The Analysis of Efficiency of Managing Inventories in Trade in Serbia

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Abstract

The efficient management of inventory performance in trade is very important. Ultimately, it is reflected on overall performance of trade. In order to measure efficiency of inventory management the gross margin return on inventory investment is used to a great extent. With the application of the DuPont system of analysis and statistical analysis, this paper researches the dynamics of gross margin return on inventory investment rate in trade in Serbia (on the example of five major trading companies) for the 2008-2012 period. With a view to thoroughly analyse the given issue, the dynamics of net income (net profit) return on inventory investments rate in trade in Serbia for the 2002-2012 period is also analysed. The obtained results of research show that the performance of inventories in trade in Serbia are at the lower level compared to other countries, especially developed market economies. So as to improve the performance of inventories in trade in Serbia it is, above all, necessary to increase the gross margin return on sales rate, net income return on sales rate, respectively. It can be done with the application of new concepts of cost management, Toyota business principles and modern technology.

Keywords: *margin, return from sales, inventory turnover, cost efficiency, modern technology.*

JEL Classification: F65, L81, M40

Introduction

Efficient management of inventory performance is very significant in (retail) trade. It is quite understandable when we consider their significant share in working capital - active capital in trade. It affects overall performance of trading companies. The system of measurement and management of inventory performance is developed and adjusted to the very nature of trade. The two most important measures of inventory performance in trade are: gross margin return on inventory investment and direct profitability of product. This paper investigates the concept of gross margin return on inventory investment (GMROII) based on the data from Serbia. Its purpose is to point to the significance of continuous analysis of gross margin return on inventory investment as a function of assortment optimization and improvement of their overall profitability.

The main **objective** of this work is to envisage the efficiency of inventory management in trade in Serbia by application of the concept of gross margin return

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on inventory investment, based on the comparative analysis of original empirical data for selected countries and Serbia. The **aim** is to identify the „critical factors" and to propose adequate measures for improving efficiency of managing inventory in trade in Serbia in the future. The effects will be improvement of overall business and financial performance.

Extensive **literature** in the West deals with the analysis of the gross margin return on inventory investment in trade (Chan et al. 2006; Levy, 2007; Berman, 2010). Literature in Serbia do not lag behind (Lukić, 2012; Lukić, 2013a, b; Lukić, 2014; Vojteški Kjlenak, 2013). Theoretical, methodological and practical knowledge in this paper serve as a fundamental basis for thorough empirical research of gross margin return on inventory investment as a function of improvement of overall performance of trading companies, primarily in Serbia.

The main **hypothesis (H1)** in this paper is that the efficient managing of sales revenue, costs and inventories significantly affects increase of gross margin return on inventory investment. It is proved by analysis of trade business in Serbia. The effects are significant increase of overall performance of trade companies.

The research **methodology** of the given hypothesis is primarily based on DuPont system of analysis and statistical analysis.

Empirical data for testing given hypothesis was collected from relevant literature and Serbian Business Registers agency.

1. The significance of the concept of gross margin return on inventory investment

The concept of gross margin return on inventory investment is very significant measure of inventory performance (McGoldrick, 2002; Topal, 2013). The gross margin return on inventory investment rate is a relationship between gross margin and average inventory, i.e. gross margin return on inventory investment rate = Gross margin / Average inventory. It can be shown according to the DuPont system analysis, i.e. as a strategic profit model: gross margin return on inventory investment = Gross margin / Net sales x Net sales / Average inventory.

This presentation of gross margin return on inventory investment rate helps us envisage the influence of key factors on its size: return from sales and inventory turnover. There is a comparative analysis of the influence of profitability and the efficiency of managing inventories on gross margin return on inventory investment rate. According to the presented strategic profit model it can be easily concluded that, mathematically speaking, gross margin return on inventory investment rate is a function of return on sales and inventory turnover. Efficient control of these factors can influence on managing targeted gross margin return on inventory investment rate in trade (Berman, 2010).

The significance of gross margin return on inventory investment is multiple. It shows how retailer can be successful with efficient control of profitability and inventory turnover. It is good indicator of manager`s performance because the factors are in his control. It is easy to plan and to be understood, so as the relevant data for its calculation, especially when they are in compliance with other goals of the company (Berman, 2010).

2. The strategies of managing performance based on concept of gross margin return on inventory investment rate

The strategies based on the concept of gross margin return on inventory investment rate can be differentiated. The typical are: high margin, small inventory turnover and low margin, high inventory turnover. They are different for different categories of products and should be adjusted with the goals, resources, capacities and other capabilities of the retailer as a function of making optimal gross margin return on inventory investment rate, i.e. target profitability of assortment. Retailers apply different business strategies as a function of improving competitiveness and realization of target cost and profit. So, for example, global retailer Wal-Mart is known for „daily lower prices" and value. Figure 1 shows analysis framework of the concept of gross margin return on inventory investment rate.

	High →	
Consumer Staples *Acceptable GMROI* **How can margins be increased?**		**Family Jewles** *Highest GMROI* **How can Treasures be protected?**
Rationalization Opportunity *Lowest GMROI* **On what basis are product/ groups valuated?**		**Niche Performers** *Acceptable GMROI* **How can volume be increased**

(Vertical axis: Inventory turnover — High / Low; Horizontal axis: Profit margin — High / Low)

Figure 1. GMROI Analysis framework
Source: Capgemini - The Business Case for Product Rationalization, (2007)

It optimises profitability of assortment, and it has positive effect on overall performance of retail chain.

Regarding the future of the concept of gross margin return on inventory investment rate, there are different observations. One of them is "saying goodbye to GMROI" (Saying Goodbye to GMROI, 2014). The factor of gross margin rate from sales is much significant than inventory turnover. Gross margin rate from sales is significant factor of profitability of total assortment (Jagelavicius, 2013).

One article can be expected to have high rate of gross margin return on inventory investment and to be unprofitable.

From that reason, it is considered that direct profitability of products concept has significant advantages for efficient management of inventory performances. **Direct product profit** measures the financial results of individual items, product categories and departments (Saying Goodbye to GMROI, 2014). It is measured according to model: net sales – costs of the goods sold = gross margin + procurement discounts = corrected margin – direct costs (transport, warehouse, shops) = direct profitability of products. When allocated general costs are subtracted from direct profitability - we come to profit. Given model shows that the concept of direct profitability is based on the principles of the system of calculation per variable costs.

According to our opinion, both concepts should be used as a function of improving performance (profitability) of inventory assortment. (Lukić, 2011a; Lukić, 2011b; Lukić, 2013). It brings to improving total performance and value of the retail company.

Gross margin belongs to very significant sources of *retail company value*. Figure 2 shows the value drivers for hard goods retailers.
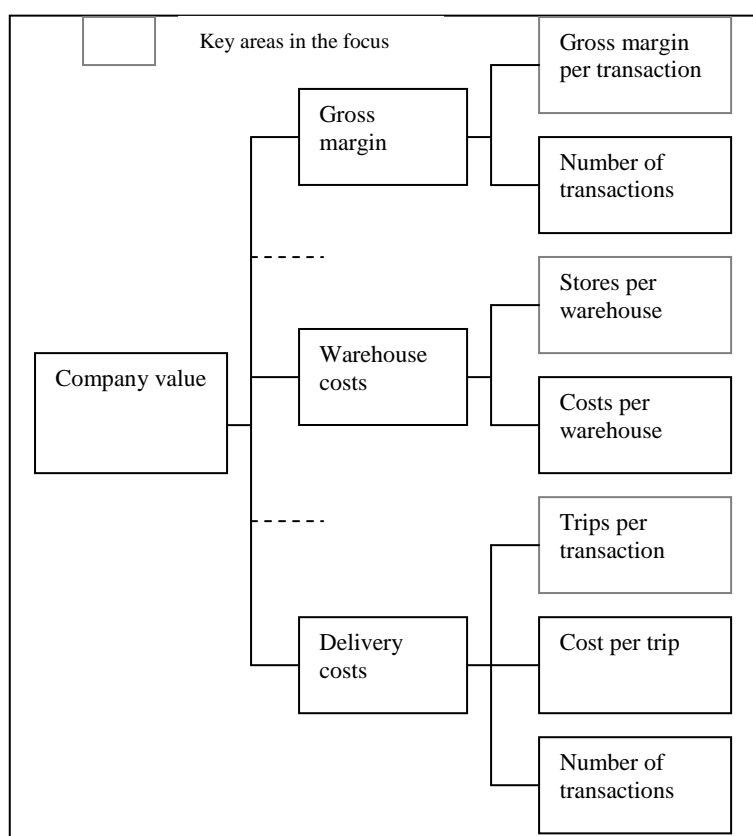

Figure 2. The value drivers for hard goods retailers
Source: Koller, (1994)

According to the given figure they are: gross margin, warehouse costs and delivery costs. Gross margin is determined with margin per transaction and with the number of transactions. Warehouse costs are the function of the number of stores per warehouse and costs per warehouse. Delivery costs are determined with the number of trips per transaction, cost per trip and with the number of transactions (Koller, 1994). Key areas for increasing value are: gross margin per transaction, number of stores per warehouse and business trips per transaction. All this indicate itself that the same value of gross margin, with large decrease of costs, especially operative and their efficient management, the profit can be significantly increased, i.e. the value of the retailer. This especially relates to efficient management of cost throughout the whole supply chain. As a function of that the concept of managing relationship with suppliers, Toyota principles and modern technology are applied.

3. Global empirical analysis of gross margin return on inventory investment

As to compare the gross margin return on inventory investment rate of the retail in Serbia with other countries, Table 1 shows (DuPont system of analysis) gross margin return on inventory investment rate in New Zealand, for the 2008-2011 period.

Table 1. Gross margin return on inventory investment in retail in New Zealand, 2008–2011

	Gross margin rate from sales	Inventory turnover ratio	Gross margin return on inventory investment rate*
2008	26.6%	10.1 x	268.6%
2009	26.2%	10.5 x	275.1%
2010	26.2%	10.4 x	272.4%
2011	26.2%	10.4 x	272.4%

Note: *Author calculation
Source: The Retail Market in New Zealand, An Analysis, (2013), New Zealand Retailers association

According to the data, it ranged from 268.66% (2008) up to 275.10% (2009) in the observed time period. Its moderate increase was influenced by increase of inventory turnover ratio (especially in 2009, in relation to 2008).

Gross margin return on inventory investment rate is different in certain delivery channels. The data in Table 2 show this.

According to the data from the table it is larger in the following order: retail, catalogue and international.

Table 2. Gross margin return on inventory investment rate in certain delivery channels

	Gross margin rate	Inventory turnover ratio*	Gross margin return on inventory investment rate*	Gross margin return on net working capital rate	Cash flow (in days)
Catalogue	54.9	13.8	759.8	534.3	45.4
International	56.5	10.4	590.9	311.2	86.8
Retail	60.2	13.0	787.4	479.5	61.4

Note: Author calculation
Source: Bucsanalytics (3/2/2014 12:43 PM) – Analytics discover lowest gross margin channel delivers the highest cash return; http:/www.bucsanalytics.com/consumer-products-channel-managment

As to compare the rate of gross margin return on inventory investment of retail chains in Serbia with international, table 3 shows the rate of gross margin return on inventory investment of the selected global retailers (GMROI) for 2011.

Table 3. GMROI of the selected retailers, 2011

Retailer	Gross margin rate	Sales/Inventory	GMROI
Abercrombie & Fitch	66.2%	7.3 x	482.8%
Best Buy	26.7%	8.8 x	236.2%
Bed Bath & Beyond	41.4%	4.6 x	189.7%
Gap	40.3%	9.0 x	363.2%
Home depot	34.5%	6.8 x	235.0%
Kroger	20.9%	17.7 x	369.2%
Limited Brands	43.1%	10.4 x	447.8%
Pier One	42.4%	4.8 x	202.2%
Target	34.5%	7.9 x	272.3%
Tiffany & Company	63.2%	1.8 x	111.0%
TJX	29.4%	7.9 x	231.4%
Wal-Mart Stores	26.5%	10.9 x	289.7%

Source: Dunne, (2013)

Gross margin return on inventory investment differs among retailers because of the unequal intensity of many controlled and uncontrolled factors, especially the very nature of the product. According to the data in the Table 3 gross margin return on inventory investment rate is highest in Abercrombie & Fitch (482.8%) company and lowest in Tiffany & Company (111.0%).

Concerning departments, categories of products and their nature, the gross margin return on inventory investment rate differs. This is shown in Table 4 It is the highest for clothes (235%), and the lowest for furniture (90%).

Table 4. GMROI of selected departments in discount stores

Department	Gross margin %	Ratio Sales / Inventory	GMROI
Clothes	37	6.35	235
Home appliances	35	4.63	162
Food	20	8.75	175
Jewellery	38	3.24	123
Furniture	31	4.09	90
Health and care	22	5.14	113
Home electrics	21	5.05	106

Source: Levy, (2007)

4. Measuring of inventory performance in Serbia

The efficiency of managing inventory performance to a great extent affects profitability of trade in Serbia. In comparison to other countries, the factors of inventory performance are specific in Serbia, and familiarity with their influence is important for efficient management of inventories as a function of increasing profitability of trade in Serbia. This paper envisages the impact of specific factors on inventory performance through the prism of gross margin return on inventory investment rate in selected trade companies of consumer goods (food and fuel) for 2012 and rate of net income return on inventory investments in trade in Serbia for 2002-2012 period showed in a form of DuPont system of analysis. The empirical research results, concerning the intensity of key factors impacts, propose the specific measures for improving performance of inventories as a function of improving overall profitability of trade in Serbia in the future.

4. 1. Gross margin return on inventory investment

The analysis of gross margin return on inventory investment rate in retail in Serbia will be made on the example of five distinguished, in terms of their revenue, companies. They do business with consumer goods. Delhaize Serbia, Mercator-S and IDEA mostly sell food. Companies Lukoil Serbia and Knez Petrol sell motor fuel. Concerning that market and financial position is reflected on managing inventory performance – measured by gross margin return on inventory investment, Table 5 shows global financial performance – liquidity and profitability of selected trade companies (with significant share in total retailing income) in Serbia for 2012.

Current liquidity is unsatisfactory in all observed companies in contrast to „industry standards". Considering the average rate, it was below in Mercator-S and IDEA, and in other companies it was above the average. It is necessary to implement all relevant market and financial measures as a function of increasing current liquidity.

Table 5. Liquidity and profitability of selected trade companies in Serbia in 2012

	Ratio of current liquidity	Ratio of cash turnover and cash equivalents	Ratio of receivables turnover	Ratio of supplier turnover	Cash cycle (in days)	Return on assets rate	Return on equity rate
DELHAIZE SERBIA	1.21	10.52	13.07	3.97	15	-24.78	-41.93
MERCATOR-S	0.49	23.94	21.06	3.87	12	-0.53	-1.20
IDEA	0.77	34.41	11.50	4.10	19	-0.14	-53.79
LUKOIL SRBIJA	1.36	250.65	21.56	14.10	12	-10.78	-73.43
KNEZ PETROL	1.08	323.81	12.75	12.30	3	6.58	33.46
Descriptive Statistics							
Minimum	.49	10.52	11.50	3.87	3.00	-24.78	-73.43
Maximum	1.36	323.81	21.56	14.10	19.00	6.58	33.46
Men	.9820	128.6660	15.9880	7.6680	12.2000	-5.9300	-27.3780
Std.Deviation	.35053	147.28500	4.89678	5.09060	5.89067	12.22732	43.06011
Valid N (listwise)	5	5	5	5	5	5	5
Correlations							
Return on assets rate: Pearson Correlation	-.513	.412	-.046	.222	-.446	1	.592
Sig. (2-tailed)	.377	.491	.941	.720	.451		.293
N	5	5	5	5	5	5	5
Return on equity rate: Pearson Correlation	-.365	.304	-.189	.039	-.765	.592	1
Sig. (2-tailed)	.546	.619	.760	.950	.132	.293	
N	5		5	5	5	5	5
Note: output of the statistical programme SPSS							

Note: Author calculation
Source: Serbian Business Registers Agency

Ratio of cash cycle and cash equivalents is significantly below the average except in Lukoil Serbia and Knez Petrol, because of the nature of their business – motor fuel for cash.

Turnover of receivables ratio is smallest in IDEA, and highest in Mercator-S company. In Mercator-S and Lukoil Serbia it was above, and in other companies it was below the average. Days account receivable is 22.82 on average.

The average supplier turnover ratio is 7.6680. In Lukoil Serbia and Knez Petrol it was above, and in other companies it was below average. Average time of days account receivable was 47.60. That means that observed companies credited their sell partly from supplier sources.

The influence of analysed factors on return on assets and return on equity was, as correlation analysis shows, of moderate intensity - and with each of factors.

In 2012 profitability of all observed companies, except Knez Petrol, was negative – they all had operative loss. Many controlled and uncontrolled factors had influenced on that (unfavourable market surroundings, exchange rates, interest, unemployment, low buying power, high operating costs, unsatisfactory application of modern technology, application of „green economy" is in initial phase etc.).

Table 6 and Figure 3 show the performance of inventories measured by gross margin return on inventory investment rate in selected trade companies in Serbia in 2012.

Table 6. Gross margin return on investment rate in selected trade companies in Serbia in 2012

	Business revenues gross margin rate	Inventory turnover ratio	Gross margin return on investment rate
DELHAIZE SERBIA	18.67	13.59	253.72
MERCATOR-S	14.53	13.61	197.75
IDEA	16.96	11.31	191.81
LUKOIL SRBIJA	6.81	23.84	162.35
KNEZ PETROL	2.65	123.13	326.29

Note: Authors calculation
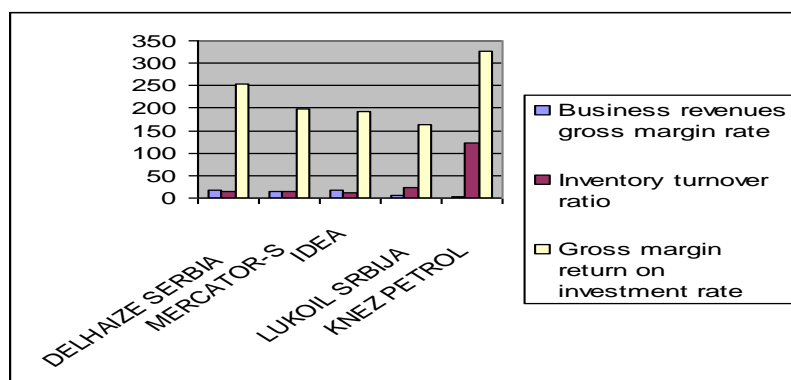**Source:** Serbian Business Registers Agency

Figure 3. Gross margin return on investment rate in selected trade companies in Serbia in 2012
Source: Table 6

Gross margin return on inventory investment rate in selected trade companies range from 162.35% (Lukoil Serbia) up to 253.72% (Delhaize Serbia).

It was above in Delhaize Serbia and Knez Petrol, and in other below the average (Table 7). Observed companies apply different business strategies. Business strategies of companies Delhaize Serbia, Mercator-S and IDEA are: higher gross margin, lower inventory turnover. In contrast to them, Lukoil Serbia and Knez Petrol companies apply business strategies: lower gross margin, higher inventory turnover. These business strategies correspond to the very nature of their business: the former companies mostly sell food, the later motor fuel.

Table 7. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Business revenues gross margin rate	5	2.65	18.67	11.9240	6.88878
Inventory turnover ratio	5	11.31	123.13	37.0960	48.33894
Gross margin return on inventory investment rate	5	162.35	326.29	226.3840	64.89238
Valid N (listwise)	5				

Note: output of the statistical programme SPSS
Source: Table 6

Inventory performance (measured by gross margin return on inventory investment rate) of the companies Delhaize Serbia, Mercator-S and IDEA are worse compared to global retailers (showed in Table 3). Globally observed, inventory performance of trade in Serbia (expressed as average gross margin return on inventory investment rate on the example of 5 companies with significant share in total sales revenue) is worse compared to New Zealand (Table 1). As a whole it refers to other trade companies which do business in Serbia. It is necessary to take relevant measures as to improve their inventory performance in the future. These measures are: application of new business models, concepts of cost management and modern technology.

Table 8 shows weak negative correlation between business revenue gross margin rate and gross margin return on inventory investment rate (Pearson Correlation = -.371; Sig. (2-tailed) = .539, $p > 0.05$). Correlation between inventory turnover ratio and gross margin return on inventory investment rate is medium (Pearson Correlation = .826; Sig. (2-tailed) = .085, $p > 0.05$). It means that efficient managing of margin can significantly affect increasing of gross margin return on inventory investment rate in observed trade companies. It refers to other trade companies (total trade) in Serbia. Likewise, it is necessary to manage inventories more efficiently as a function of increasing gross margin return on inventory investment rate in trade in Serbia. In tune with this, the concept of managing suppliers, the concept of managing relationship with buyers, Toyota business principles – inventory order based on Just-in time principle, efficient system of managing supply chains, company resource planning system and radio-frequency

identification (RFID) should be all used much more. The ultimate effect of that will be improvement of total performance of trade companies in Serbia in the future.

Table 8. Correlation matrix

		Business revenues gross margin rate	Inventory turnover ratio	Gross margin return on inventory investment rate
Business revenues gross margin rate	Pearson Correlation	1	-.811	-.371
	Sig. (2-tailed)		.096	.539
	N	5	5	5
Inventory turnover ratio	Pearson Correlation	-.811	1	.826
	Sig. (2-tailed)	.096		.085
	N	5	5	5
Gross margin return on inventory investment rate	Pearson Correlation	-.371	.826	1
	Sig. (2-tailed)	.539	.085	
	N	5	5	5

Note: output of the statistical programme SPSS
Source: Table 6

Other factors also exercise influence on gross margin return on inventory investment rate in observed trade companies. Correlation between them is following: the influence of current liquidity on gross margin return on inventory investment rate is weak (Pearson correlation .145, Sig. (2-tailed) .815 > 0.05, N 5); the influence of cash turnover and cash equivalents on gross margin return on inventory investment rate is also weak (Pearson correlation .385, Sig. (2-tailed) .522 > 0.05, N 5); correlation between efficient collection of receivables and gross margin return on inventory investment rate is medium negative (Pearson correlation -.590, Sig. (2-tailed) .295 > 0.05, N 5); influence of settlement of liabilities on gross margin return on inventory investment rate is weak (Pearson correlation .138, Sig. (2-tailed) .825 > 0.05, N 5); medium negative correlation is between cash cycle and gross margin return on inventory investment rate (Pearson correlation -.693, Sig. (2-tailed) .195 > 0.05, N 5). Therefore, according to the obtained results from correlation analysis, the influence of other factors on the gross margin return on inventory investment rate is moderate (Note: output of the statistical programme SPSS; Source: Table 5 and 6). All in all, the efficient integral control of all influential factors, key factors according to the DuPont system of analysis, so as the others, observed trade companies can have significant impact on

increasing gross margin return on inventory investment rate. That will have positive impact on their total business and financial performance.

4.2. *Net income return on inventory investment*

As to thoroughly analyse the issue of measuring performance of inventories in trade in Serbia we will analyse the dynamics of inventories and net income (net profit), as well as net income return on inventory investments for 2002-2012 period. This is the way, to our opinion, to neutralize the weaknesses of gross margin return on inventory investment rate in relation to the direct profitability of product, as a measure of profitability of inventory assortment. Table 9 and Figure 4 show the dynamics of inventory and net income of trade in Serbia for 2002-2012 period.

Table 9. The dynamics of inventory and net income of trade in Serbia, 2002-2012

	Inventories (in millions of dinars)	Net income (in millions of dinars)
2002	83818	7291
2003	110438	12444
2004	147984	24905
2005	181281	44827
2006	229362	76163
2007	297017	90984
2008	357401	84463
2009	367783	75376
2010	391121	79198
2011	421675	91822
2012	463805	93687

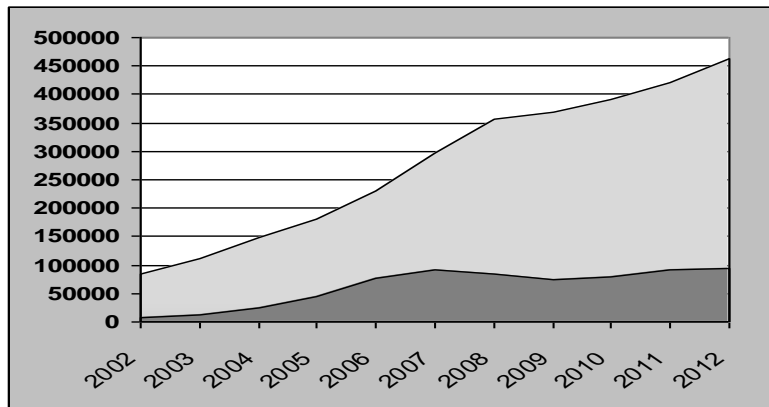**Source:** Serbian Business Registers Agency

Figure 4. The dynamics of inventory and net income of trade in Serbia, 2002-2012
Source: Table 9

In the observed period inventories in the trade in Serbia showed the tendency of constant increase. Net income showed cyclical movement: it grew until 2008, when it started to gently decrease and increase; the highest amount was made in 2012. That movement reflected on the dynamics of net income return on inventory investments (Table 10, Figure 5).

Table 10. Net income return on inventory investments in Serbia, 2002-2012

	Net income rate on sales	Inventory turnover	Net income rate from inventory
2002	1.35	6.42	8.66
2003	1.83	6.14	11.23
2004	2.68	6.27	16.80
2005	3.78	6.53	24.68
2006	4.80	6.91	33.16
2007	4.58	6.67	30.54
2008	3.57	6.60	23.56
2009	3.28	6.23	20.43
2010	3.25	6.21	20.18
2011	3.39	6.41	21.72
2012	3.14	6.42	20.15

Note: Author calculation
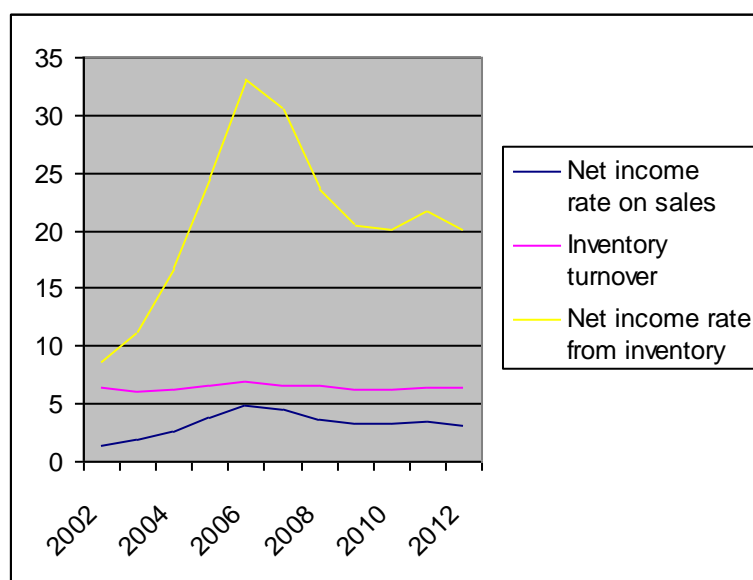**Source:** Serbian Business Registers Agency

Figure 5. The dynamics of net income return on inventory investments in Serbia 2002-2012
Note: Author's figure
Source: Table 10

As to thoroughly envisage the key factors impact – return on sales and inventory turnover on net income from inventories of trade in Serbia Table 11, 12, 13, 14, and 15 show the statistical parameters calculated in statistical program SPSS.

Table 11. Descriptive Statistics

	Mean	Std. Deviation	N
Net income rate from inventory	21.0100	7.25657	11
Net income rate from sales	3.2409	1.02653	11
Inventory turnover	6.4373	.22913	11

Note: output of the statistical programme SPSS
Source: Table 10

Net income rate from inventory in trade of Serbia ranges from 9 (8.7872) up to 33 (32.8424) percent. On the average it is 21 percent (21.0100). Correlation between observed influential factors – return on sale and inventory turnover and net income return on inventory investments in trade in Serbia is strong (Sig. (1-tailed) = .000 and Sig. (1-tailed) = . 003, $p < 0.05$ respectively).

Table 12. Correlation matrix

		Net income rate from inventory	Net income rate from sales	Inventory turnover
Pearson Correlation	Net income rate from inventory	1.000	.996	.773
	Net income rate from sales	.996	1.000	.717
	Inventory turnover	.773	.717	1.000
Sig. (1-tailed)	Net income rate from inventory	.	.000	.003
	Net income rate from sales	.000	.	.007
	Inventory turnover	.003	.007	.
N	Net income rate from inventory	11	11	11
	Net income rate from sales	11	11	11
	Inventory turnover	11	11	11

Note: output of the statistical programme SPSS
Source: Table 10

Table 13. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000(a)	.999	.999	.22489

a Predictors: (Constant), Inventory turnover, Net income rate from sales
Source: Table 10

Table 14. ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	526.174	2	263.087	5201.743	.000(a)
	Residual	.405	8	.051		
	Total	526.579	10			

a Predictors: (Constant), Inventory turnover, Net income rate from sales
b Dependent Variable: Net income rate from inventory
Source: Table 10

Table 15. Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	-24.459	2.644		-9.249	.000
	Net income rate from sales	6.429	.099	.909	64.722	.000
	Inventory turnover	3.827	.445	.121	8.599	.000

a Dependent Variable: Net income rate from inventory
Source: Table 10

5. The impact of sustainability on gross margin return on inventory investment

One of the significant factors of increasing gross margin return on inventory investment is application of the concept of sustainable development. It significantly contributes to increasing gross margin return on inventory investment primarily with the improvement of cost efficiency. The application of green economy considerably reduces costs. It especially relates to carbon dioxide emission and energy efficiency. Managing of inventories throughout supply chain is more efficient, which ultimately reflects positively on gross margin return on inventory investment. The data in the Table 16 clearly show this. Increased gross margin return on inventory investment rate has positive effect on overall business performance of trade companies.

Table 16. The impact of sustainability on gross margin return on inventory rate

	2011	2012
Gross margin rate	54.9	54.5
Inventory turnover ratio*	13.8	28.5
Gross margin return on inventory investment rate*	759.8	1 557.6
Gross margin return on net current assets rate	534.3	1 418.3
Cash flow (in days)	45.4	5.4

Note: Author calculation
Source: Bucsanalytics (3/2/2014 12:43 PM) – Analytics discover lowest gross margin channel delivers the highest cash return; http:/www.bucsanalytics.com/consumer-products-channel-management

Conclusion

Gross margin return on inventory investment rate is, in theory and practice, one of significant measures of efficient managing of inventory performance. On that basis the assortment of products can be optimized in the respect of their profitability. Obtained results of the issue researched in Serbia show: gross margin return on inventory investment rate is on the lower level compared to other countries, especially developed market economies. Major possibilities for increasing gross margin return on inventory investment rate in trade in Serbia relates to increasing return on sales, as a determinants with efficient managing of return on sales and especially costs. That statement is fully applied on increase of rate of net income from inventory in trade in Serbia. Increase of the return rate (gross margin or net income) on sales can be fulfilled with application of new concepts of managing costs, Toyota business principles, the concept of managing relationship with suppliers, the concept of managing relationship with buyers and with the concept of sustainable development. There is a significant role of modern technology application, especially enterprise resource planning system and radio frequency identification.

Beside gross margin return on inventory investment rate there is also a concept of direct profitability of product, for measuring performance of inventories. There is a belief that direct profitability of product is more efficient measure of inventory performance than gross margin return on inventory investment. In our opinion, both measures of inventory performance should be simultaneously applied. Thus we receive better notion about the efficiency of managing performance of inventories on all observed levels: country, sector, company, store, department and category of product, as a function of improving total performance of retail chains.

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