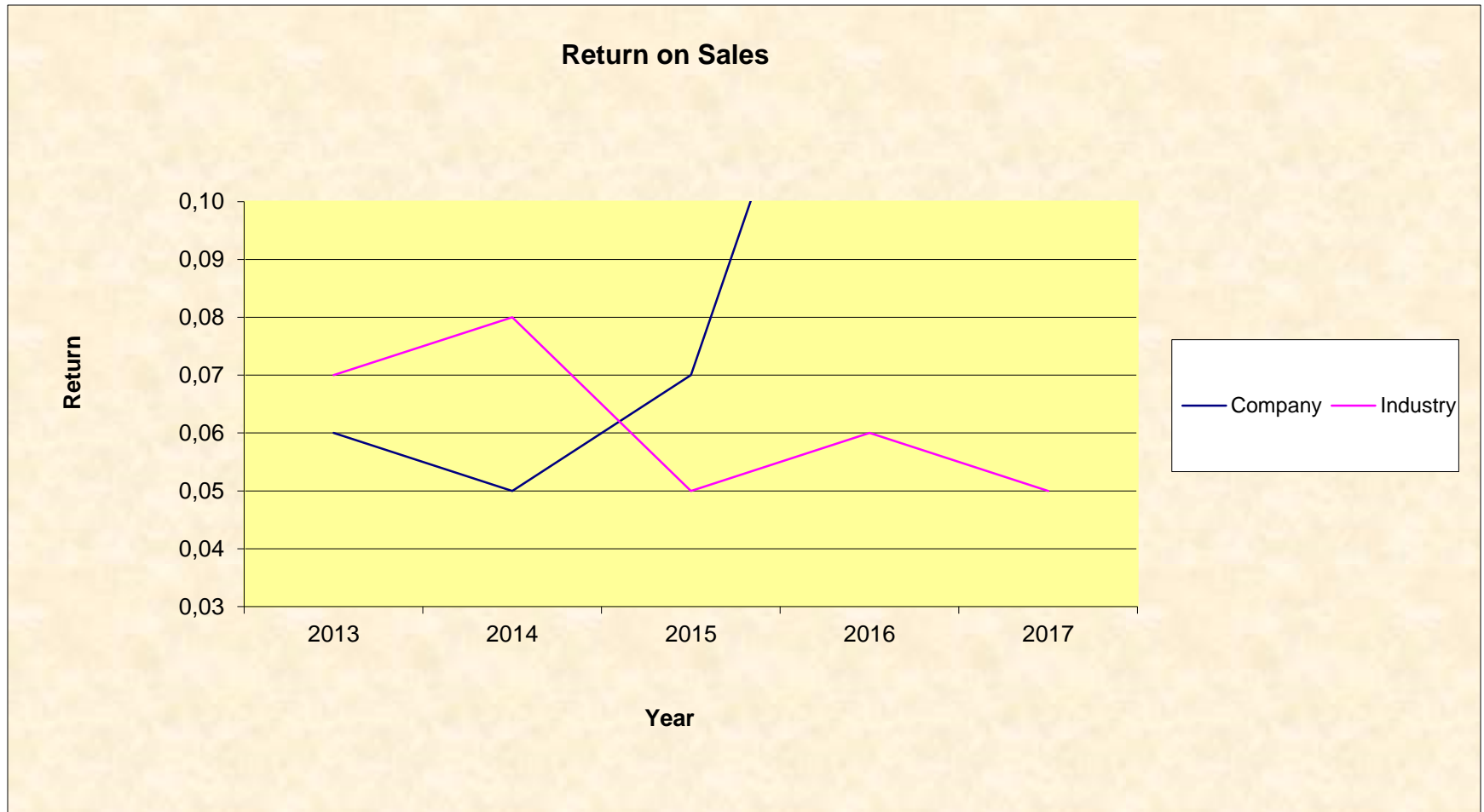
Industry trend analysis



12. Return on Sales Comparison - 5 Years

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
Company	0,06	0,05	0,07	0,16	0,24
Industry	0,07	0,08	0,05	0,06	0,05

Industry trend analysis



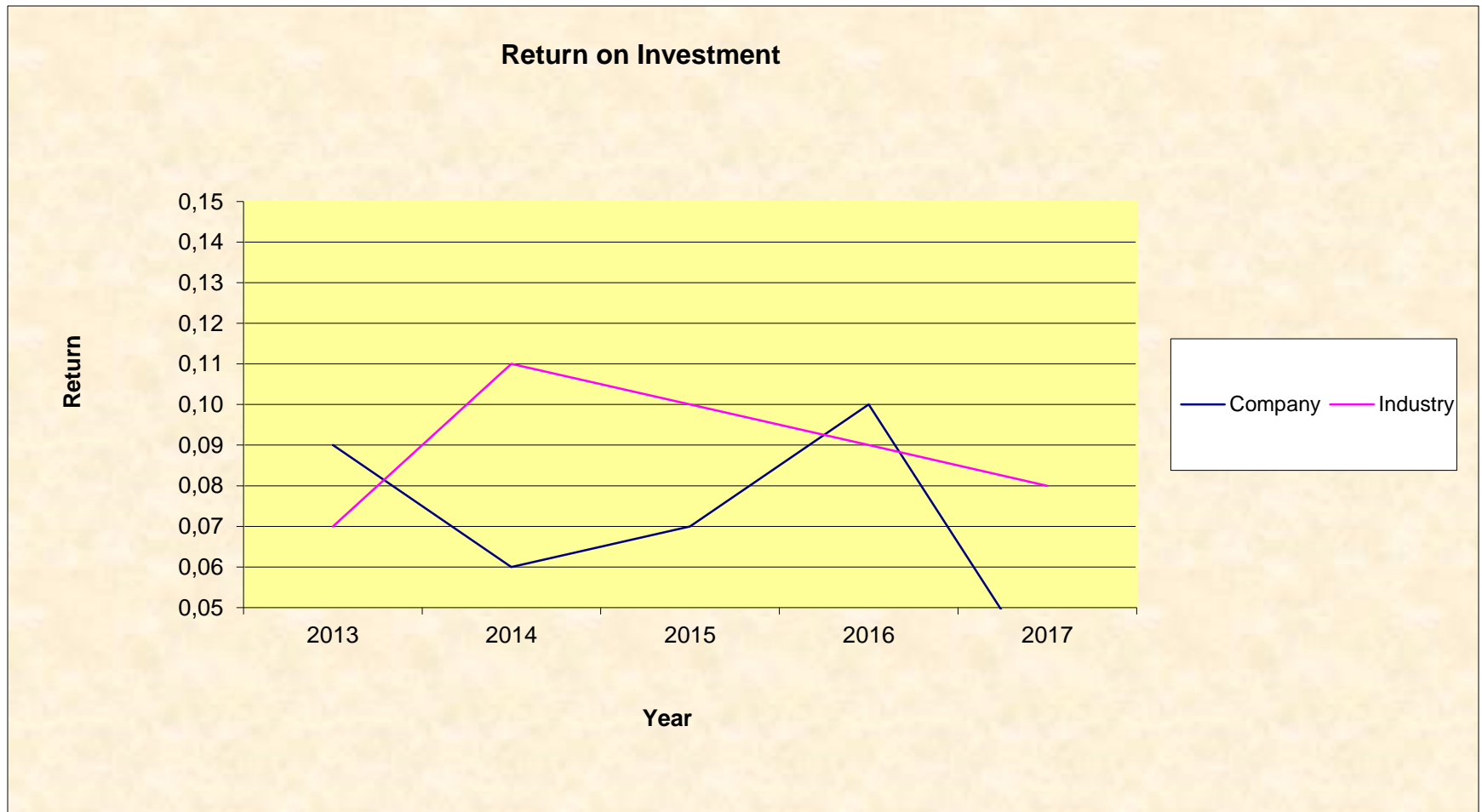
Industry trend analysis



13. Return on Investment Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	0,09	0,06	0,07	0,10	0,03
Industry	0,07	0,11	0,10	0,09	0,08

Industry trend analysis



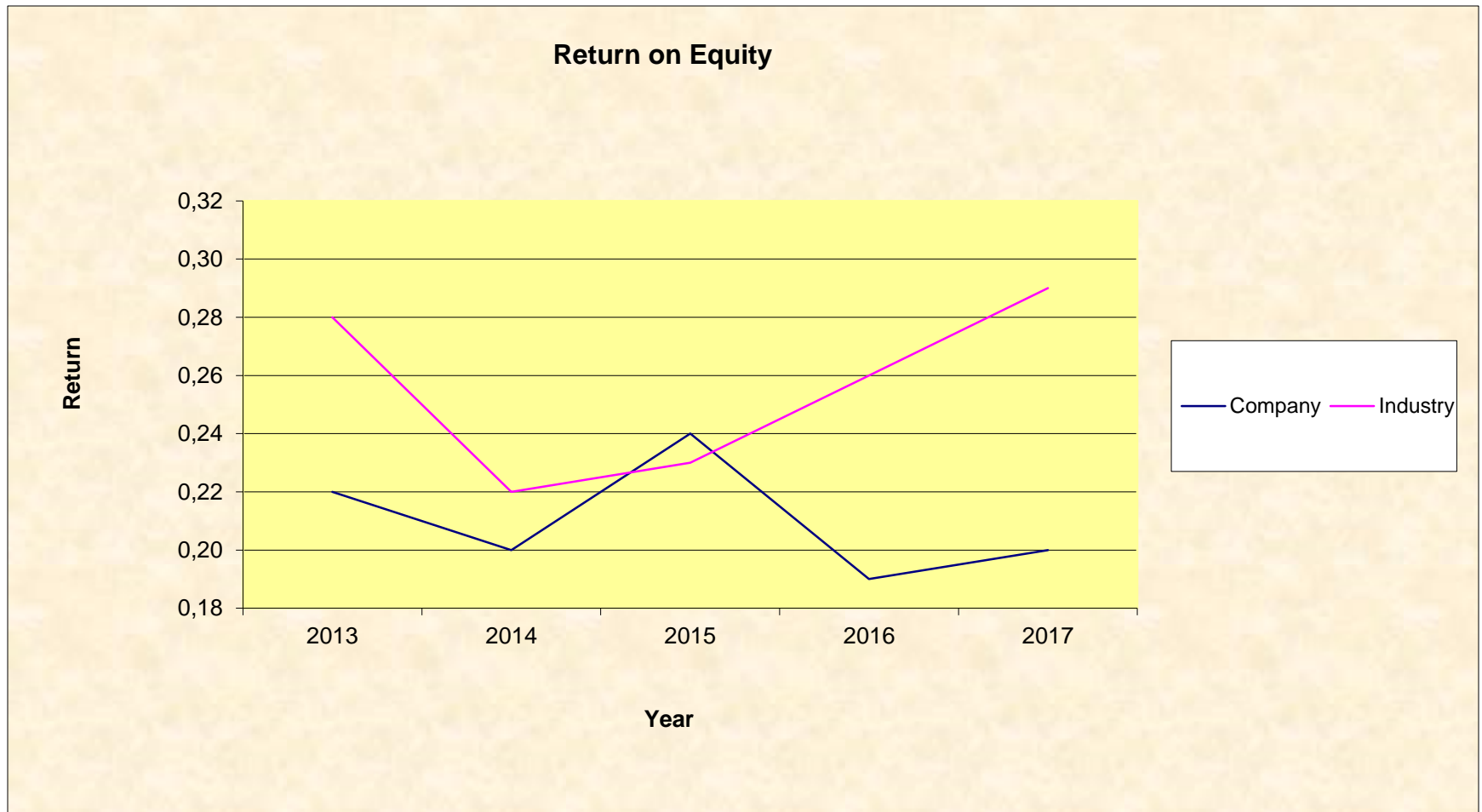
Industry trend analysis



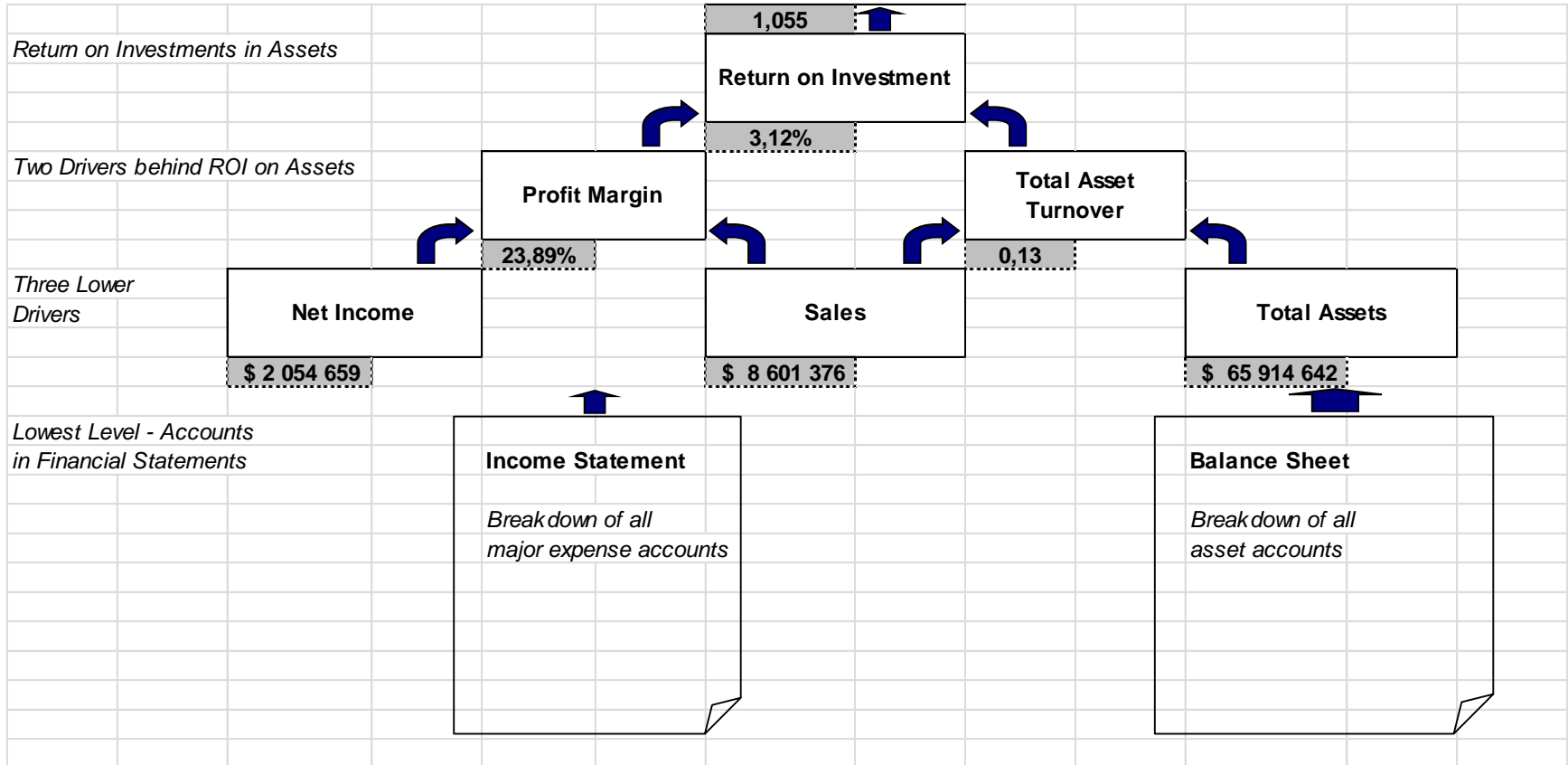
14. Return on Equity Comparison - 5 Years

	2013	2014	2015	2016	2017
Company	0,22	0,20	0,24	0,19	0,20
Industry	0,28	0,22	0,23	0,26	0,29

Industry trend analysis



Model ROI



Cost of capital



Cost of Capital is an important benchmark by which you should evaluate long term investments.

1. Identify the interest bearing debt on the Balance Sheet:

Notes Payable @ 10%
Mortgage Bonds @ 9.58%

2. Calculate the effective rate by deducting out the tax rate since interest is deductible:

Tax Rate per Balance Sheet	40,00%		
Notes Payable @ 10%	10,00%	60,00%	6,00%
Mortgage Bonds @ 9.58%	9,58%	60,00%	5,75%

3. Calculate the cost of equity using the Capital Asset Pricing Model:

a. Risk Free Rate of Return - 10 Year Treasury Bonds	3,50%
b. Beta Risk Factor for Stock of Company	1,22
c. Market Portfolio Returns	13,50%
Rate of Return for Stock	15,70%

4. Assign market values to each of the components of capital and calculate the Weighted Average Cost of Capital:

	Cost of Capital	Market Values	Percents	Weighted Cost of Cap
Notes Payable	6,00%	\$ 6 000	9%	0,55%
Mortgage Bonds	5,75%	\$ 15 000	23%	1,31%
Stock (Equity)	15,70%	\$ 45 000	68%	10,70%
		\$ 66 000	100%	12,56%

Investments need to generate a rate greater than



Analysis Long term investment



During the year, an investment was made in Property & Equipment \$ (10 636 921)

Evaluate the economics of this investment as follows:

Determine the useful life of the 1 investment > 10Years

Cash flow outlays and benefits from 2this investment are:

	Year <u>0</u>	Year <u>1</u>	Year <u>2</u>	Year <u>3</u>	Year <u>4</u>	Year <u>5</u>	Year <u>6</u>	Year <u>7</u>	Year <u>8</u>	Year <u>9</u>	Year <u>10</u>	<u>Total</u>
Initial cash outlay to acquire and install	-3 600											-3 600
Cash outlays to operate and maintain		-30	-25	-20	-20	-20	-15	-15	-15	-15	-15	-190
Cash benefit - higher efficiencies		400	400	400	420	420	420	430	430	450	450	4 220
Cash benefit - costs avoided		300	300	150	100	50	50	50	50	50	50	1 150
Cash benefit - increased sales		500	500	600	600	600	600	650	650	650	650	6 000
Net Cost or Benefit	-3 600	1 170	1 175	1 130	1 100	1 050	1 055	1 115	1 115	1 135	1 135	7 580

Analysis Long term investment



Calculate the discounted cash flows for
3 this investment

Cost of Capital Rate >

12,56%

Present Value Interest
Factor

1,0000 0,8884 0,7893 0,7013 0,6230 0,5535 0,4918 0,4369 0,3882 0,3449 0,3064

Discounted
Amounts

-3 600 1 039 927 792 685 581 519 487 433 391 348 **2 604**

Analysis long term investment



Summarize your results using economic indicators

Key Economic Indicator is
a. NPV >

Net Present Value

You can also use this formula for NPV which yields a more conservative value >

2 314

Another Key Economic Indicator is Rate of
b. Return >

Rate to use for reinvestment of residual cash flows >

5% Rate of Return 14,62%

A third economic indicator is discounted payback period - How long does it take before
c. you recover your investment?

< In Year 5 we reach payback of our investment

-2 561 -1 633 -841 -155 426

Conclusion: This investment creates positive value for the company, has an estimated rate of return higher than the cost of capital, and reaches payback mid way in the useful life of the asset. Based on these economic indicators, this appears to be a good investment.



THANK YOU FOR ATTENTION

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