Cost of equity: the case of Serbian food industry

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Abstract

It is clear that a company is truly profitable only when it covers not just its operative costs, but it costs of financing too. Therefore, it is in the best interest of company and its investors to use the optimal capital structure and to minimize its costs of financing. Due to the importance of cost of equity, this paper determines and examines cost of equity on the basis of CAPM and Downside CAPM model for 8 food industry stocks traded at Belgrade Stock Exchange. Research results show that average cost of equity for food industry stocks in Serbia is 11.3798%. It should be pointed out that systematic risk of examined stocks is relatively low. Rather high cost of equity of food industry stocks mainly comes from country risk premium. Therefore, the best way to reduce cost of equity in Serbia can be found on the country level at which sound macroeconomic policy and further development would lead to reduction of overall risk and country risk premium.

Keywords: Cost of equity. CAPM. Downside CAPM.

1. Introduction

Companies raise capital for financing of their business activities and new investment projects through emission of ordinary and preferential shares, emission of bonds, lending from banks and reinvesting of retained earnings back into the company. Since each of these
sources of financing requires paying of adequate price for use of capital, every company aspires to form optimal capital structure, which will minimize its total costs of capital.

For a company it is equally important to use its capital in the most efficient and profitable manner and successful companies create value for their shareholders through process of consistent generation of returns above their costs of capital. Cost of equity is an integral part of cost of capital and it represents return which shareholders require on their equity investment.

Due to the importance of cost of equity for adequate capital structure, evaluation of new investment projects and evaluation of top management performance the focus of this paper is determination and examination of cost of equity of selected stocks that belong to Serbian food industry.

2. Literature

High number of authors was involved in specification and testing of different asset pricing models. One of the most often used asset pricing models is Capital Asset Pricing Model – CAPM developed by Sharpe (1964) and Litner (1965). According to this model, in the state of market equilibrium investors expect return from the risky asset that is proportional to its systematic risk measured by beta coefficient. CAPM model disregards unsystematic risk of the asset, because it assumes that investors keep highly diversified asset portfolios.

Fama and French (1992, 1993) in their research that covers all nonfinancial stocks traded at New York Stock Exchange (NYSE), American Stock Exchange (AMEX) and NASDAQ Stock Market (NASDAQ) from 1963 to 1990 found that besides overall market factor, market capitalization and the ratio of book to market value of stocks were statistically significant for explaining of average returns. They constructed Three-factor asset pricing model which includes above mentioned three factors. Also, they found that such model explained majority of cross section of US average stock returns in the examined period.

Additional well known multifactor asset pricing model that is based on macroeconomic variables was developed by Chen, Roll and Ross (1986). These authors assumed that certain macroeconomic variables sistematicaly affect stock returns. Results of their research confirmed that following macroeconomic variables were significant for explaining of stock returns: industrial production, twist in the yeald curve and change in risk premium. According to their research results, other macroeconomic variables have weaker
influence on stock returns (e.g. measures of unanticipated inflation, changes in expected inflation during the periods when these variables were highly volatile).

Liu (2006) in his research that covered all NYSE/AMEX/NASDASY ordinary common stocks over the period from January 1960 to December 2003 showed that liquidity is important source of priced risk and developed a new asset pricing model with market factor and liquidity factor. Results of his research showed that a new model successfully explained cross-section of stock returns in the examined period. Some authors (Hearn, Piesse, 2009) recommend Liu’s model for pricing of assets in emerging countries. They point out significance of liquidity factor of the asset pricing model for illiquid emerging capital markets.

In his research Estrada (2000, 2003) focused on different risk measures (standard deviation, beta, semi-standard deviation with respect to the mean, downside beta etc.) in asset pricing model. He gave advantage to semi-standard deviation and downside beta as a measure of risk that should be used in asset pricing model. Also, Estrada (2007) compared usefulness of Downside CAPM and classical CAPM and opted for Downside CAPM model as a model that should be used for determination of cost of equity especially in emerging countries. His research results showed that in emerging countries Downside CAPM model explained 55% of variability of stock returns, while classical CAPM model explained 36% of variability of stock returns.

Collins and Abrahamson (2006) in their research calculated industry cost of equity in emerging countries as average value of asset pricing models which used standard deviation, beta, semi-standard deviation and downside beta as a risk measure.

3. Data

Data base which is used in this research consists of eight the most liquid stocks (Table 1) that belong to the food industry in Serbia and that are traded on Belgrade Stock Exchange (BSE).

Information about prices for selected stocks are taken from the BSE web site (http://www.belex.rs) for the period from January 2011 to December 2013. Research is based on monthly log returns which were calculated for entire research period.
Table 1: Selected stocks

<table>
<thead>
<tr>
<th>Name of company</th>
<th>TIK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dijamant AD Zrenjanin</td>
<td>DJMN</td>
</tr>
<tr>
<td>Imlek AD Beograd</td>
<td>IMLK</td>
</tr>
<tr>
<td>Diary AD Subotica</td>
<td>MLSU</td>
</tr>
<tr>
<td>Neoplanta AD Novi Sad</td>
<td>NEOP</td>
</tr>
<tr>
<td>Soja protein AD Becej</td>
<td>SIPT</td>
</tr>
<tr>
<td>AD Fabrika secera TE-TO Senta</td>
<td>TETO</td>
</tr>
<tr>
<td>Bambi AD Požarevac</td>
<td>BMBI</td>
</tr>
<tr>
<td>Vital AD Vrbas</td>
<td>VITL</td>
</tr>
</tbody>
</table>

Source: www.belex.rs

Damodaran (2007, pp.189) recommends that for long term analysis researchers should use rate of return on long term government bonds as a risk-free rate. Therefore, in this research as a risk-free rate is taken rate of return on USA 10 years Treasury Yield Curve which amounts 2.52% (Table 2).

Table 2: USA Treasury yield curve rates

<table>
<thead>
<tr>
<th>Datum</th>
<th>1 month</th>
<th>3 month</th>
<th>6 month</th>
<th>1 year</th>
<th>2 year</th>
<th>3 year</th>
<th>5 year</th>
<th>7 year</th>
<th>10 year</th>
<th>20 year</th>
<th>30 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/01/14</td>
<td>0.01</td>
<td>0.03</td>
<td>0.05</td>
<td>0.13</td>
<td>0.47</td>
<td>0.94</td>
<td>1.67</td>
<td>2.16</td>
<td>2.52</td>
<td>3.03</td>
<td>3.29</td>
</tr>
</tbody>
</table>

Source: www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yieldYear&year=2014 (date of access 04.08.2014.)

Also, according to Damodaran’s recommendation (2007, pp. 192) as a market risk premium is used a long term market risk premium determined on the basis of geometric average as a difference between return on stocks and return on Treasury bonds for the period from 1928 to 2013 (4.62%).

Table 3: USA market risk premiums

<table>
<thead>
<tr>
<th>Period</th>
<th>Risk premium</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stocks - T.Bills</td>
</tr>
<tr>
<td>1928-2013</td>
<td>6.02%</td>
</tr>
<tr>
<td>1964-2013</td>
<td>4.83%</td>
</tr>
<tr>
<td>2004-2013</td>
<td>5.80%</td>
</tr>
</tbody>
</table>

Source: http://people.stern.nyu.edu/adamodar/ (date of access 04.07.2014.)
In this research, as a proxy for market portfolio is used monthly realized rate of return of BSE index BELEXline (http://www.belex.rs). Country risk premium for Serbia is taken from Damodaran (January, 2014) and it amounts 6.75%.

4. Methodology

CAPM (Sharpe, 1964; Litner, 1965) and Downside CAPM (Estrada, 2007) are used as asset pricing models for calculation of cost of equity in this paper. CAPM was selected because it is still the most widely used asset pricing model. On the other hand, Downside CAPM was chosen since research shows that it is appropriate model for calculation of cost of equity in emerging markets (Estrada, 2007).

Damodaran (2009) points out that it is not very probable that beta coefficients of companies from emerging countries, even when they are calculated on the basis of global index, will reflect risk of the country because of small size of selected companies relative to global index. Since local index BELEXline is used as approximation of market portfolio, according to Damodaran’s recommendation (2009) country risk premium is incorporated in both asset pricing models used.

4.1. Cost of equity based on CAPM formula

Cost of equity based on CAPM for each stock is calculated on the basis of following formula:

\[ CE_i = R_f + \beta_i \times RP + CRP \]  

where \( R_f \) - risk free-rate of return, \( \beta_i \) - beta coefficient for stock \( i \), \( RP \) - market risk premium and \( CRP \) - country risk premium.

Beta coefficient for each stock is calculated by regressing rates of return of particular stock against the rates of return of the market portfolio:

\[ r_{i,t} = \alpha_i + \beta_i r_{m,t} + \mu_{i,t}, \quad i = 1,2,\ldots,n, \quad t = 1,2,\ldots,T \]  

where \( r_{i,t} \) - rate of return of stock \( i \) for period from \( t-1 \) to \( t \), \( \alpha_i \) - estimated intercept for stock \( i \), \( \beta_i \) - regression coefficient or beta coefficient for stock \( i \), \( r_{m,t} \) - rate of return of market portfolio for period from \( t-1 \) to \( t \), \( \mu_{i,t} \) - regression residual, \( n \) – number of stocks in the sample, \( T \) – number of periods in months.
4.2. Cost of equity based on Downside CAPM formula

Cost of equity based on Estrada’s (2007) Downside CAPM is calculated as following:

\[ CE_2 = R_f + \beta_{Di} \cdot RP + CRP \]  \hspace{1cm} (3)

where \( R_f \) - risk free-rate of return, \( \beta_{Di} \) - downside beta coefficient for stock \( i \), \( RP \) - market risk premium and \( CRP \) - country risk premium.

Downside beta for each stock is calculated on the basis of linear regression without a constant, where dependent variable of the regression is \( y_i \), independent variable of the regression is \( x_i \) and they are calculated on the basis of formulas:

\[ y_{i,t} = \min\left[ \left( r_{i,t} - \mu_i \right) \right] \]  \hspace{1cm} (4)

\[ x_{i,t} = \min\left[ \left( r_{m,t} - \mu_m \right) \right] \]  \hspace{1cm} (5)

\[ y_{i,t} = \beta_{Di} x_{i,t} + \varepsilon_{i,t}, \quad i = 1,2,...,n, \quad t = 1,2,...,T \]  \hspace{1cm} (6)

where \( r_{i,t} \) - rate of return of stock \( i \) for period from \( t-1 \) to \( t \), \( \beta_{Di} \) - regression coefficient or downside beta coefficient for stock \( i \), \( r_{m,t} \) - rate of return of market portfolio for period from \( t-1 \) to \( t \), \( \varepsilon_{i,t} \) - regression residual, \( n \) – number of stocks in the sample, \( T \) – number of periods in months.

In this paper, Ramsey’s RESET test is used for testing of accuracy of each specified linear regression model. Standard errors in regression results are corrected for the effects of autocorrelation and heteroscedasticity using the Newely West (1987) method.

Cost of equity for each stock is calculated as an average of cost of equity determined on the basis of Formula 1 and Formula 3 (similar to Collins, Abrahamson, 2006).

All calculations in this research are done in E-views, version 7.1 and Microsoft Excel 2010.

5. Results

From Table 4 it can be seen that half of the stocks from the sample have negative average monthly realized rates of return in the period from 2011 to 2014. This is not surprising, since the BELEXline index has negative average monthly realized rate of return that amounted -0.64% (or average yearly rate of return of -7.42%) in the examined period.
However, it should be pointed out that three out of four stocks from the sample with negative average monthly realized rate of return are involved in production of edible oils and fats. Also, in the examined period, the highest average monthly return has TETO stock (2.67%) and the lowest average monthly return has stock SJPT (-2.46%).

According to the Bekaert and Harvey (2002) emerging returns are skewed and have fat tails. From Table 4 it can be seen that in the examined period most of the stocks from the sample have kurtosis higher than 0, which is consistent with results of Bekaert and Harvey. Also, half of the stocks from the sample have positive and the other half negative skewness.

Table 4: Descriptive statistics of monthly log returns for selected stocks in the period from 2011 to 2014

<table>
<thead>
<tr>
<th></th>
<th>BELEXline</th>
<th>DJMN</th>
<th>IMLK</th>
<th>MLSU</th>
<th>NEOP</th>
<th>SJPT</th>
<th>TETO</th>
<th>BMBI</th>
<th>VITL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>-0.0064</td>
<td>-0.0011</td>
<td>0.0078</td>
<td>0.0038</td>
<td>0.0130</td>
<td>-0.0246</td>
<td>0.0267</td>
<td>-0.0082</td>
<td>-0.0062</td>
</tr>
<tr>
<td>St. Error</td>
<td>0.0079</td>
<td>0.0140</td>
<td>0.0120</td>
<td>0.0236</td>
<td>0.0126</td>
<td>0.0184</td>
<td>0.0211</td>
<td>0.0096</td>
<td>0.0165</td>
</tr>
<tr>
<td>Median</td>
<td>-0.0037</td>
<td>0.0000</td>
<td>0.0144</td>
<td>-0.0020</td>
<td>0.0029</td>
<td>-0.0362</td>
<td>0.0014</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>St. Deviation</td>
<td>0.0474</td>
<td>0.0829</td>
<td>0.0721</td>
<td>0.1413</td>
<td>0.0726</td>
<td>0.1086</td>
<td>0.1269</td>
<td>0.0573</td>
<td>0.0935</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0.3427</td>
<td>1.1557</td>
<td>2.9211</td>
<td>2.3620</td>
<td>-0.8717</td>
<td>0.1286</td>
<td>0.2859</td>
<td>0.8246</td>
<td>-0.1930</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.2167</td>
<td>0.8964</td>
<td>-0.9825</td>
<td>0.8468</td>
<td>0.1429</td>
<td>-0.1165</td>
<td>-0.4673</td>
<td>0.2791</td>
<td>-0.2185</td>
</tr>
<tr>
<td>Range</td>
<td>0.1961</td>
<td>0.3517</td>
<td>0.3814</td>
<td>0.7299</td>
<td>0.2508</td>
<td>0.4911</td>
<td>0.5190</td>
<td>0.2571</td>
<td>0.3581</td>
</tr>
<tr>
<td>Minimum</td>
<td>-0.1040</td>
<td>-0.1278</td>
<td>-0.2380</td>
<td>-0.2818</td>
<td>-0.0953</td>
<td>-0.2782</td>
<td>-0.2958</td>
<td>-0.1235</td>
<td>-0.1911</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.0922</td>
<td>0.2239</td>
<td>0.1434</td>
<td>0.4482</td>
<td>0.1555</td>
<td>0.2128</td>
<td>0.2231</td>
<td>0.1335</td>
<td>0.1671</td>
</tr>
</tbody>
</table>

Source: Author’s calculation

In the Table 5 can be seen regression results (calculated on the basis of Formula 2) of selected stock’s monthly realized rates of return against monthly realized rates of market return for the period from 2011 to 2014.

Analysis of regression results show that beta coefficients of selected stocks range from -0.6313 (VITL) to 1.6887 (SJPT). Majority of stocks from the sample have beta coefficients that range from 0 to 1, which leads to conclusion that prices of these stocks move in the same direction as the market, but are less volatile than the market. It should be pointed out that three companies from the sample have negative value of beta coefficients, which means that prices of these stocks move opposite of direction of the market as a whole. Sample contains just one stock that has beta coefficient higher than 1 (SJPT stock).
Table 5: Regression results for beta and downside beta for selected stocks

<table>
<thead>
<tr>
<th>TIK</th>
<th>A</th>
<th>p value</th>
<th>β</th>
<th>p value</th>
<th>Ramsey RESET test (p)</th>
<th>β_D</th>
<th>p value</th>
<th>Ramsey RESET test (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DJMN</td>
<td>0.0031</td>
<td>0.8189</td>
<td>0.5805</td>
<td>0.0495</td>
<td>0.8111</td>
<td>0.6837</td>
<td>0.0034</td>
<td>0.8545</td>
</tr>
<tr>
<td>IMLK</td>
<td>0.0101</td>
<td>0.4019</td>
<td>0.3651</td>
<td>0.1584</td>
<td>0.6627</td>
<td>0.7186</td>
<td>0.1046</td>
<td>0.1989</td>
</tr>
<tr>
<td>MLSU</td>
<td>0.0038</td>
<td>0.8750</td>
<td>-0.0019</td>
<td>0.9971</td>
<td>0.4840</td>
<td>0.6356</td>
<td>0.1446</td>
<td>0.2745</td>
</tr>
<tr>
<td>NEOP</td>
<td>0.0177</td>
<td>0.1783</td>
<td>0.4111</td>
<td>0.1582</td>
<td>0.3686</td>
<td>0.5184</td>
<td>0.0225</td>
<td>0.2698</td>
</tr>
<tr>
<td>SIPT</td>
<td>-0.0090</td>
<td>0.4538</td>
<td>1.6887</td>
<td>0.0000</td>
<td>0.2780</td>
<td>1.5563</td>
<td>0.0000</td>
<td>0.2282</td>
</tr>
<tr>
<td>TETO</td>
<td>0.0260</td>
<td>0.2382</td>
<td>-0.1177</td>
<td>0.7987</td>
<td>0.5280</td>
<td>0.3470</td>
<td>0.4434</td>
<td>0.2878</td>
</tr>
<tr>
<td>BMBI</td>
<td>-0.0075</td>
<td>0.4462</td>
<td>0.1020</td>
<td>0.6248</td>
<td>0.4785</td>
<td>0.3767</td>
<td>0.0469</td>
<td>0.8777</td>
</tr>
<tr>
<td>VITL</td>
<td>-0.0086</td>
<td>0.5935</td>
<td>-0.6313</td>
<td>0.0693</td>
<td>0.3439</td>
<td>0.0738</td>
<td>0.8152</td>
<td>0.8863</td>
</tr>
</tbody>
</table>

Note: p value is given after correction of standard error for the effects of autocorrelation and heteroscedasticity using the method of Newely West (1987).

Source: Author’s calculation

Table 5 presents results of linear regression without the constant calculated on the basis of Formula 6. In the table can be seen results of downside beta coefficients for all stocks from the sample. It should be pointed out that downside beta is a risk measure that takes into account only downside variability that risk averse investors want to avoid. All downside beta coefficients of selected stocks are positive. The lowest downside beta coefficient has VITL stock (0.0738) and the highest downside beta coefficient has SJPT stock (1.5563). Only SJPT stock has downside beta coefficient above 1 and all other stocks from the sample have downside beta coefficients that range from 0 to 1.

Comparison analysis of beta and downside beta show that beta coefficients have lower values than downside betas for all stocks from the sample except for SJPT stock (see Figure 1). Higher values of downside betas compared to conventional betas are in accordance with research results of other authors (Estrada, 2003, 2007; Tsai, Chen, Yang, 2014) and indicate that downside beta as a risk measure captures higher portion of downside systematic risk in a bear market.
It is important to point out that each regression model was tested on the basis of Ramsey’s RESET test in order to check specification adequacy of regression model. Table 4 shows that p value of the Ramsey’s RESET test for each stock is above 10%, which means that there is not enough proof to reject specified linear regression models as inadequate.

Table 6 presents cost of equity for each company from sample calculated on the basis of classical CAPM model and Downside CAPM model. It can be seen from the table that cost of equity calculated on the basis of Downside CAPM is slightly higher than cost of equity calculated on the basis of classical CAPM model. Difference occurs because downside beta is on average higher than classical beta as it was pointed out earlier in this paper.
Table 6: Cost of equity for selected food industry stocks from Serbia

<table>
<thead>
<tr>
<th>TIK</th>
<th>Return</th>
<th>Beta</th>
<th>Downside Beta</th>
<th>Risk-free Rate</th>
<th>Risk Premium</th>
<th>Country Premium</th>
<th>CAPM</th>
<th>Downside CAPM</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>DJMN</td>
<td>-0.0011</td>
<td>0.5805</td>
<td>0.6837</td>
<td>2.5200</td>
<td>4.6200</td>
<td>6.7500</td>
<td>11.9521</td>
<td>12.4285</td>
<td>12.1903</td>
</tr>
<tr>
<td>IMLK</td>
<td>0.0078</td>
<td>0.3651</td>
<td>0.7186</td>
<td>2.5200</td>
<td>4.6200</td>
<td>6.7500</td>
<td>10.9566</td>
<td>12.5900</td>
<td>11.7733</td>
</tr>
<tr>
<td>MLSU</td>
<td>0.0038</td>
<td>0.0019</td>
<td>-</td>
<td>2.5200</td>
<td>4.6200</td>
<td>6.7500</td>
<td>9.2612</td>
<td>12.2066</td>
<td>10.7339</td>
</tr>
<tr>
<td>NEOP</td>
<td>0.0130</td>
<td>0.4111</td>
<td>0.5184</td>
<td>2.5200</td>
<td>4.6200</td>
<td>6.7500</td>
<td>11.1692</td>
<td>11.6650</td>
<td>11.4171</td>
</tr>
<tr>
<td>SJPT</td>
<td>-0.0246</td>
<td>1.6887</td>
<td>1.5563</td>
<td>2.5200</td>
<td>4.6200</td>
<td>6.7500</td>
<td>17.0720</td>
<td>16.4603</td>
<td>16.7661</td>
</tr>
<tr>
<td>TETO</td>
<td>0.0267</td>
<td>0.1177</td>
<td>0.3470</td>
<td>2.5200</td>
<td>4.6200</td>
<td>6.7500</td>
<td>8.7261</td>
<td>10.8732</td>
<td>9.7997</td>
</tr>
<tr>
<td>BMBI</td>
<td>-0.0082</td>
<td>0.1020</td>
<td>0.3767</td>
<td>2.5200</td>
<td>4.6200</td>
<td>6.7500</td>
<td>9.7410</td>
<td>11.0105</td>
<td>10.3758</td>
</tr>
<tr>
<td>VITL</td>
<td>-0.0062</td>
<td>0.6313</td>
<td>0.0738</td>
<td>2.5200</td>
<td>4.6200</td>
<td>6.7500</td>
<td>6.3532</td>
<td>9.6111</td>
<td>7.9822</td>
</tr>
<tr>
<td>Average</td>
<td>0.0014</td>
<td>0.2996</td>
<td>0.6138</td>
<td></td>
<td></td>
<td></td>
<td>10.6539</td>
<td>12.1057</td>
<td>11.3798</td>
</tr>
</tbody>
</table>

Source: Author’s calculation

From Table 6 it can be seen that the food industry stock’s cost of equity based on CAPM amounts 10.6539%, while food industry stock’s cost of equity based on Downside CAPM amounts 12.1057%. Average value of food industry stock’s cost of equity in Serbia is 11.3798%. In the sample, the highest average cost of equity has SJPT stock (16.7661%). The lowest average value of cost of equity has VITL stock (7.9822%).

If we compare these results with Estrada’s results (2007) of the overall cost of equity for Emerging markets based on CAPM (10.1100%) and Downside CAPM (12.6500%) it can be seen that food industry stock’s cost of equity in Serbia is approximately at the same level as cost of equity in Emerging markets.

6. Conclusion

Company should find an optimal capital structure, which will minimize its total cost of capital. Also, company should use capital efficiently and profitably in order to create value for its shareholders through generation of returns from investments that are above its costs of capital.

Integral part of cost of capital is cost of equity, which represents the rate of return that shareholders could have earned if they invested their money into different investments with equal risk.

The aim of this paper was to determine the cost of equity of food industry stocks in Serbia on the basis of eight the most liquid food industry stocks traded at Belgrade Stock Exchange.
Exchange in the period from 2011 to 2014. Food industry was selected due to the fact that Serbia because of its natural characteristics has huge development potential in the field of agricultural production and consequently in food industry production.

In the paper, the cost of equity of selected food industry stocks was determined as an average of CAPM and Downside CAPM models (similar to Collins, Abrahamson, 2006). CAPM model was selected because it is still one of the most often and widely used models for determination of cost of equity. On the other hand, Downside CAPM model was selected due to recommendation of Estrada (2003, 2007) who in his work showed that Downside CAPM is especially appropriate for determination of cost of equity in emerging markets. Also, Tsai, Chen, Yang (2014) recommended to investors and managers to focus on CAPM systematic risk in addition to the downside risk in the process of investment evaluation and capital structure decision making.

Research results indicate that average cost of equity of food industry companies in Serbia is 11.3798%. Also, results show that the highest cost of equity has SJPT stock (16.7661%) due to the highest value of its beta (1.6887) and downside beta (1.5563) coefficients. The lowest value of cost of equity has VITL stock (7.9822%) due to the lowest beta (-0.6313) and downside beta (0.0738) coefficients.

From the paper it can be seen that food industry stock’s cost of equity in Serbia is relatively high. The high food industry cost of equity mainly comes from country risk premium that is significant. On the other hand, systematic risk of sample stocks is rather low.

Therefore, food industry stock’s cost of equity in Serbia could be significantly reduced by reduction of country risk premium through sound macroeconomic policy, eradication of corruption and establishment of the rule of law, provision of conditions for increased business activity, attraction of foreign investments and other measures.

7. References

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