

Sector Analysis - Maintenance and Repair of Motor Vehicles and Retail Trade of Motor Vehicle Parts and Accessories

Rodica BACIU (BOANTA)¹, Petre BREZEANU²

^{1,2}The Bucharest University of Economic Studies Department of Finance, Bucharest, Romania

¹rodica@materom.ro, ²petre.brezeanu@fin.ase.ro

Abstract. *This study analyses the consolidated financial indicators evolution for all active companies in the following sectors: maintenance and repair of motor vehicles (NACE 4520), retail trade of motor vehicle parts and accessories (NACE 4532). The companies' classification in this sector is made on the basis of the main declared NACE code, according to financial statements submitted to the Ministry of Public Finance for the 2013-2017 period (the last five financial years available at the date of this study). The appendix at the end of the study includes the formulas used for each indicator, as well as their interpretation. For calculating the financial indicators evolution, the two effects that can influence the final results have been eliminated: the survival effect - which generates the tendency for average indicators improvement due to the removal of companies that have entered into insolvency or have interrupted their activity (most of them having financial difficulties); the regeneration effect - which generates the tendency to decrease the financial indicators due to the registration of new companies, most of them having a weak financial situation in the first year of activity.*

Key words: net profit rate, return on assets, return on equity, nonperforming loans, multivariate regression, panel data.

Classification JEL: G2

1. Maintenance and repair of motor vehicles (NACE 4520)

✓ Strengths

- the monopolistic market with many players which has a relatively small individual influence => the necessary premises for a competitive environment for the benefit of the client;
 - about 10% of the active companies are registered in the previous year due to low entry requirements, which maintains an active competition among companies in this sector;
 - the short-term debt coverage ratio through the available treasury remains at a comfortable level of 16% each year of the considered period;
 - overall profitability increases from 1.4% (2013) to 3.5% (2017);
 - despite the increase in the gross nominal average wage to RON 3,415 (2017) compared to RON 2,041 (2011), the salary costs percentage of the total turnover remains stable at 11%, because the turnover grows proportionally;
 - the turnover on a sectoral level increases significantly in the last two years, from RON 4.3 billion (2015) to RON 5.1 billion (2016), respectively RON 5.8 billion (2017).

When we speak of measuring the performances and especially on comparing certain banks of different sizes from the performances point of view, a series of

drawbacks are encountered in the use of the net income and the net profit, that is why one appeals to a series of other indicators which measure the performance, such as: ROA, ROE and the net interest margin.

✓ **Weaknesses**

- the embryonic sector (a company's life of only 10 years) exposes firms to fragility and emotional behaviour when exposed to external shocks;
- the decrease of working capital leads to the loss of financial independence;
- 6 out of 10 companies have high insolvency risk (according to the Altman Z-score applied to all companies active in this sector in 2017);
- accelerated distribution of dividends leads to an increase in debt to 78% at the end of 2017, slightly below 82% in 2016, but over that of previous years
- investments made in 2017 are rather modest, which can be a challenge for the future. The CAPEX realized during 2017 is 6% of the asset level, slightly below the depreciation level of 9%
- the average payment time for suppliers (between 5-6 months in 2017) is one month longer than all the cumulative duration of inventories and receivables rotation. This indicates the use of supplier credit for payment of dividends and the fulfilment of long-term investments.

2. Retail trade of motor vehicle parts and accessories (NACE 4532)

✓ **Strengths:**

- the consolidated net profit at the sectoral level, expressed as a percentage of the turnover, is constantly increasing from 1% (2013) to 4.4% (2017). All profitability indicators are marked by a positive adjustment over the period under review;
- the monopolistic market with many players which has a relatively small individual influence => the necessary premises for a competitive environment for the benefit of the client;
- about 10% of the active companies are registered in the previous year due to low entry barriers, which maintains an active competition among companies in this sector;
- the short-term debt coverage ratio through the available treasury increases from 10% -11% (2013-2014) to 18% (2017);
- although is decreasing, the working capital remains positive and current liquidity (current assets: short-term debt) at the end of 2017 is 1.2;
- although is increasing, the debt ratio remains at an acceptable level and does not exceed 70% in any year of the period under review.

✓ **Weaknesses:**

- the embryonic sector (a company's life of only 10 years) exposes firms to fragility and emotional behaviour in the context of external shocks;
- the payment time for suppliers increased in 2017 to an average of 155 days, compared to 133 days (2016);
- 4 out of 10 companies have high insolvency risk (according to the Altman Z-score applied to all companies active in this sector in 2017).

3. Maintenance and repair of motor vehicles (NACE 4520)

The maintenance and repair of motor vehicles sector is marked by a very rapid regeneration, leading to an average age of active companies in this sector of only 10 years. Thus, the number of companies that interrupt their activity each year (insolvencies, suspensions, dissolutions) fluctuates between 10% -15% and the average recorded over the last five years is 13.7%. On the other hand, the number of newly registered companies is 9% every year. About 48% of the active companies are

set up after 2010, although they account for only 24% of the total revenue recorded at the sectoral level.

The sector profile is monopolistic, marked by many players (about 12,000 companies, of which 2,627 are inactive and 165 produce revenues of over EUR 1 million), each with a relatively limited influence on the industry. Thus, the top ten companies, based on turnover, cumulate only 16% of the sectoral income. In contrast, the turnover on a sectoral level increases significantly in the last two years, from RON 4.3 billion (2015) to RON 5.1 billion (2016), respectively 5.8 billion RON (2017).

Table no. 1

Indicator	2017	2016	2015	2014	2013	2012
No. of companies	12,019	10,949	9,931	9,555	10,150	10,049
Total TO (mil RON)	5,837	5,052	4,285	4,247	3,983	4,599
CA Sector Dynamics	16%	18%	1%	7%	-13%	-1%
Herfindahl-Hirschman	35	42	40	35	25	38
Year	2017	2016	2015	2014	2013	
Number of registered companies	11.0%	7.9%	9.9%	8.7%	7.8%	
Number of exited companies	9.0%	10.7%	17.9%	15.2%	16.0%	
OUT : IN Report	0.8	1.8	1.7	2.0	1.7	

Short-term evolution of liquidity and rotation indicators – reflects the decrease in working capital due to the increase in short-term debt (liabilities to business partners and borrowings contracted from credit institutions) at a faster rate than the current assets advances. Thus, the short-term debt coverage ratio through current assets fluctuates between 95%-99% each year of the period under review. Thus, the suppliers' payment time during the year 2017 is 138 days, almost one month longer than the collection period of the receivables. At the same time, there is a marginal reduction in the collection time of invoices from customers, from 92 days (2013-2014) to 73 days (2017). In spite of this, the active companies in this sector have a rather generous treasury, given that the short-term debt coverage ratio through the available treasury is 16% at the end of 2017, a constant level every year of the period under review. At the same time, the increasing net profit is at a very good monetary level, given that the collected revenue exceed by 3% to 5% the level of the payable expenditures (similar to the net profit margin) each year.

Table no. 2

Liquidity Indicators	2017	2016	2015	2014	2013
Current Liquidity	0.98	0.95	0.97	0.99	0.99
Quick Ratio (QR)	0.61	0.60	0.63	0.63	0.62
Cash Ratio (Cash R)	0.16	0.17	0.19	0.15	0.15
Defensive Interval Ratio (DIR)	108	112	128	128	121
Cash Coverage Ratio (C.C.R.)	104%	103%	105%	100%	98%

Table no. 3

Activity Indicators	2017	2016	2015	2014	2013
DSO (Days Sales Outstanding)	73	78	84	92	92
DIH (Days of Inventory on Hand)	65	63	64	72	76
DPO (Days Payable Outstanding)	170	181	190	203	205
Operational cycle	138	141	148	163	168
CCC (Cash Conversion Cycle)	-32	-39	-42	-39	-37

Evolution of profitability and solvency indicators – reflects an improvement in financial performance, although interest rates and wages are rising. After a period of loss reported at sectoral level in the period of 2011-2013, the last 4 years recorded increasing profits, the net margin rising from the minimum profitability threshold (2014) to 3.5% (2017). All profitability indicators are marked by a positive adjustment over the past years, but the margin is insufficient to generate liquidity from internal sources (operational cash) to meet investment or financial needs. The debt ratio accelerates in 2013 (70%) - 2016 (82%), in the context of the accelerated dividend distribution in 2016 (RON 222 million, twice over the cumulated level in 2013-2015). The reinvestment of the profit obtained in 2017 (RON 194 million) contributes to debt decrease to a level of 78% at the end of last year.

Table no. 4. Evolution of distributed dividends at sectoral level (in mil RON)

Year	Starting Equity	Net result	Final Equity	Dividend	Dividend %
2013	1,331	-67	1,048	16	
2014	1,048	-47	924	77	-163%
2015	924	51	933	42	82%
2016	933	153	864	222	145%
2017	864	194	1,055	4	2%

Table no. 5

Profitability Indicators	2017	2016	2015	2014	2013
Net result: Turnover	3.5%	3.3%	1.8%	0.0%	-1.4%
EBIT : Turnover	4.3%	3.9%	3.7%	1.9%	0.6%
ROA (Return on Assets)	4.1%	3.6%	1.8%	0.0%	-1.2%
ROE (Return on Equity)	18.4%	16.3%	8.3%	-0.1%	-5.1%
OROA (Operating Return on Assets)	4.7%	3.9%	4.1%	1.8%	0.6%

Table no. 6

Solvency indicators	2017	2016	2015	2014	2013
Debt Ratio (Debt : Assets)	78%	82%	76%	74%	70%
Financing level (STD : Debt)	75%	71%	69%	68%	67%
Fixed Assets: Assets	47%	47%	48%	50%	48%
EBIT / Interest Costs	8.10	9.77	5.54	1.97	0.54

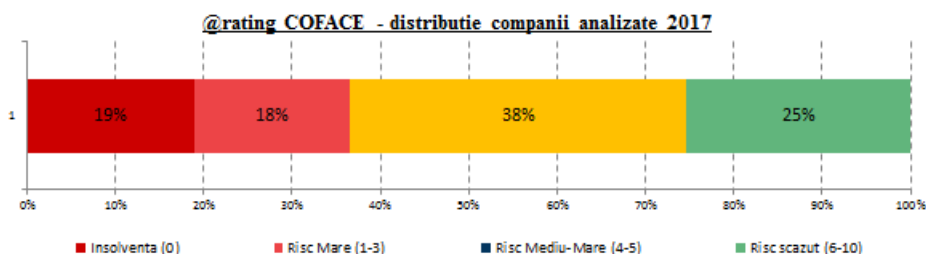


Chart no. 1

4. Retail trade of motor vehicle parts and accessories (NACE 4532)

The retail trade of motor vehicle parts and accessories sector is marked by a very rapid regeneration, leading to an average age of active companies in this sector of 12 years. Thus, the number of companies that interrupt their activity each year (insolvencies, suspensions, dissolutions) fluctuates between 10%-15% and the average recorded over the last five years is 13.7%. On the other hand, the number of newly registered companies is 8.3% every year (average for the 2013-2017 period). About 44% of the active companies are set up after 2010, although they account for only 21% of the total revenue recorded at the sectoral level.

The sector profile is monopolistic, marked by many players (5,255 companies, up 5% from the previous year, of which 953 are inactive and 132 produce revenue of over EUR 1 million), each having a limited influence on the industry. Thus, the top ten companies, based on turnover, cumulate 16% of the sectoral income. At the same time, the turnover on a sectoral level increases significantly in the last two years, from RON 2.8 billion (2015) to RON 4.1 billion (2017).

Table no. 7

Indicator	2017	2016	2015	2014	2013	2012
No. of companies	5,255	4,948	4,488	4,590	4,700	4,552
Total Turnover	4,112	3,584	2,871	3,186	3,122	3,147
Turnover Index	15%	25%	-10%	2%	-1%	-6%
HH	48	43	42	108	175	109
Year	2017	2016	2015	2014	2013	2012
No. of registered companies	9.2%	7.5%	9.3%	8.2%	7.4%	
No. of exited companies	9.8%	10.6%	17.6%	14.9%	15.7%	
OUT : IN Report	1.1	1.4	1.9	1.8	2.1	

Table no. 8

Foundation year	Number	Number %	Turnover (mil RON)	Turnover %
1990-2000	1,395	27%	1,990	48%
2001-2005	676	13%	706	17%
2006-2010	895	17%	551	13%
2011-2015	1,476	28%	717	17%
2016-2017	813	15%	148	4%
Total	5,255	100%	4,112	100%

Short-term evolution of liquidity and rotation indicators – reflects the decrease in working capital due to the increase in short-term debt (liabilities to business partners and borrowings contracted from credit institutions) at a faster rate than the current assets advances. Thus, the short-term debt coverage ratio through current assets decreases from 136% (2016) to 120% (2017). Thus, the suppliers' payment time has increased from 133 days (2016) to 155 days (2017), although the receivables have a relatively constant average collection time (almost 50 days) and the average rotation time of inventories decreases with a week. Thus, the money conversion cycle tends to balance (near zero), which means that active companies in this sector do not have

buffers (reserves) to cushion potential negative shocks (no debt collection or slower stock sales).

Table no. 9

Liquidity Indicators	2017	2016	2015	2014	2013
Current Liquidity	1.20	1.36	1.42	1.31	1.34
Quick Ratio (QR)	0.55	0.53	0.52	0.53	0.53
Cash Ratio (Cash R)	0.18	0.16	0.16	0.11	0.10
Defensive Interval Ratio (DIR)	77	73	80	79	78
Cash Coverage Ratio (C.C.R.)	103%	104%	108%	103%	100%

Table no. 10

Activity Indicators	2017	2016	2015	2014	2013
DSO (Days Sales Outstanding)	52	48	52	59	62
DIH (Days of Inventory on Hand)	105	111	115	115	120
DPO (Days Payable Outstanding)	155	133	143	147	149
Operational cycle	157	159	167	174	182
CCC (Cash Conversion Cycle)	2	26	24	27	33

Evolution of profitability and solvency indicators – reflects an increase in financial performance strongly geared towards dividend distribution. Thus, the consolidated net profit at the sectoral level, expressed as a percentage of the turnover, is constantly increasing from 1% (2013) to 4.4% (2017). All profitability indicators are marked by a positive adjustment over the period under review. Despite the higher profitability, the debt ratio at the end of 2017 rises to 69% compared to 62% in the previous two years, due to accelerated dividends distributed over the past two years (because of a tax reduction from 16% to 5%). Thus, the level of dividends distributed during the period 2016-2016 amounts to RON 229 million, almost 4 times the cumulated level during the period 2013-2015.

Table no. 11. Evolution of distributed dividends at sectoral level (in mil RON)

Year	Starting Equity	Net result	Final Equity	Dividend	Dividend %
2013	694	14	653	56	
2014	653	53	734	-28	-52%
2015	734	92	795	31	34%
2016	795	150	791	154	102%
2017	791	176	892	75	43%

Table no. 12

Profitability Indicators	2017	2016	2015	2014	2013
Net result: Turnover	4.4%	4.1%	2.8%	1.8%	1.0%
EBIT : Turnover	5.8%	4.9%	3.8%	2.9%	2.3%
ROA (Return on Assets)	6.2%	5.6%	3.5%	2.2%	1.2%
ROE (Return on Equity)	19.7%	17.5%	11.0%	7.2%	4.3%
OROA (Operating Return on Assets)	7.1%	5.9%	5.3%	3.8%	3.0%

Table no. 13

Solvency indicators	2017	2016	2015	2014	2013
Debt Ratio (Debt : Assets)	69%	67%	62%	68%	70%
Financing level (STD:Debt)	78%	74%	75%	73%	74%
Fixed Tangible Assets : Assets	31%	32%	33%	34%	29%
EBIT / Interest Costs	8.30	12.77	7.40	5.47	3.38

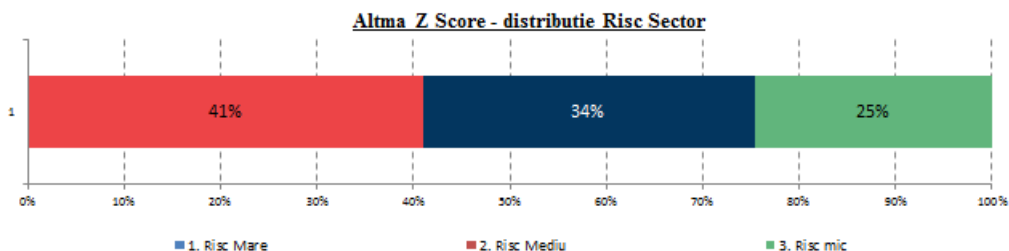


Chart no. 2

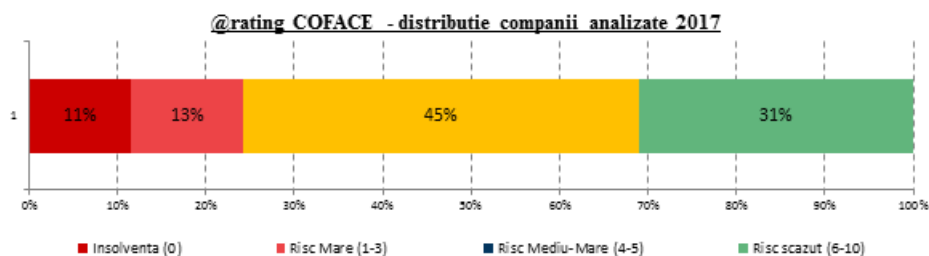


Chart no. 3

5. Analysis of the expenditure structure – Maintenance and repair of motor vehicles / Retail trade of motor vehicle parts and accessories

For a more detailed analysis of the expenditures structure related to the active companies in the sectors under review, the profit and loss accounts for the companies with revenues higher than 1 mil EUR were evaluated. The key conclusions are presented below, along with the figures illustrated in the following tables and charts.

Maintenance and repair of motor vehicles (4520):

- ✓ 165 companies with a turnover of more than EUR 1 million and a cumulative revenue of RON 2.7 billion in 2017, compared to RON 1 billion in 2008, and a total of RON 5.8 billion recorded at sectoral level;

- ✓ gross margin falls from 32% (maximum in 2013) to 28% (2017);

- ✓ despite the increase in the gross nominal average wage to RON 3,415 (2017) compared to RON 2,041 (2011), the salary costs percentage of the total turnover remains stable at 11%, because the turnover grows proportionally;

- ✓ turnover / employee increases from RON 0.22 million (2012-2013) to RON 0.38 million (2017), which means there is increasing logistic efficiency or provision of repairs with a growing average price;

- ✓ due to gross margin decrease, the operating result decreases to 4.6% in 2017, compared with 5.6% in the previous year, resulting in a proportional adjustment of net profit to 3.3% in 2017.

Table no. 14. Gross margin evolution and salary costs - Maintenance and repair of motor vehicles (4520)

Year	Turnover	COGS	GrossMargin	Staff Costs	Staff Costs % CA	Employees No.	Turnover /Employee	Gross_Salary
2008	1,042	711	32%	120	12%	4,512	0.23	2,215
2009	1,165	804	31%	130	11%	5,003	0.23	2,169
2010	1,123	810	28%	121	11%	4,920	0.23	2,046
2011	1,142	832	27%	123	11%	5,017	0.23	2,041
2012	1,215	869	29%	138	11%	5,362	0.23	2,137
2013	1,293	887	32%	149	12%	5,761	0.22	2,154
2014	1,599	1,110	31%	184	11%	6,195	0.26	2,469
2015	1,862	1,292	31%	209	11%	6,696	0.28	2,600
2016	2,266	1,583	30%	251	11%	7,110	0.32	2,944
2017	2,696	1,943	28%	288	11%	7,034	0.38	3,415

Note: except for salaries (expressed in RON), the rest of the figures are expressed in million RON)

Table no. 15. Evolution of operating result, gross and net - Maintenance and repair of motor vehicles (4520)

Year	Turnover	EBIT	EBIT %	Gross Result	Tax	Net result	Net result %
2008	1,042	98	9.4%	85	15	70	6.7%
2009	1,165	84	7.2%	68	13	55	4.7%
2010	1,123	47	4.2%	39	10	29	2.6%
2011	1,142	63	5.5%	54	10	45	3.9%
2012	1,215	61	5.0%	51	9	41	3.4%
2013	1,293	60	4.6%	47	10	37	2.9%
2014	1,599	72	4.5%	62	12	50	3.1%
2015	1,862	92	5.0%	77	16	61	3.3%
2016	2,266	127	5.6%	120	20	100	4.4%
2017	2,696	125	4.6%	109	21	89	3.3%

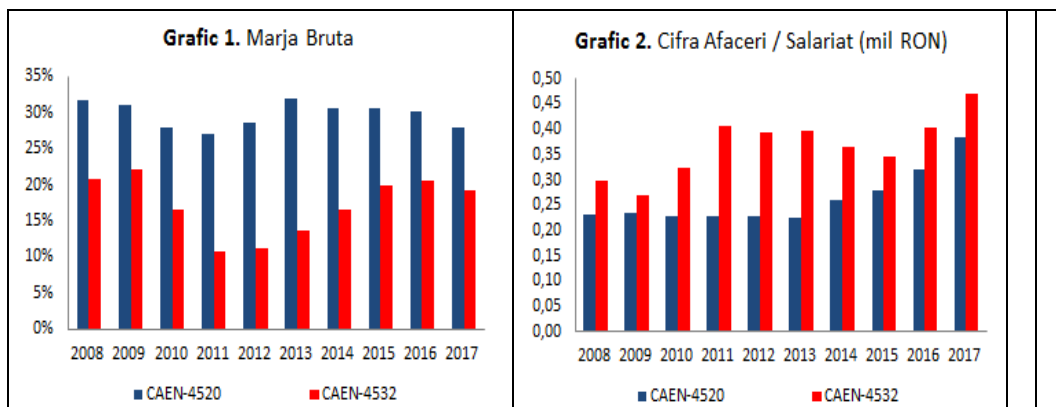
Table no. 16. Gross margin evolution and salary costs - Retail trade of motor vehicle parts and accessories (4532)

Note: except for salaries (expressed in RON), the rest of the figures are expressed in million RON)

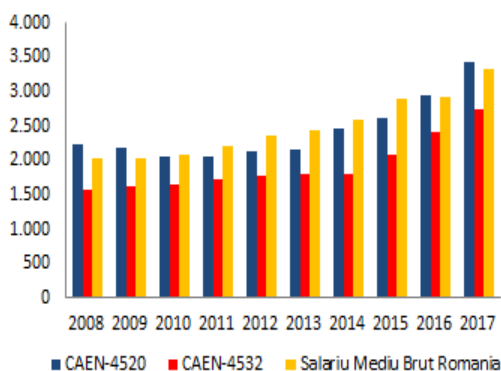
Year	Turn over	COGS	Gross Margin	Staff Costs	Staff Costs % CA	Employees No.	Turnover/Employee	Gross_Salary
2008	739	586	21%	47	6%	2,494	0.30	1,562
2009	704	548	22%	51	7%	2,613	0.27	1,624
2010	857	715	17%	53	6%	2,655	0.32	1,651
2011	1,164	1,039	11%	59	5%	2,877	0.40	1,711
2012	1,155	1,024	11%	63	5%	2,947	0.39	1,774
2013	1,251	1,079	14%	68	5%	3,149	0.40	1,790
2014	1,264	1,054	17%	75	6%	3,471	0.36	1,805
2015	1,211	970	20%	87	7%	3,512	0.34	2,063
2016	1,457	1,158	21%	105	7%	3,629	0.40	2,418
2017	1,725	1,393	19%	121	7%	3,666	0.47	2,748

Table no. 17. Evolution of operating result, gross and net - Retail trade of motor vehicle parts and accessories (4532)

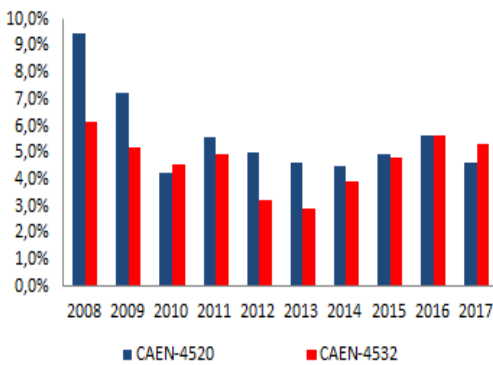
Year	Turnover	EBIT	EBIT %	Gross Result	Tax	Net result	Net result %
2008	739	45	6.1%	39	6	33	4.5%
2009	704	37	5.2%	28	6	22	3.2%
2010	857	39	4.5%	32	6	25	2.9%
2011	1,164	57	4.9%	53	10	43	3.7%
2012	1,155	37	3.2%	31	7	24	2.1%
2013	1,251	36	2.9%	31	9	22	1.8%
2014	1,264	50	3.9%	48	9	39	3.1%
2015	1,211	58	4.8%	54	10	45	3.7%
2016	1,457	82	5.6%	77	12	64	4.4%
2017	1,725	92	5.3%	85	14	71	4.1%



Grafic 3. Salariu Mediu Brut (RON)



Grafic 4. Rezultatul din Exploatare



Retail trade of motor vehicle parts and accessories (4532):

- 132 companies with a turnover of more than EUR 1 million and a cumulative revenue of RON 1.7 billion in 2017 compared to RON 0.7 billion in 2008 and a total of RON 4.1 billion recorded at sectoral level;
- gross margin increases from 11% (2011-2012) to nearly 20% (the average of the last three years), which contributes to improved profitability;
- despite the increase in the gross nominal average wage to RON 2,748 (2017) compared to RON 1,562 (2008), the salary costs percentage of the total turnover remains stable at 6%-7%, because the turnover grows proportionally;
- turnover / employee increases from RON 0.3 million (2008-2009) to RON 0.47 million (2017), which means there is increasing logistic efficiency or sale of vehicle parts with a growing average price;
- due to gross margin increase, the operating result remains stable between 5%-6% of the turnover, while the net profitability in 2017 is 4.1%, relatively similar to the previous year.

References

- Ahmad, A.U.F. & Hassan, M.K. (2007), Regulation and Performance of Islamic Banking in Bangladesh, *Thunderbird International Business Review*, 49(2), 251-277.
- Alam, H.M., Raza, A. & Akram, M.A. (2011). Financial performance comparison of public vs private banks: The case of commercial banking sector of Pakistan. *International Journal of Business and Social Science*, 2(11), 56-64.
- Ali, R. & Muhammad, F. (2011). A Comparison of Financial Performance in Investment Banking Sector in Pakistan. *International Journal of Business and Social Science*, Vol. 2(9), 72-81.
- Andrieș, A.M. (2010). *Performanța și eficiența activității bancare*, Iași, Editura Universității Alexandru Ioan Cuza din Iași.
- Anghelache, C., (2009) *Metode și modele de măsurare a riscurilor și performanțelor financiar-bancare*, București, Editura Artifex.
- ArzuTektas & Gokhan G., (2005) Asset and liability management in financial crisis, *The Journal of Risk Finance*, Vol. 6, No.2, pp.135-149.
- Avkiran, N.K. (1995). Developing an instrument to measure customer service quality in branch banking. *International Journal of Bank Marketing*, 12(6), 10-18.
- Bakar, N. & Tahir, I.M. (2009). Applying multiple linear regression and neural network to predict bank performance. *International Business Review*, 2(4), 176-183.

- Chien, Ho. & Danw Song Zhu. (2014). Performance measurement of Taiwan commercial banks, *International Journal of Productivity and Performance management*, 53(5), 425-434.
- Duncan, E.& Elliot, G. (2004). Efficiency, customer service and financial performance among Australian financial institutions, *International Journal of Bank marketing*, 22(5), 319-342.
- Faisal, A., &Tahir, M. R. (2014). A Comparison of Financial Performance in the Banking Sector: Some Evidence of Pakistani Commercial Banks. *Journal of Business Administration and Education*, 1(1), 1-14.
- Gopinathan, T. (2009) Financial ratio analysis for performance check., <http://suite101.com/article/financial-ratio-analysis-for-performancecheck-a109025>, 2009.
- Hempel, G., Coleman, A. & Smon, D. (1986). *Bank Management Text and Cases*, New York, NY:Wiley.
- Hempel, G. H., &Simonson, D.G. (1999). *Bank Management: Text and Cases*, New York, NY: Wiley and Sons, 5th Ed.
- Jha, D.K.&Sarangi, D.S. (2011). Performance of New Generation Banks in India: A Comparative Study, *International Journal of Research in Commerce and Management*, 2 (1), 85-89.
- Mishkin, Frederic S. - *The Economics of Money, Banking and Financial Markets* (7th Ed.) – Chapter 9, NY: Addison-Wesley.
- Spathis, K. & Doumpos, M. (2002). Assessing profitability factors in the Greek banking system: A multi criteria methodology. *International transaction in Operational Research*, 9, 517-530
- Thabet A., Edris (1997) Services considered important to business customer and determinants of bank selection in Kuwait: A segmentation analysis. *International Journal of Bank marketing*, 15(4),126-133.
- Munteanu A., Brezeanu P. &Badea M. (2013). Modele de transformare a productivității în sistemul bancar românesc – impactul dimensiunii și al originii acționariatului asupra productivității totale. *Economie teoretică și aplicată*, XX(6), pp. 31-48.
- BCR, Rapoarte financiare 2010-2017, retrieved from <https://www.bcr.ro/ro/investitori/rapoarte-financiare>.
- BRD, Rapoarte anuale 2010-2017 retrieved from <https://www.brd.ro/despre-brd/investitori-si-actionari/comunicare-financiara/rapoarte-anuale>.
- Raiffeisen, Rapoarte anuale 2010-2017 retrieved from <https://www.raiffeisen.ro/despre-noi/guvernanta-corporativa/rapoarte-anuale/>.