

Ebitda margin analysis in food retail

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Abstract

Both theoretical and practical importance have recently been attached to an analysis of the EBITDA margin or earnings before interest, taxes, depreciation and amortization as a measure of the long-term performance of companies. In the integrated financial reporting it is presented through various indicators based on it. In view of this, we have made a comparative analysis of the operating profit margin and its impact on the performance of food trade companies in Serbia and comparable countries. Under the influence of different factors, the dynamics of the size of the operating profit margin of food trading companies in Serbia varies from comparable global food retailers in various countries. The EBITDA margin of the leading food trading companies in Serbia is lower than the in analyzed comparable food retail trade companies. It points to the conclusion that it is necessary to efficiently manage revenues, costs, profit, assets, and financial structure in order to improve the performance of food trading companies in Serbia in the future. The general conclusion is that it shows a growth tendency and is, nevertheless, lower in comparison to food trading companies from countries of a developed market economy. In order to increase the EBITDA margin, as a measure of long-term performance, it is necessary to manage the financial structure of the food trading companies in Serbia as effectively as possible.

Keywords: net profit, interest, tax, depreciation, amortization.

Introduction

Considerable theoretical and practical attention has been paid in recent years to analyzing the EBITDA margin or earnings before interest, taxes, depreciation and amortization as a measure of the long-term performance of companies (Sui 2017). On the basis of it, special indicators of long-term performance of companies have been developed (Berman 2013; Levy 2014). They are comparatively analyzed by individual companies (from the same and different sectors) and based on this – their long-term business success is recognized. Bearing this in mind, the subject of research in this paper is a comparative analysis of the EBITDA margin of food retail enterprises in Serbia and comparable foreign retailers. The aim of this research is to thoroughly investigate the problems of the EBITDA margin as one of the determinants of the long-term performance of food trading companies in Serbia and, on that basis, to propose the measures for its improvement in the future (Lukic 2018; Vojteski Kljenak et al. 2019). This gap is to a certain extent filled with this paper, in what we find its scientific and professional contribution. The basic hypothesis of research in this paper is that the operating profit margin is a significant measure and determinant of the long-term performance of food trading companies (Berman 2013; Levy 2014). For these reasons it is necessary to investigate it more extensively on the example of food trade companies in Serbia, particularly the dynamics and factors of its size. In this paper, we will explore the dynamics of the size of EBITDA margin of well-known global food retailers, such as Wal-Mart, Tesco and Ahold Delhaize, in order to make comparisons of the EBITDA margin with Serbian trading companies. This provides the basis for proposing adequate measures to increase the size of the EBITDA margin, as a measure of long-term performance of food trading companies in Serbia (Lukic 2018; Vojteski Kljenak et al. 2019). The EBITDA margin of the analyzed leading food trading companies in Serbia (Ahold Delhaize Serbia, Mercator-S and IDEA) is lower than that of analyzed comparable food retail (primarily food) trade companies from the developed market economies. Overall,

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more efficient management of the financial structure of capital, sales revenues, costs of goods sold (including operating costs, interest) and profit can significantly influence the increase in the EBITDA margin as a measure of the long-term performance of food trading companies in Serbia (Vojteski Kljenak et al. 2019). This will definitely have a positive impact on the dynamics of the size and efficiency of investments, as a key factor in the performance of food trade companies in Serbia.

Material and methods

For the needs of the research of the treated problems in this paper, empirical data from the Agency for Business Registers of the Republic of Serbia were used. They are completely comparable to the same type of other global food retailers' data and, in this sense, there are almost no restrictions on the obtained research results in this paper due to the fact that we used empirical data from their publicly disclosed financial statements in this study. With the defined aim and research hypothesis, the basic methodology in this paper is the comparative analysis and application of the relevant statistical analysis (Hoe 2017). Also, to a certain extent, the historical and normative methodology was applied in researching the treated problem in this paper. The operating profit margin or earnings before interest, taxes, depreciation and amortization (EBITDA margin) as a measure of performance has been used since the mid-1980s, especially since the 1990s in all companies, including wholesale and retail (Levy 2014). There is extensive literature written on the subject of general problem of measuring the significance of gross operating margin in financial reporting for the needs of more efficient company management (Sui 2017). However, a number of published papers dedicated to the specificities of gross operating margin analysis in commercial enterprises (food retailers) is significantly lower (Berman 2013; Corona 2014; Špička 2016; Tan 2016; Calva 2017; Carstea et al. 2017; Ko et al. 2017; Hoe 2017; Manini 2017). This particularly applies to literature in Serbia (Lukic 2017a, b; Lukic 2018; Vojteski Kljenak et al. 2019) – as far as we know, there is no complete work that has been published so far on the issue of the importance of measuring and analyzing gross operational margin in Serbia's trade companies (food retailers). As a measure of long-term performance of (food) retailers, the operating profit margin has its advantages and disadvantages. It is considered that during the usage of this criterion retailers are focused on the performance of fundamental business rather than on financial decision-making related to depreciation of fixed assets, interest and financial structure (lending instead of increasing equity by selling shares) (Levy 2014). In view of this, it provides bankers, investors, creditors, fiscal authorities and others an insight into the long-term potential options for collecting their retailers' claims. More and more financial analysts are aware of certain problems of interpreting the EBITDA margin, and in order to overcome them, the model of economic additional value (the so-called EVA model) is recommended. Nevertheless, it should also be noted that the very model of economic value addition has its own weaknesses, which primarily relate to subjective assumptions regarding the calculation of capital costs. In conclusion, it is necessary to use both models (EBITDA margin, EVA model) concurrently when assessing the long-term performance of retailers. We are well aware of the fact that in recent years many global retailers, and that we consider quite right, also regularly report on the economic value added (for example, METRO group and others) in the context of integrated financial reporting. In this way, the problem of interpreting the EBITDA margin is partially mitigated. Due to the specifics of the nature itself, way of doing business and the applied financial management strategy, the dynamics of the size of the operating profit margin varies by individual types of trade (wholesale and retail), retail companies and countries in which they operate, retail chains (types of shops) and product categories. This is scientifically proven by the empirical analysis of EBITDA-size dynamics of retailers' margin which has been carried out from different perspectives.

Model of calculating the EBITDA margin, it is determined in the following way:

EBITDA = Revenue - Expenses (excluding interest, taxes, depreciation and amortization), i.e.

EBITDA = Net profit + Interest + Tax + Depreciation + Amortization.

From this last formula it follows that:

Net profit = EBITDA - (Interest + Tax + Depreciation + Amortization).

For illustration purposes Table 1 shows the model for calculating the EBITDA margin in the global retailer Wal-Mart. Therefore, it is consistent with the model shown above

(Source: Available at: <https://www.stock-analysis-on.net>. Accessed: May 10, 2018).

Results and discussion

The value multiplier is determined as follows:

Enterprise Value / EBITDA = (Market Value of Equity + Value of Debt-Cash) / EBITDA.

It shows how the market values the (retail) firm in accordance with the ability to generate

Table 1. Model of calculating the EBITDA margin at Wal-Mart (USD \$ million)

	January 31, 2018	January 31, 2017
Net income	9.862	13.643
Add: Net income attributable to non-controlling interest	661	650
Less: Income from discontinued operations, net of income tax	-	-
Add: Income tax expense	4.600	6.204
Earnings before tax (EBT)	15.123	20.497
Add: Interest expense, debt, capital lease and financing obligations	2.330	2.367
Earnings before interest and tax (EBIT)	17.453	22.864
Add: Depreciation and amortization	10.529	10.080
Earnings before interest, tax, depreciation and amortization (EBITDA)	27.982	32.944

Table 2. Food value chain value multiplier in US, January 5, 2018

	EV/EBITDA
Farm/Agriculture	13.07
Food processing	13.01
Food wholesale	10.43
Retail (grocery and food)	8.40
Restaurant/Dining	12.69

Note: Enterprise Value / EBITDA = (Market Value of Equity + Value of Debt-Cash) / EBITDA.

(13.07) than for retail (8.40). This is partly due to differences in the very nature of their business. In order to make in-depth analysis of the EBITDA margins in the food retail

operational profits (Enterprise value/EBITDA (EV / EBITDA)). As an illustration, Table 2 shows a value multiplier on the example of a food value chain in the US (*Source*: Enterprise Value Multiples by Sector (US). Available at: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/vebitda.html. Accessed: May 10, 2018).

The data in a given table show that the value multiplier is different for some members of the food value chain in the US. Thus, for example, it is significantly higher for farming/agriculture

Table 3. Value multiplier, Wal-Mart (January 31, 2017 and 2018)

Wal-Mart Inc.,	January 31, 2018	January 31, 2017	January 31, 2016	January 31, 2015	January 31, 2014	January 31, 2013
EV / EBITDA calculation						
Enterprise value (EV), (USD \$ million)	305.207	260.427	260.724	306.165	300.184	297.926
Earnings before interest, tax, depreciation and amortization (EBITDA), (USD \$ million)	27.982	32.944	33.640	36.433	35.861	36.489
Ratio EV / EBITDA	10.91	7.91	7.75	8.40	8.37	8.16
Benchmarking						
EV / EBITDA competition						
Amazon.com Inc.	-	43.74	31.40	33.08	33.45	41.58
Costco Wholesale Corp.	-	12.63	13.27	13.49	12.08	12.30
eBay Inc.	-	14.50	8.04	8.92	12.34	12.88
Home Depot Inc.	13.46	12.90	13.23	12.90	11.11	11.74
Lowe's Cos.Inc.	11.24	11.43	12.18	12.79	10.47	9.60
Netflix Inc.	-	18.03	11.80	10.59	8.22	9.62
Target Corp.	6.96	5.59	7.47	9.21	7.85	8.09
TJX Cos.Inc.	-	11.16	11.83	11.14	10.70	9.10
EV / EBITDA, Sector						
General retailers	-	15.92	12.72	12.34	10.93	10.95
EV / EBITDA, Industry						
Customer service	-	12.26	11.49	10.91	10.77	10.30

sector, Table 3 shows a value multiplier of the Wal-Mart retailer and its competitors for 2017 and 2018 (*Source*: Available at: <https://www.stock-analysis-on.net>. Accessed: May 28, 2018).

The data in the given table show that the value multiplier differs between some food retailers. Thus, for example, on January 31, 2018, in Target Corp. it was 6.96 and in Wal-Mart 10.91, respectively. The Wal-Mart value multiplier is lower than the average of the sector and industry. These differences are certainly the result of the implementation of different financial management strategies (lending versus the increase in equity by selling shares). Earnings before interest, taxes, depreciation and amortization differ among individual food retail companies. Table 4 illustrates the dynamics of the EBITDA margin of the global retailer Wal-Mart for the period 2008 – 2017 (*Source*: Available at: https://finbox.io/WMT/explorer/ebitda_margin. Accessed: May 10, 2018).

Table 4. Dynamics of EBITDA margin of Wal-Mart, 2008 – 2017

End of period	WMT
January 2008	NA
January 2009	7.3%
January 2010	7.6%
January 2011	7.9%
January 2012	7.7%
January 2013	7.7%
January 2014	7.5%
January 2015	7.5%
January 2016	7.0%
October 2016	6.8%
January 2017	6.8%
October 2017	6.6%

Recently, the EBITDA margin has decreased in Wal-Mart compared to the previous period. Compared to some competitors it is larger and compared to others – smaller (for example, Target Corporation 9.9%) (Table 5; *Source*: Available at: https://finbox.io/WMT/explorer/ebitda_margin. Accessed: May 11, 2018). This is, partly, the result of the very nature of the industry operations of its own, sector, company size and business operations model (i.e. the applied financial strategy of the business).

Table 6 shows the dynamics of EBITDA margin of Tesco for the period 2014 – 2018 (*Source*: Available at: <https://quotes.wsj.com/UK/XLON/TSCO/financials/annual/income-statement>. Accessed: May 11, 2018).

The data in the given table show that the share of EBITDA margin in revenues is lower in Tesco (5.14%) than in Wal-Mart (6.6%). This is partly a consequence of a different model of doing financial operations. Table 7 shows the EBITDA margin of Ahold Delhaize, which operates in Serbia as Delhaize Serbia (*Source*: Available at: https://research-doc.credit-suisse.com/docView?language=ENG&format=PDF&sourceid=emgpm&document_id=1077229781&serialid=7%2F%2FS9ldDW4ewIdMX6A26zIMtYs6VxLxiTmPgD2zQdGM%3D. Accessed: May 22, 2018).

Table 5. EBITDA margin of Wal-Mart and its competitors, 2017

Company	EBITDA margin
Spartan Nash Company (SPTN)	-0.3%
Smart & Final Stores, Inc. (SFS)	3.1%
Kroger Company (The) (KR)	4.5%
Companhia Brasileira de Distribuicao (CBD)	6.1%
Casey's General Stores, Inc. (CASY)	6.2%
Best Buy Co., Inc. (BBY)	6.2%
CVS Health Corporation (CVS)	6.6%
Wal-Mart Stores, Inc. (WMT)	6.6%
Target Corporation (TGT)	9.9%
Consumer Staples (SECTOR:STPL)	12.5%
Procter & Gamble Company (The) (PG)	25.6%

In Ahold Delhaize, the EBITDA margin is higher than at Tesco (5.14%) and is approximately the same as with Wal-Mart (6.6%). In the future, there is an estimated growing trend. The EBITDA margin is certainly different among observed countries in which Ahold Delhaize operates. Ahold Delhaize's operating profit margin,

observed by individual countries in which it operates, is significantly higher in the US and the Netherlands than in Belgium and Central and Southeastern Europe (to which the Delhaize Serbia belongs). These differences are the result of different general business conditions and applied (financial) business strategies. Table 8 shows the EBITDA margin of the Russian company X5 Retail Group for the period 2016-2021 (*Source*: Available at: <https://>

Table 6. EBITDA margin of Tesco, 2014 – 2018

Fiscal year March-February.					
All values are expressed in million of pounds (GBP)	2018	2017	2016	2015	2014
Sales/Revenue	57.491	55.917	53.933	56.925	63.557
EBITDA	2.957	2.581	2.202	(1.733)	4.757
EBITDA growth	14.57%	17.21%	227.06%	-136.43%	-
EBITDA margin	5.14%	-	-	-	-
EBIT	1.663	1.284	-	-	3.225

Table 7. EBITDA margin of Ahold Delhaize

	2016A	2017E	2018E	2019E
Revenue (€ million)	63,093	63,943	65,348	66,920
EBITDA (€ million)	4,142	4,267	4,507	4,836
EBIT (€ million)	2,420	2,386	2,638	2,923
EBIT growth (%)	7.9	(1.4)	10.6	10.8
EBITDA margin (%)	6.6	6.7	6.9	7.2
EBIT margin (%)	3.8	3.7	4.0	4.4
EV/EBITDA (x)	6.7	6.4	6.0	5.5
EV/EBIT (x)	11.4	11.4	10.3	9.2

Note: A – actuals, E – estimates

www.marketscreener.com/X5-RETAIL-GROUP-4006552/financials/

Accessed: March 16, 2020).

ata in the given table clearly show that the EBITDA margin of the company X5 Retail Group (2018 = 7.17%) is higher than in Wal-Mart (2017 = 6.6%), Tesco (2018 = 5.14%) and Ahold Delhaize (2018 – 6.9%). In other words, its profitability measured by cash flows from operations (using EBITDA margin) is slightly better than the observed retail companies.

Table 8. Dynamics of EBITDA margin of the company X5 Retail Group, 2016 – 2021

Annual Income Statement Data	Actuals in M \$			Estimates in M \$		
	2016	2017	2018	2019 (e)	2020 (e)	2021 (e)
Fiscal Period December						
Sales	18 156	22 474	23 795	27 038	30 143	33 562
EBITDA	1 340	1 669	1 706	3 391	3 738	4 049
Operating profit (EBIT)	867	1 002	903	1 461	1 614	1 778
Pre-Tax Profit (EBT)	503	726	606	705	823	968
Net income	392	545	445	509	612	721
P/E ratio	22.5x	18.8x	15.1x	13.3x	10.9x	9.18x
EPS (\$)	1.44	2.01	1.64	1.84	2.24	2.66
Dividend per Share ()	-	-	1.43	1.62	1.97	2.24
Yield	-	-	5.77%	6.62%	8.06%	9.18%
Reference price (\$)	32.450	37.770	24.780	24.420	24.420	24.420
Announcement Date	03/27/2017 01:03pm	04/03/2018 12:00am	03/20/2019 07:00am	-	-	

In the analyzed period, the costs of goods sold by trade companies in Serbia have slightly increased dynamically until 2015 and from that year up to 2017 much faster, as can be seen from Figure 1. The annual growth rate of the costs of goods sold (3.3%) is thus lower than the annual growth rate of the EBITDA margin (4.99%). To sum up, the return on investments in Serbia's trade companies increased to some extent. In order to make an in-depth analysis of long-term trade performance in Serbia measured by the EBITDA margin, we will show the respective margin for three significant trade companies in Serbia for 2016

Table 9. EBITDA margin of significant trade companies in Serbia, 2016

	EBITDA margin, (million RSD)	EBITDA margin, (% from sales)
Ahold Delhaize Serbia	3,719	4.3%
Mercator-S	3,081	2.9%
IDEA	117	3.99%

Note: Author's calculation.

Source: Business Registers Agency, Belgrade.

(Table 9). Based on the data presented in the given table, we can also conclude that the EBITDA margin of the leading (food) trading companies in Serbia is lower than the analyzed comparable food retail trade companies from the developed market economies. IDEA's EBITDA

is significantly lower than the other two observed companies because it operates at a loss.

The regression analysis show that the costs of goods sold, as a specific expression of investment, significantly affect the EBITDA margin (Pearson Correlation .927, Sig. (1-tailed) .012 $p < 0.05$). The regression equation is:

$$Y = -46285.142 + 0.087 X,$$

where: Y = EBITDA margin, and X = costs of goods sold.

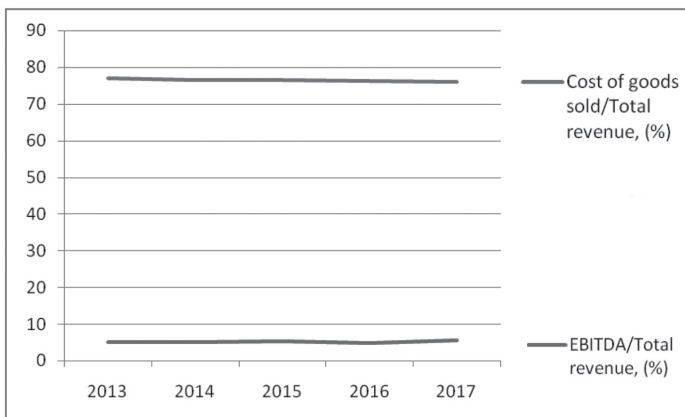


Fig. 1. Cost dynamics of goods sold and EBITDA margin of trade companies in Serbia

Note: Figure illustrated by the author.

Source: Business Registers Agency.

The method of financing working capital (especially inventories) is a significant determinant of the EBITDA margin of trading companies. In this context, we will examine the impact of interest costs on the costs of goods sold of the commercial enterprises in Serbia. The results of the correlation analysis show that there is a negative (statistically significant) strong correlation between the costs of sold goods and interest as a component of the EBITDA margin of trading enterprises in Serbia – this is quite logical – given their character.

Conclusion

Due to the growing EBITDA margin trend and based on the analysis conducted in this paper, we can conclude that the long-term performance of trade companies in Serbia has recently improved. The average operating profit margin (EBITDA) of trading companies

in Serbia expressed as percentage of revenue is slightly higher than 5% (Mean 5.1840). However, it is lower compared to the US, Canada, Europe, the Netherlands, Belgium, Central and Southeast Europe, Germany and Russia. More efficient management of the financial structure of capital (financial leverage = assets / capital) can influence the improvement of the return on sales measured by the relationship between the EBITDA margin and total revenues. Costs of goods sold, as a specific expression of the size of investments, significantly affect the EBITDA margin (Pearson Correlation .927, Sig. (1-tailed) .012 $p < 0.05$). The EBITDA margin of the analyzed leading trading companies in Serbia (Ahold Delhaize Serbia, Mercator-S and IDEA) is lower than that of analyzed comparable retail (primarily food) trade companies from the developed market economies. Overall, more efficient management of the financial structure of capital, sales revenues, costs of goods sold (including operating costs, interest) and profit can significantly influence the increase in the EBITDA margin as a measure of the long-term performance of trading companies in Serbia. This will definitely have a positive impact on the dynamics of the size and efficiency of investments, as a key factor in the performance of trade companies in Serbia.

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