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Financial performances of Romanian wood industry companies

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Abstract: *The purpose of this study is to analyze financial performances of 40 selected Romanian companies for the 2009-2013 period. The selected companies operate in the wood industry and we have used panel type data to perform a quantitative analysis. We have found that companies with higher total assets, current assets, average inventory and accounts receivables have higher sales. It seems larger companies with higher total and current assets (especially accounts receivable) are more profitable than their counterparties. Similarly, larger companies with lower current assets, average inventory and accounts receivable have lower assets turnover. Companies with lower average inventory have higher ROA and assets turnover. Larger companies have more total and current assets, net profit, average inventory and accounts receivable than their counterparties, however they seem to display lower assets turnover and current to total assets ratio. Companies with higher current to total assets ratio have higher assets turnover and ROA.*

Key-words: *ratios, correlation, financial performance, wood industry*

1. Introduction

"Accounting "is not an end in itself," (SFAC No.1), but an information system that measures, processes, and communicates financial information about an identifiable economic entity" (Needles and Powers, 2005, p. 4). Accounting prepares financial statements to communicate them to internal and external users or to decision makers. Furthermore, accounting information users employ financial statements to analyze past or coming decisions. Financial statements are products of the accounting process and serve as data source for financial analysts combined with other data and information sources.

The balance sheet can be viewed as a photo, whereas the other three statements (the income statement, the statement of owner's equity and the statement of cash flows) can be viewed as motion pictures. Balance sheet denotes the balance

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sheet equation expressed as Assets = Liabilities + Equity at a specific point in time (such as in Romania as of December 31-st).

On the other hand, the income statement expresses the firm's financial performance (revenues and expenses) over a given accounting period; the statement of cash flows lists cash flows from operating, investing, and financing activities over a given accounting period; and finally the statement of owner's equity shows changes in owner's equity over a given accounting period. This is the reason why in the income statement, the statement of owner's equity and the statement of cash flows is written "as for the year ended at December 31-st", and not "as of December 31-st" as in case of balance sheet (financial position). However, at the end of accounting period the income statement, the statement of owner's equity and the statement of cash flows link up to the balance sheet. Hence, the balance sheet is the financial aggregate statement.

Financial statement analysis follows the published financial statements. Financial statement analysis should be view uniquely in the context of the entity which is analyzed, of time, related environment and other conditions. Hence, there is no single formula and answer for a particular case. However, financial statement analysis really helps the decision making process. As Bernstein and Wild (1998, p. 3) stated "financial statement analysis reduces our reliance on hunches, guesses, and intuition, and in turn it diminishes our uncertainty in decision making."

Financial performance is object of study for many internal and external accounting information users. For example, a manager is interested whether the company has satisfactory level of liquidity, solvency, profitability, assets utilization, etc. On the other hand, a creditor is interested whether an approved loan will be repaid according to the contract. These and many other questions get answers analyzing and assessing past and current financial performance and position.

The new investment and business decisions are founded answering to question such as: is there any improvement comparing past and current ratios, what trends say, what are future periods indicators, is accounting information enough for a sound decision making process, what industry norms say, and so on. Thus financial performance analysis detects the entity's economical and financial strengths and weaknesses. As a result, it determines a required therapy the entity needs to use.

The rest of this paper is organized as follows. Section 2 presents literature review. Section 3 presents data, methods and empirical results. Section 4 presents conclusions and finally we have the references.

2. Literature review

The literature concerning the main financial and non-financial measures used to evaluate companies' performances is vast and there is no unitary approach to their

essence and structure (Cardinaels and van Veen-Dirks, 2010; Kotane and Kuzmina-Merlino, 2012).

In their paper, Kotane and Kuzmina-Merlino (2012) manage to synthesize the different approaches of researchers concerning the use of economic and financial measures to evaluate company results. Along the traditional financial measures other measures can be used according to the specific and nature of the business (Fernandes et al., 2006, Cardinaels et al. 2010). Dinca (2001) realizes a comprehensive study regarding the financial and non-financial measures used to assess companies' performances, grouping measures into traditional and modern, respectively for the investment and current activity.

Some researchers have analyzed the economic and financial company performances as well as the entrepreneurial strategies using return on invested capital (Johansson and Yip, 1994; Busija et al., 1997; Dess et al., 1997, Dinca and Gîdinceanu, 2011).

Delios and Beamish (1999) have explored the transactional, institutional and experience effects upon the investing strategies for a series of Japanese companies using the return on equity (ROE) measure.

Zajac et al. (2000) employs the return on assets (ROA) to analyze the investment and efficiency strategies of different companies.

Höbarth (2006) has studied the relationship between a series of economic and financial measures and companies' performances stating there are a series of general factors, crucial for ensuring company success.

Dwi Martani, Mulyono, Rahfiani Khairurizka (2009) have emphasized the relevance of accounting information in explaining the evolution of shares on the financial market.

Recent studies address the relationship between the social and environmental responsibility and the financial performances of the companies (Roberts and Dowling, 2002; Gallego-Alvarez et al., 2013).

3. Data, methods and empirical results

In our study we have analyzed data from 40 Romanian wood industry unlisted companies, using 200 observations. The data were collected from the published financial statements of the 40 companies and are organized as panel data, for the 2009-2013 period. Data processing was done mainly using Stata software package and Office Excel. The companies have between minimum 11 and maximum 19605 employees. Distributions per code and firms are presented in table 1 below, which shows that the majority of the selected firms have the 161 and 1621 codes, respectively 66% of the overall sample.

The analysis performed in this study includes accounting items from the balance sheets and income statements. Following Bernstein and Wild (1998) assets

turnover is calculated as Sales/Assets; return on assets (ROA) as income (here Net Profit)/ Assets; profit margin as Income (here Net Profit)/Sales; accounts receivable turnover ratio as net sales on credit (here Sales)/Average accounts receivable; accounts receivable collection period as 360/Accounts receivable turnover; days to sell inventory ratio as 360/Inventory turnover. In case of inventory turnover ratio at the numerator we used Sales (instead of Costs of goods sold) divided by average inventory. As Bernstein and Wild (1998, p. 423) stated "sales is often used as the numerator in a "modified" ratio."

Using a vertical analysis is found the assets composition (current vs. noncurrent assets). Hence, current to total assets ratio is calculated as current assets divided by total assets.

Firm's size is measured as logarithm of sales. This calculation is based on Bevan and Danbolt (2002), Huang and Song (2002), Ramalho and Silva (2006), Saeed (2007), Correa, Basso and Nakamura (2007) which used the natural logarithm of sales.

This study starts from the general related financial performance lines in order to come later to some specific findings. Hence, the deductive and result-oriented approach is used. We have used *case-study* as a research method because we analyse only Romanian companies from the woody industry for the 2009-2013 period. In table 1 we present the companies grouped according to the CAEN code.

caencode	comindex	[%]
21	10	5%
161	65	33%
201	30	15%
230	5	3%
1610	5	3%
1621	65	33%
1622	10	5%
1623	10	5%
Total	200	100%

Table 1. *Sample composition*
Source: authors' calculations

Table 2 presents summary (descriptive) statistics for the selected variables. Sales, net profit, total assets, total current assets, average inventory, and average accounts receivable are expressed in Romanian Lei.

Assets turnover is calculated as Sales divided by Total Assets. It expresses how many Lei of sales generates one Leu invested in the company assets. The

results show that one Leu of assets has generated a turnover situated between a minimum of 0.18 and a maximum of 5.05 Lei of sales. The average value is of 1.21 Lei of sales for 1 Leu of assets.

Profit margin is calculated as Net profit divided by Sales. This ratio shows how many Lei of profit generates one Leu of sales. On average, selected firms have operated with negative profit margin, i.e. -0.01.

Return on assets (ROA) is calculated as net profit divided by total assets. On average, each Leu of assets has generated 0.01 Lei of net profits.

Variable	Observations	Mean	Std. Dev.	Min	Max
sales	200	156000000	342000000	1205768	2080000000
netprofit	200	7095271	51600000	-90400000	431000000
totalassets	200	216000000	556000000	2842795	3540000000
assetsturn~r	200	1.21	0.68	0.18	5.05
profitmargin	200	-0.01	0.14	-1.29	0.35
returnonas~a	200	0.01	0.10	-0.42	0.32
totalcurre~s	200	56900000	122000000	976292	874000000
averageinv~y	200	24000000	39700000	85566	220000000
averagear	200	21000000	40800000	537880	248000000
numberofem~s	200	720	2899	11	19605
arcolectio~s	200	69	60	10	629
arturnover~x	200	8	6	1	36
inventoryt~x	200	8	6	1	35
daystosell~o	200	81	78	10	700
currentass~s	200	0.47	0.21	0.09	0.99
firmssize	200	17.71	1.33	14.00	21.45

Table 2. *Summary statistics*

Source: authors' calculations

Firms have collected accounts receivable on average in 69 days, or 8 times per year. Accounts receivable turnover ratio display the same values as inventory turnover ratio. On the other hand, in average firms needed 81 days to process and sell inventory (Inventory conversion period).

Figure 1 presents mean of account receivable collection period and days to process inventory for the period 2009-2013.

Accounts receivable collection period has a negative trend line expressed with equation:

$$y = -3.8x + 82.685 \ (R^2 = 0.4746).$$

Days to sell inventory ratio has also a negative trend line expressed with equation:

$$y = -3.42x + 92.975 \ (R^2 = 0.3703).$$

As descriptive statistics expressed firms need in average 69 days to collect money from customers whereas to process and sell inventory 81 days. Hence, the inventory conversion period is longer than accounts receivable collection period.

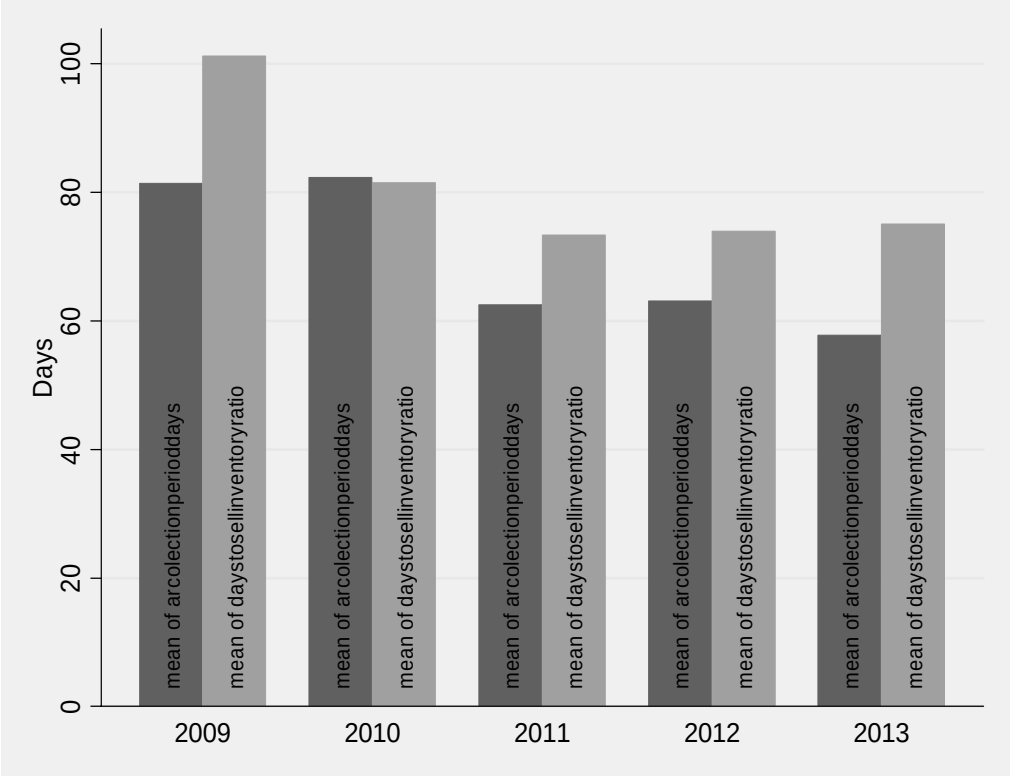

Fig. 1. *Mean of A/R collection period and days to process and sell inventory*
Source: authors' calculations

Figure 2 presents the mean of account receivable collection period and days to process and sell inventory for the 2009-2013 period.

Accounts receivable turnover ratio has a positive trend line expressed with equation:

$$y = 0.2329x + 7.455 \ (R^2 = 0.4577)$$

Inventory turnover ratio has a negative trend line expressed with equation:

$$y = -0.0329x + 7.79 \quad (R^2 = 0.0142)$$

In case of the inventory turnover ratio the R-square is enough low.

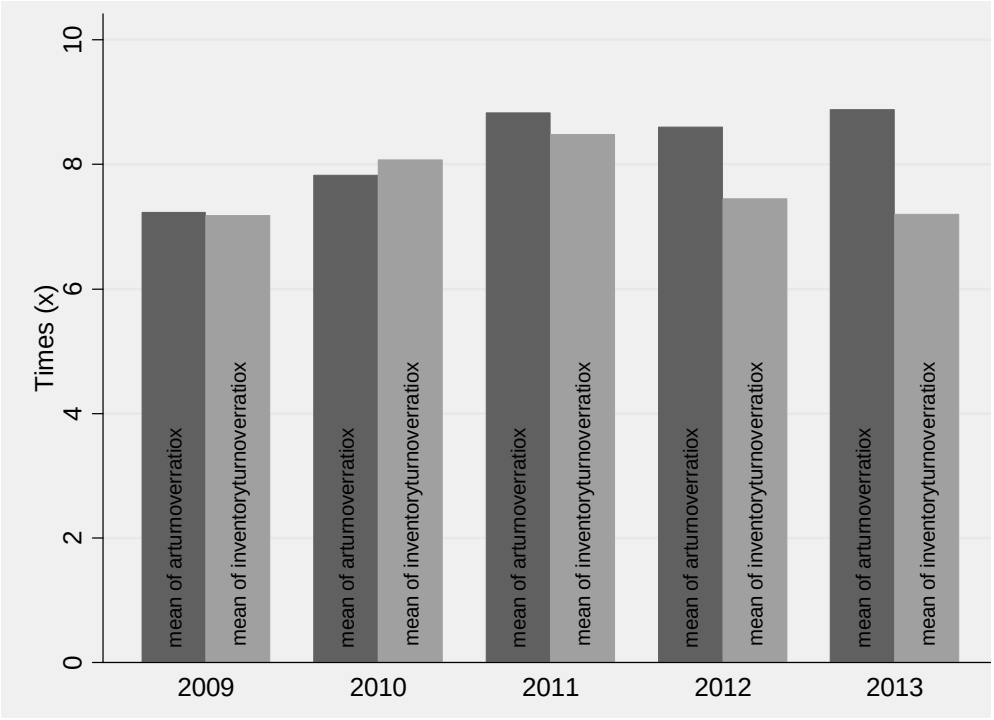

Fig. 2. *Accounts receivable and inventory turnover ratio*
Source: authors' calculation

Figure 3 presents the scatter of A/R collection period and inventory conversion period. As figure 3 shows the majority of firms need around 200 days to collect A/R and to process inventory. Outliers are observed for A/R collection period and days to process inventory.

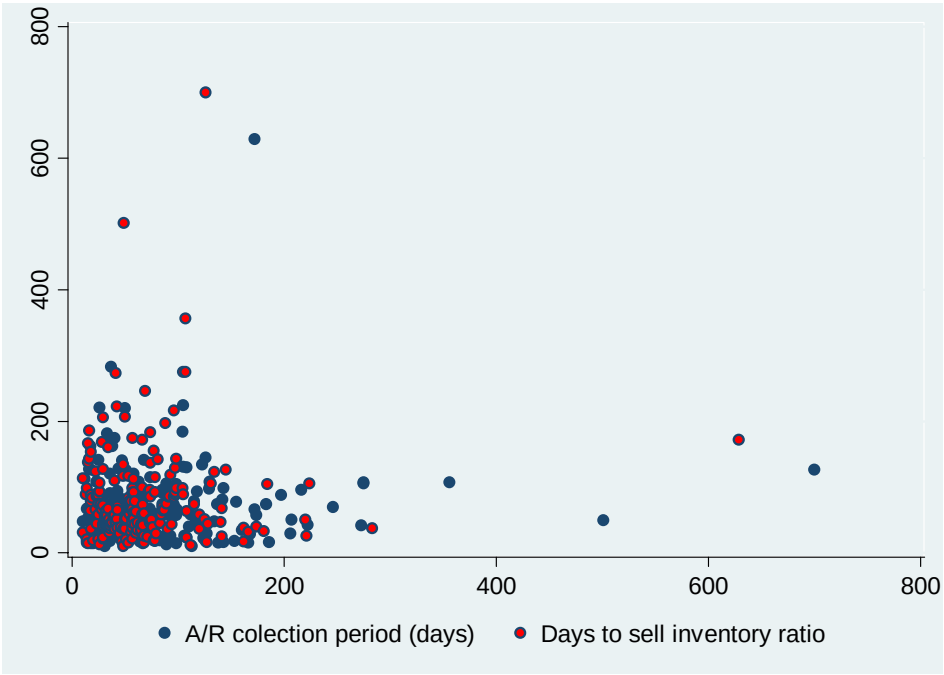

Fig. 3. *Scatter of A/R collection period and days to sell inventory*
Source: authors' calculations

Table 3 presents Spearman's rank correlation for selected variables. Sales are positively significantly correlated with net profit, total assets, total current assets, average inventory and accounts receivables, and of course the companies' size. This means that companies with higher total assets, current assets, average inventory and accounts receivables have higher sales. Sales are negatively significantly correlated with current to total assets ratio. This can be explained as the ratio gets higher, sales decrease. Moreover, sales are negatively significantly correlated with assets turnover. According to assets turnover ratio formula as sales are increased or assets decreased by definition this ratio should increase. Thus, this ratio may is decreased as assets are increased. This is proved by the negative correlation between total assets and assets turnover.

Net profit is positively significantly correlated with total assets, profit margin, return on assets, total current assets, average accounts receivable and company's size. This means that larger companies with higher total and current assets (especially accounts receivable) are more profitable than their counterparties. Higher net profit does not necessary implies that more money is collected (cash flow vs. income approach).

Larger companies with lower current assets, average inventory and accounts receivable have lower assets turnover. Companies with lower average inventory have higher ROA and assets turnover.

Larger companies have more total and current assets, net profit, average inventory and accounts receivable than their counterparties. Larger companies have lower assets turnover and current to total assets ratio. Companies with higher current to total assets ratio have higher assets turnover and ROA.

	sales	netpro~t	totala~s	assets~r	profit~n	return~a	totalc~s	averag~y	averag~r	curren~s	firmss~e
sales	1										
netprofit	0.3079*	1									
totalassets	0.9047*	0.1822*	1								
assetsturn~r	-0.2469*	0.0751	-0.5845*	1							
profitmargin	0.0827	0.9120*	-0.0287	0.1546*	1						
returnonas~a	0.0396	0.8685*	-0.1165	0.3079*	0.9651*	1					
totalcurre~s	0.8984*	0.2208*	0.9168*	-0.4346*	0.011	-0.0552	1				
averageinv~y	0.8605*	0.1288	0.8914*	-0.4367*	-0.0811	-0.1512*	0.9274*	1			
averagear	0.7691*	0.2383*	0.7470*	-0.2801*	0.0487	0.0077	0.8417*	0.7103*	1		
currentass~s	-0.4260*	-0.013	-0.5822*	0.5540*	0.066	0.1698*	-0.2563*	-0.3501*	-0.1807*	1	
firmssize	1.0000*	0.3079*	0.9047*	-0.2469*	0.0827	0.0396	0.8984*	0.8605*	0.7691*	-0.4260*	1

Significance level = 0.05; Assets turnover = Sales / Total assets; Profit margin = Net profit / Sales; Return on assets (ROA) = Net profit / Total assets; A/R collection period (days) = (Average A/R / Sales) x 360; A/R turnover ratio (x) = Sales / Average A/R; Inventory turnover ratio (x) = Sales / Average inventory; Days to sell inventory ratio = 360 / Inventory turnover ratio; Current assets ratio = Current assets / Total assets; Firm's size = Logarithm of sales

Table 3. *Spearman's rank correlation*

Source: authors' calculations

4. Conclusions

The purpose of this study was to analyze financial performances for 40 selected Romanian companies for the 2009-2013 period. Selected companies belong in wood industry.

ROA (return on assets) is one of the most significant profitability measures for industrial companies as it presents the profit generated as a result of using the entire portfolio of company assets. The values generated for the analyzed companies reveal a problematic situation, with average values around 1%, indicating that many

companies do not succeed to ensure a proper use of their assets and hence they have problems rewarding the capital offered by their investors.

The situation can be explained by the poor values recorded for both total assets turnover, respectively profit margin. Low levels of total assets turnover reveal that past investments made by the analyzed companies did not generate enough sales to justify themselves, whereas the poor profit margins express operational efficiency related problems.

The low profit levels can also bring into discussion some legal tax avoidance tendencies, common in the Romanian economic context of the past 3-4 years. Actually, the legal tax avoidance practices can be correlated with the low assets turnover levels such as some companies make new investments in order to avoid paying profit tax, without very sound ex-ante analyses.

The study also revealed the following evidences:

- On average, selected companies have operated with negative profit margin.
- Companies with higher total assets, current assets, average inventory and accounts receivables have higher sales.
- Larger companies with higher total and current assets, and accounts receivable are more profitable than their counterparties.
- Larger companies with lower current assets, average inventory and accounts receivable have lower assets turnover.
- Companies with lower average inventory have higher ROA and assets turnover.
- Larger companies have more total and current assets, net profit, average inventory and accounts receivable than counterparties.
- Larger companies have lower assets turnover and current to total assets ratio. Companies with higher current to total assets ratio have higher assets turnover and ROA.

The paper has its own limitations regarding the number of firms and the period analysed. Hence, the paper provides evidence which cannot be generalized. As a result in our future studies the analysis will be focused on following aspects: increase the sample size, extension the period, analyzing other industries and including the financial crisis effects.

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