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Journal of Management and Business: Research and Practice
Časopis pre manažment a podnikanie: Výskum a prax

Scientific Journal of the Faculty of Management of University of Presov in Presov
Published twice a year.
Registration number 2858/09

Content Focus: Management, Marketing, Segments and Applications of Management, Trade
Entrepreneurship, Corporate Economics, Econometrics, Regional Development, Social Aspects of
Current Management and Marketing

Language: English

Frequency: Semiannual
Publisher: University of Presov in Presov, 17. Novembra 15, 080 01 Presov
ICÔ 17 070 775
Date of issue: December 2014

Print: GRAFOTLAČ PREŠOV, s.r.o.
Printing: 200 copies

ISSN 1338-0494

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Abstract: E-learning is one of the effective forms of teaching in the educational process, which fully uses information and communication technologies. The development of these technologies is rapidly advancing, and thus the e-learning process is constantly upgraded. In this paper we present an e-learning system Moodle, which is one of the most widely used software solutions used at the environment of the universities. We also analyze the results of the survey conducted on the Faculty of Management, University of Presov in Presov, which focused on the use of various communication tools by students.

Key words: information and communication technologies, e-learning, LMS Moodle

JEL: I21, D83

Introduction
At present, the trend is a creation and development of the information society and consequently a review of new approaches to learning. The consequence is a need to master the information and communication technologies at a higher level than before. Information and communication technologies are changing the existing established methods and forms of teaching and learning. This process takes place all around the world. The reason is that modern technologies allow knowledge to be perceived by several senses, which provides greater effect in education. Part of the new dynamism that characterizes the educational systems in the 21st century is e-learning. It is a new form of education, which takes full advantage of information and communication technologies. [4] sees e-learning as a new approach to teaching. This approach provides an open, flexible and distributed learning. The faster technology development is becoming, the more e-learning process is constantly upgraded. The e-learning went through several stages of development and we can talk about several kinds of e-learning, from which the most famous is software solution LMS (Learning Management System). The most frequently used system within the LMS system is Moodle (Modular Object-Oriented Dynamic Learning Environment).
Theoretical background
The origin of the expression “e-learning” is uncertain, although it is believed that most likely it originated in the year 1980 [9]. Eliott Masaiy is considered the founder of the e-learning industry; he defined e-learning as a tool using network technology for the creation, distribution, collection, administration and constant updating of training programs [8]. The beginnings of e-learning date back more or less to the early onset of personal computers in the households. Initially it was the electronic documents that have been shown on computer screen, deployed mainly in teaching the technical subjects. This model was known as CAE (Computer Aided Education), which refers to the computer-assisted instruction. In the following period this form was extended into various forms and directions. It was called Computer Based Training, known under the acronym CBT. There are two related concepts, CAI (Computer Assisted Instruction) indicating the use of a computer as a tool for learning and testing and lastly CMI (Computer Managed Instruction) which represents using a computer to manage the learning process. E-learning was spreading grace to the connection of the computers to the Internet. The real boom came in the 90s in the USA. More and more companies with the focus on developing e-learning tools and supporting e-learning were found. Nowadays US have maintained its leadership, but e-learning is being used in the various forms almost all around the world [2].

The various forms of e-learning have gradually evolved. There is a number of systems from simple to large and complex, from academic to commercial ones. Every day we meet various types of e-learning - blended learning (combined training), CBT (Computer Based Training) – training supported by computers, WBT (Web Based Training) - training based on the web technologies support etc. Currently, the most widely used environment for e-learning support and teaching courses, creation of trainings, whether on campus or in the commercial sphere is a LMS (Learning Management System) – system providing management of the learning process. It is a specific software application that allows creating the courses, their processing and usage in an electronic environment. The training material is accessible via the Internet [5]. Most frequently used is the LMS system Moodle (Modular Object-Oriented Dynamic Learning Environment) – system for managing learning process. It is a system of teaching using a web application where studying materials are accessible on the server via the Internet. Teacher gives specific tasks; he receives the answers and evaluates them with the students. Communication is taking place between teachers and students, but also between the students themselves. Among the characteristic features of Moodle belong the modules which the content is created from. Settings of the modules can be adapted and used in different situations. Standard modules for students are the documents in the form of HTML, forums, automatically evaluated texts, dictionaries, databases, surveys. Moodle is provided free of charge as an Open Source software falling under the GNU Public License.

Resources and methods
The aim of this paper is to analyze the usage of communication tools of students of Faculty of Management, University of Presov, based on the theoretical assumptions and conducted questionnaire survey, with the focus on Moodle.
The survey was conducted within the project KEGA No. 032PU-4/2013 on the topic: E-Learning training by application of the economic subjects of the study program Management and new accredited study programs at the Faculty of Management University of Presov in Presov. The goal of the project is the implementation of the new technologies and improvement of the teaching process of the economic disciplines in the study program Management, as well as in the new study programs at the Faculty of Management University of Presov.

Primary data was collected through a questionnaire during the winter semester of the academic year 2013/2014. The respondents received the questionnaire either in person at seminars or in the electronic form through Google. The questionnaire contained 12 questions related to the analyzed topic.

The target group consisted of the students of the Faculty of Management University of Presov. The base sample was represented by full-time and part-time students (including doctoral students) total of 2,089. 1,578 students were approached (75.56% of the group), 885 questionnaires were completed, of which 84 were withdrawn. The data obtained was processed in MS Office Excel, Statistica 12th.

Discussion and results
The base sample was represented by 2,089 students of Faculty of Management University of Presov. These were enrolled in full-time as well as in the part-time form of all 3 types of the studies, namely first and second degree, including PhD students of the study program Management. Overall, 1,578 students were interviewed, representing 75.56% of the original basis. The rest represented the students of two other study programs, Tourism, hotels and spas, and Environmental management. These study programs are implemented for the first time, so these students were excluded from the survey. The structure of the sample by level of study and gender is captured in tab. 1.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Doc.</th>
<th>Mgr.</th>
<th>PhD.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>482</td>
<td>116</td>
<td>14</td>
<td>612</td>
</tr>
<tr>
<td>Men</td>
<td>162</td>
<td>26</td>
<td>1</td>
<td>189</td>
</tr>
<tr>
<td>Total</td>
<td>644</td>
<td>142</td>
<td>15</td>
<td>801</td>
</tr>
</tbody>
</table>

Source: Own processing

In this paper we focus only on some parts of the questionnaire, especially on the questions no. 1, 2, 5, 6 and 7, which deal with identifying communication tools that students use in their work and for studying the most, as well as questions related to LMS Moodle.

According to the answer to question no. 1 - Which communication tool do you actively use at work/for studying? - we found out that most students use the university information system MAIS, followed by e-mail and social networks. Other tools are used less often. LMS Moodle is being use by FM in Presov the least often, which is a result of its absence on the faculty and university. Percentage share of the individual communication tools is shown in figure 1.
While Fig. 1 shows the usage of various communication tools of the entire sample. Tab. 2 shows the basic characteristics depending on the gender of the respondent (student of FM). According to the collected information women used MAIS, email, message boards on websites at work or for studying purposes more frequently than men. For other communication channels is usage for men and women similar.

### Tab 2: Usage of the communication tools by gender

<table>
<thead>
<tr>
<th></th>
<th>MAIS</th>
<th>E-mail</th>
<th>Web Boards</th>
<th>Boards</th>
<th>LMS Moodle</th>
<th>Digital doc.</th>
<th>Websites</th>
<th>Soc. Net.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>W</td>
<td>M</td>
<td>W</td>
<td>M</td>
<td>W</td>
<td>M</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>N</td>
<td>1.72</td>
<td>2.03</td>
<td>1.34</td>
<td>1.61</td>
<td>2.75</td>
<td>3.04</td>
<td>3.56</td>
<td>3.54</td>
</tr>
<tr>
<td>n</td>
<td>612</td>
<td>189</td>
<td>612</td>
<td>189</td>
<td>612</td>
<td>189</td>
<td>612</td>
<td>189</td>
</tr>
<tr>
<td>p</td>
<td>76</td>
<td>24</td>
<td>76</td>
<td>24</td>
<td>76</td>
<td>24</td>
<td>76</td>
<td>24</td>
</tr>
<tr>
<td>St. dvt.</td>
<td>0.84</td>
<td>0.8</td>
<td>0.68</td>
<td>0.85</td>
<td>0.93</td>
<td>0.87</td>
<td>0.65</td>
<td>0.76</td>
</tr>
<tr>
<td>Vx</td>
<td>46.79</td>
<td>52.05</td>
<td>32.73</td>
<td>19.04</td>
<td>15.49</td>
<td>28.99</td>
<td>38.04</td>
<td>56.56</td>
</tr>
</tbody>
</table>

Source: Own processing

The link between the gender and usage of different communication tools, respectively form of study, was investigated by applying a coefficient of determination, which is the starting point for the compilation of the Pearson correlation coefficient. From the total number of the relationships (32) there has been confirmed a link between seven pairs, at p <0.005. Despite the confirmed link between the descriptive characteristics, the dependence between variables is low. Based on these data, we consider the link between gender, respectively the form of study and usage of various communication tools as non-existent.
Tab 3: Dependence between use of the communication tools and gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Form of study</th>
<th>CD**</th>
<th>PC***</th>
<th>CD**</th>
<th>PC***</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAIS</td>
<td></td>
<td>0.0355</td>
<td>0.1885*</td>
<td>0.0467</td>
<td>0.2163*</td>
</tr>
<tr>
<td>E-mail</td>
<td></td>
<td>0.0327</td>
<td>0.1808*</td>
<td>0.0015</td>
<td>0.393</td>
</tr>
<tr>
<td>Wed boards</td>
<td></td>
<td>0.0185</td>
<td>0.1360*</td>
<td>0.0037</td>
<td>0.0612</td>
</tr>
<tr>
<td>Boards</td>
<td></td>
<td>0.0103</td>
<td>0.1018*</td>
<td>0.0008</td>
<td>0.0298</td>
</tr>
<tr>
<td>LMS Moodle</td>
<td></td>
<td>0.011</td>
<td>0.1049*</td>
<td>0.003</td>
<td>0.0553</td>
</tr>
<tr>
<td>Digital documents</td>
<td></td>
<td>0.002</td>
<td>0.045</td>
<td>0.0042</td>
<td>0.0653</td>
</tr>
<tr>
<td>Websites</td>
<td></td>
<td>0.008</td>
<td>0.0288</td>
<td>0.0006</td>
<td>0.0263</td>
</tr>
<tr>
<td>Social networks</td>
<td></td>
<td>0.0078</td>
<td>0.0883</td>
<td>0.1043</td>
<td>0.325*</td>
</tr>
</tbody>
</table>

* - p < 0.005  
** coefficient of determination  
*** Pearson coefficient of variation  
Source: Own processing

Question no. 2 was meant to understand whether students have heard about the educational system Moodle or not. 66.85% from the total number of respondents had already heard of the LMS Moodle. These students are interested in; getting the training and obtaining basic information about the system itself, the communication or inserting files in the system (the answer to question no. 6 - Are you interested in training related to the system Moodle? and question no. 7 - What do you want to learn in such training?). The results are shown in figure 2.

Fig 2: Interest in the basic training

* BI – basic information  
Source: own processing
Most common reply to the Question n.5: What students expect from the introduction of LMS Moodle?, was: increased access to studying materials, quick feedback, higher flexibility in solving the issues in teaching process and easier submission of assigned tasks. The replies to this question are examined in table 4.

Tab 4: What do you expect from the implementation of Moodle in the educational process?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Rather Yes</th>
<th>Rather No</th>
<th>No</th>
<th>No answer</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility in solving issues in teaching process</td>
<td>94</td>
<td>58</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>162</td>
</tr>
<tr>
<td>Better access to studying materials</td>
<td>133</td>
<td>22</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Opportunity to communicate with other students</td>
<td>55</td>
<td>71</td>
<td>28</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Easier submission of assigned tasks</td>
<td>94</td>
<td>55</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>More flexible and faster communication with teachers</td>
<td>87</td>
<td>48</td>
<td>21</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Quick feedback</td>
<td>105</td>
<td>38</td>
<td>14</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Source: own processing

We also evaluated the differences between women and men expectations of the introduction of LMS Moodle. According to our findings, women increasingly expect the LMS Moodle to provide the ability to communicate with other students, flexibility in solving the problems in teaching process, and better access to studying materials compared to men who have higher expectations of faster and more flexible communication between teachers. Easier submission of assigned tasks by the LMS Moodle is expected by men and women equally (table 5).

Tab 5: Expectations of the implementation of Moodle by gender

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>n</th>
<th>p</th>
<th>Vx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility in solving issues in teaching process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>women</td>
<td>1,43</td>
<td>115</td>
<td>71</td>
<td>0,58</td>
</tr>
<tr>
<td>men</td>
<td>1,55</td>
<td>47</td>
<td>29</td>
<td>0,65</td>
</tr>
<tr>
<td>Better Access to studying materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>women</td>
<td>1,17</td>
<td>115</td>
<td>71</td>
<td>0,48</td>
</tr>
<tr>
<td>men</td>
<td>1,32</td>
<td>47</td>
<td>29</td>
<td>0,56</td>
</tr>
<tr>
<td>Opportunity to communicate with other students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>women</td>
<td>1,8</td>
<td>114</td>
<td>71</td>
<td>0,78</td>
</tr>
<tr>
<td>men</td>
<td>2,17</td>
<td>47</td>
<td>29</td>
<td>0,82</td>
</tr>
<tr>
<td>Easier submission of assigned tasks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>women</td>
<td>1,5</td>
<td>115</td>
<td>71</td>
<td>0,69</td>
</tr>
<tr>
<td>men</td>
<td>1,47</td>
<td>47</td>
<td>29</td>
<td>0,58</td>
</tr>
<tr>
<td>More flexible and faster communication with teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>women</td>
<td>1,65</td>
<td>115</td>
<td>71</td>
<td>0,82</td>
</tr>
<tr>
<td>men</td>
<td>1,57</td>
<td>47</td>
<td>29</td>
<td>0,77</td>
</tr>
<tr>
<td>Quick feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>women</td>
<td>1,46</td>
<td>114</td>
<td>71</td>
<td>0,73</td>
</tr>
<tr>
<td>men</td>
<td>1,43</td>
<td>47</td>
<td>29</td>
<td>0,65</td>
</tr>
</tbody>
</table>

Own processing
Again we followed the link between the expectations of the Moodle system and gender respectively form of study of the respondents through the coefficient of determination, which constituted the basis for the compilation of the Pearson correlation coefficient.

Tab 6: The structure of replies by gender

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>Form of study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CD**</td>
<td>PC***</td>
</tr>
<tr>
<td>Flexibility in solving issues in the teaching process</td>
<td>0,009</td>
<td>0,0955</td>
</tr>
<tr>
<td></td>
<td>CD**</td>
<td>PC***</td>
</tr>
<tr>
<td>Better Access to studying materials</td>
<td>0,032</td>
<td>0,1784</td>
</tr>
<tr>
<td>Opportunity to communicate with other students</td>
<td>0,079*</td>
<td>0,2812</td>
</tr>
<tr>
<td></td>
<td>0,009</td>
<td>0,0933</td>
</tr>
<tr>
<td>Easier submission of assigned tasks</td>
<td>0,027</td>
<td>0,1637</td>
</tr>
<tr>
<td>More flexible and faster communication with teachers</td>
<td>0,002</td>
<td>0,0486</td>
</tr>
<tr>
<td>Quick feedback</td>
<td>0,008</td>
<td>0,0905</td>
</tr>
</tbody>
</table>

* - p < 0,005  
** coefficient of determination  
*** Pearson coefficient of variation Sources: own processing

Only one pair out of 32 observed relations was confirmed at the level of significance p <0.005; the ability to communicate with other students and gender. Despite the confirmed connection between these characteristics the correlation is low. Based on these data, we consider the link between gender, respectively the form of study and expectations of the LMS non-existent (Tab. 6).

Conclusion

The paper aim is to evaluate the usage of various communication tools by students of Faculty of Management University of Presov with the focus on Moodle. Based on the survey we found out that awareness of the system Moodle LMS among the students is low. Those students who have already had information about this system would be glad if it was introduced into the educational process at the Faculty. They would expect better access to studying materials, flexibility in solving issues in teaching process and easier submission of assigned tasks.

References


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Abstract: Services are an integral part of human existence. Through long-term social development, starting with food consumption through mass production and the consumption of material goods, human society arrived at the consumption of services. The increase in the consumption of services is influenced by social and cultural development, changes in the production sector and the growth of labour productivity. The last few decades are considered to be the period focused on the development of services. In the most developed economies, services comprise as much as 70% of the gross domestic product, while their importance continues to grow. Currently, a vast majority of companies also provide services along with their range of products, offering another added value for their customers. The companies putting maximum effort into achieving high-quality services and 100% customer satisfaction grow faster, generate more profit, work more efficiently, and have loyal customers.

Key words: benchmarking, quality of services, quality measurement tools, CSO index, Net Promoter Score

JEL: L83

Introduction
Dora, M. - Kumar. M – Goubergen, V.D. – Molnar, A, Gellynck, X. (2014) wrote that the importance of quality has significantly grown in the food sector over the last decades because of increasing consumers' expectations, governmental regulations and expanding competition in the market. Kafetzopoulos, D. P, - Gotzamani, K. D. (2014) stressed that in response, food companies have increasingly pursued quality management (QM) practices in recent years. Regarding of this fact an increasing number of food companies all over the world have been implementing quality and Food Safety Systems (FSS) in order to improve the quality and safety of their products and to witness the related benefits. Nowadays, the main Quality Management Systems (QMS) that are implemented by food companies are those in the International Organization for Standardization (ISO) 9000 series, such as ISO 9001: 2008. The ISO 9000 series of quality management standards provides the framework for organizations to install a QMS following certain guidelines and leads to continually improved processes that satisfy customers’ requirements. Zuurbier, P. - Trienekens,J. (2008) added that in the last decade many public and private standards on food safety and quality have been developed as a result of these developments.
Currently, there is proliferation of standards worldwide. One effect is that, in particular, companies from developing countries and emerging economies have problems to comply with these standards. Another important effect is increasing marginal costs of certification and accreditation, which also puts pressure on company profits in industrialized countries. The combined impacts of these effects ask for strategies to revalue the cost/effectiveness of the certification and accreditation system.

The service quality is defined by ISO 9000:2005 as the level in which the services meet the requirements, wishes and expectations of the recipient. A customer regards the service quality as excellent or unsatisfactory in dependence on his or her experience without regard to what the marketers and other experts consider being excellent. If a company providing services wants to survive, it is important to consider how the customers perceive its services. Ďaďo, J. – Petrovičová, Janka – Kostková, M. (2006) states that customer expectations are determined by the previous experience with consumption of the concerned service, references of corresponding groups, the service presentation in individual forms of marketing communication, the price of the service, the situation in the time of service consumption, the norms, values and needs of the consumer, the subject providing the services, the risk connected with the service consumption etc. The expectations are usually defined by what should be done or what will be done. The tolerance zone is different in different consumers. It is also different in one and the same consumer in dependence on specific conditions of service provision. The tolerance zone is influenced also by the specific type of service, whether it is a service as a result of process of service provision, or whether it is a service as a process. Services representing a process have a wider tolerance zone. The zone is determined, among others, by the perception of alternatives of provided services, customer’s imagination of himself in the corresponding process of service provision, the explicit or implicit approach to the provided service, the previous experience with the service, oral information about the specific service from others, risk connected with the purchase and consumption of the service, ability to evaluate the quality of the provided service etc.

In terms of service offer, it is possible to talk about two quality levels: the functional service quality and the technical service quality. The functional quality relates to the consumer who perceives the interactions of the service provider, and the technical quality relates to the consumer who perceives the result of service provision. Gronroos, Ch. (2001) set up a model of service quality perception based on the relation between the expected quality and the experience of the customer with quality. The overall quality is, unlike the product quality, of a subjective nature. The overall quality represents a summary of more aspects of quality assessment. The service quality is, unlike the product quality, subjective. The aim is that the customer perceives even the slightest difference between the perceived and the real quality of the service. Zeithaml, V. A. – Bitner, M. J. (2002) state that the quality of provided services is significantly influenced also by the loyalty and satisfaction of consumers.
Aim and Methods
The aim of the presented research is perform internal benchmarking and to measure the quality of provided services with selected methods. In the research, critical factors of quality and customer satisfaction of a company were evaluated by mystery shopping visits, the Customer Satisfaction Opportunity Index (CSO) was identified and the Net Promoter Score was calculated. The acquired data were compared in an internal benchmarking. Acquired data were processed and analysed with the Pareto chart, the Ishikawa diagram and the method of 5 Whys was also used to evaluate the quality of services.

Measuring service quality and customer satisfaction was carried out in one company. The evaluation and service quality measurement methodology was performed by the PDCA cycle of quality improvement. In the first research stage, the current quality level in individual establishments was identified. The “mystery shopping” method was applied in this stage. The research consisted of 16 mystery shopping actions altogether carried out by eight mystery shoppers in the course of 6 months in two establishments of the company that have been referred to as restaurant A and restaurant B in the research. The research was conducted from December 2013 until May 2014, two visits each month. In order to achieve a better comparison, the visits in both restaurants were done on the same day. It is important to add in this connection that internal principles for mystery shoppers in the analysed company were respected during the research. On the basis of critical factors and mentioned requirements, an own questionnaire was prepared for the mystery shopping research. In the introduction, the question concerning the Net Promoter Score was created. The critical quality factors that were set very strictly by the company were respected in the research because a non-achievement of any of 10 critical factors means quality failure. The CSO index represents the percentage of mystery shopping visits that did not fulfil one or more critical quality factors with impact on customer satisfaction. The aim is to reduce the number of visits where the critical factors have not been fulfilled. The lower the CSO percentage, the better the quality, company performance and customer satisfaction.

Results and Discussion

Measuring Service Quality in the Selected Company and Internal Benchmarking
The analysed company has been working in more than 121 countries all over the world; it serves 70 million people daily in more than 35,000 restaurants in the world, and is employer for 1.8 million employees. The company has built its entire quality conception on 100% customer satisfaction. The company has focused on three main quality pillars: a quality product, quality services, and a clean business premises.

In order to measure service quality, it was necessary to identify the key factors of service quality. The company defined them as follows: hot and fresh sandwiches, hot, salted and crispy French fries, serving the costumer from his placement into the nearest, shortest queue within 300 seconds, a friendly greeting at arrival and
departure, customer friendly access, correct meals and beverages according to orders, a clear and comprehensible communication, clean premises, clean employees, clean toilettes. These key factors were identified and analysed by the company and they are valid for all establishments all over the world. If an establishment achieves all mentioned critical quality factors during a customer’s visit, the customer is satisfied only to 88-89%. If a further quality factor is not achieved, the customer satisfaction drops dramatically. These criteria were fully respected during the research, and mystery shoppers filled in a specific questionnaire with quantified questions at the end of their visit. This analysis focused purely on the subjective satisfaction, or dissatisfaction of customers with the aim to check the aforementioned critical and supporting quality factors.

It follows from the evaluation of the mystery shopping questionnaires in the restaurant A that this restaurant maintains a high quality of its products and services. All analysed critical factors were met, and this is an excellent result in 7 out of 8 visits. During one out of 8 visits, 3 critical factors were not met: serving the customer within 300 seconds, customer friendly access and cleanliness of the toilettes. The CSO index of the restaurant A was set at 12.5%.

When looking at the evaluation of the 8 mystery shopping questionnaires, one can see that the level of the provided services in the restaurant B is, as far as the quality is concerned, different. The CSO index is as much as 62.5%, that means that as many as 5 mystery shopping visits did not achieve at least 1 critical quality indicator, such as: serving the customer within 300 seconds, greeting at arrival and departure, and customer friendly access. The results of the internal benchmarking related to the analysed establishments are indicated in Fig. 1.

Fig 1: Internal benchmarking of analysed companies
It follows from the figure that neither of both restaurants achieved the CSO=0, i.e. the benchmark in the group, that means we cannot consider them being the best restaurants. It is necessary to add that the restaurant A achieved a CSO result above average although in one mentioned case, during one visit, there was a problem with serving the customer within 300 seconds, the attention of employees to the customer and with the cleanliness of the toilets. In spite of this, this result is slightly above average in comparison to the CSO average in Slovakia. The restaurant B achieved a result that is deeply below average, with the CSO score of 62.5%, in three critical factors: serving the customer within 300 seconds, a friendly greeting at arrival and departure and customer friendly access. In both restaurants we have found out the same problem with 2 same critical factors, and that is serving the customer within 300 seconds, and customer friendly access. It is not clear whether the frequency of not meeting these critical quality factors is widespread in other restaurants in Slovakia as well.

Identifying the Net Promoter Score of the Company
The Net Promoter Score is based on the fundamental perspective that customers of each company can be divided into three categories: supporters, passive customers, and critics. The point is in identifying recommendations of the company to a friend or a colleague. Respondents answer in points, from 0 to 10, where 0 is the lowest and 10 the highest score, i.e. a 10 would provide a client who would recommend a company to a friend or colleague on all accounts. Unlike mystery shopping where we clearly can quantify the results, the NPS is a subjective indicator, this, however, does not mean that it would be of a lesser value. An average company has the NPS only about from 5 to 10. This indicator is important because the supporters are the basis of a healthy and profitable growth of a company in the future. The best global companies run their business models between NPS 50–80%, and there still is potential to improve this subjective factor.

The results of the Net Promoter Score are shown in Fig. 2 and 3 as follows:

Fig 2 Net Promoter Score: Restaurant A

Source: Own work
The Net Promoter Score of restaurant A shows the fact that there are 87.5% supporters of the mentioned restaurant, and 12.5% critics which is a positive score because the supporters highly outnumber the critics and in doing so they recommend the restaurant and are the basis of a healthy growth. The Net Promoter Score of restaurant A shows the fact that there are 87.5% supporters of the mentioned restaurant, and 12.5% critics which is a positive score because the supporters highly outnumber the critics and in doing so they recommend the restaurant and are the basis of a healthy growth. The Net Promoter Score in restaurant B is, based on the evaluation of the mystery shopping questionnaires, only 13, which is an average indicator. The company creates daily more supporters and good name promoters than their critics and this can hamper the development of restaurant B and increase their costs for marketing and for the acquisition of customers significantly. This reduces the profitability and potential for healthy, organic growth in the future.

Another finding is interesting with regard to restaurant B. In spite of the fact that the service quality was not optimal, the NPS indicator achieves an average result. This means, that despite the fact that the customers themselves were not entirely satisfied with the quality, there are still more customers who would recommend this restaurant B to their friends.

**Analysis and Identification of Reasons and Problems**
The key problems were identified with the Pareto chart. With this chart, it is also possible to focus primarily on those factors that have the largest share in the analysed problem.
Following from the Pareto chart, a key minority of deficits (cumulative value 75%) was identified that has a significant impact on customer satisfaction. These are “the missing friendly greeting” and “serving a customer within 300 seconds”. The key activity is to look for reasons for deficits, mistakes and problems. To find out the main reason, the chart of reasons and consequences as well as the method of 5 Whys were used. The reasons for not fulfilling the five critical quality factors: “not serving a customer within 300 seconds” and “the missing friendly greeting”, were identified (Table 1 and Fig 5).

Tab 1: Looking for reasons with the method of 5 Whys

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Long queues</td>
<td>Many people at once</td>
<td>Arrival of customers</td>
<td>Increased number of employees</td>
<td>Bad rate of production</td>
<td>Bad planning</td>
<td>Increase the number of employees, removing for management</td>
</tr>
<tr>
<td>Don't know how to serve the customer</td>
<td>Nobody told them how</td>
<td>No proper training</td>
<td>No time by manager</td>
<td>Bad management</td>
<td>Bad management</td>
<td>Training and practices for employees and manager</td>
</tr>
<tr>
<td>Don't know how to serve the customer</td>
<td>Don't know the practices</td>
<td>Forget the practices</td>
<td>Not visible</td>
<td>No communication</td>
<td>No communication</td>
<td>Improve communication skills, team building activities, soft skills improvement</td>
</tr>
<tr>
<td>Don't know who to serve</td>
<td>Nobody tells them</td>
<td>Insufficient communication</td>
<td>No communication between sales employees</td>
<td>Weak communication</td>
<td>Weak communication</td>
<td>Improve communication skills, team building activities, soft skills improvement</td>
</tr>
<tr>
<td>Don't know why they should do it</td>
<td>They don't care</td>
<td>Personality of employees</td>
<td>Bad training</td>
<td>Incomplete procedures of equipment</td>
<td>Incomplete procedures of equipment</td>
<td>New employees, motivation system, and training for employees, training</td>
</tr>
<tr>
<td>Don't know why they should do it</td>
<td>Don't realize the importance</td>
<td>Don't know the importance of “first in, first out”</td>
<td>Insufficient training</td>
<td>Training on customer satisfaction</td>
<td>Training on customer satisfaction</td>
<td></td>
</tr>
<tr>
<td>Inadequate number of employees</td>
<td>Incorrect shift management</td>
<td>Incorrect evaluation of shift manager</td>
<td>Don't know how to do it correctly</td>
<td>Incorrect training</td>
<td>Incorrect training</td>
<td>Training and practices</td>
</tr>
<tr>
<td>Waiting for the French fries</td>
<td>Small number of employees at the machine</td>
<td>Incorrect evaluation of shift manager</td>
<td>Forget it</td>
<td>Remove by manager</td>
<td>Remove by manager</td>
<td>Training and practices</td>
</tr>
<tr>
<td>Small number of cashiers</td>
<td>Cash desk is not working</td>
<td>Forget to report it</td>
<td>Insufficient evidence, reporting</td>
<td>Maintenance report and end</td>
<td>Maintenance report and end</td>
<td>Practice training, using additional staff at the cash desk</td>
</tr>
<tr>
<td>Waiting for the French fries</td>
<td>The machine is not working</td>
<td>Nobody to fix it</td>
<td>No plan for maintenance</td>
<td>No plan</td>
<td>No plan</td>
<td>Introduce maintenance plan</td>
</tr>
</tbody>
</table>

Source: Own work
In order to look for reasons, the Ishikawa diagram was used and four parts were evaluated: people, management, methods and processes.

Fig 5: Ishikawa diagram

With regard to restaurant B, the standard process after the mentioned identification of unsatisfactory CSO index is the integration of the restaurant into the so-called ROIP system which is a 21-month complex system of supervision and quality improvement and company performance improvement. Its aims are:

- measuring the fulfilling of standards and improving the business and quality performance,
- protection of the company brand,
- achieving sustainable profitable growth of the company.

This programme usually consists of steps such as increasing mystery shopping checks, e.g. up to 3 visits per month, regular SOR (Small Operations Review) audits – basic evaluation of restaurant systems in business and submitting measures for improvement of their quality and performance, BPS – Business Planning Session is a meeting of leading representatives and a consultant in order to use the ROIP methods for improvement of selected indicators, CRO – as a planned activity that provides opportunity for an audit of 12 restaurant systems and enables to evaluate the restaurant capacity through a diagnosis of processes, performance of regular FOR (Full Operations Review) audits – in-depth and detailed evaluation of restaurant systems in business and restaurants, submitting measures for quality
improvement, supporting visits from management that help the management to support changes in the restaurant and other.

Conclusions
Sources of all societies are limited therefore it is necessary to start the improvement with the biggest deficits and areas where we can achieve the largest, most substantial and most visible improvements. By focusing internal company resources on improvement of a small number of main areas, above-average results can be achieved, and what can be prevented is wasting resources into too many areas from which every area will be improved only on average. The research pointed at the fact that measuring quality has to be a necessary tool for quality performance and improvement. The achieved quality level of offered services is not random but a result of a good or less successful management of selected restaurants. Providing the highest possible service quality does not only mean to providing and offering customers with a positive experience that they will remember, to satisfy their needs perfectly but mainly to exceed their expectations consistently. Then the customers will perceive the company where they buy products and services as a positively evaluated, they will return regularly, and such a company has big chances to succeed in the present demanding market environment.

The customers confront their requirements, wishes and expectations with the real service quality. There is a tolerance zone between those two limits when the customers still tolerate and accept the quality. A service provided in real life with a quality that is diametrically different from the expected service quality level has a negative impact on the customer loyalty and the company perception. The tolerance zone is different in individual consumers and depends on previous experiences of the customer with the competitors. The aim of each company is to exceed the expectations of their costumers and not to become self-satisfied with the provided quality standard.

References


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Abstract: The basic principle of value added tax, hereinafter referred to as the sales tax is called. Tax on consumption, when the amount of tax is the difference in price on the input and output when the value added with Roger gross margin. From the 1.1.2013 basic VAT rate is 21% and the reduced rate of 15%. At the beginning of the year 2016, the Czech Government plans to a fundamental change in the unification of VAT rates on a single value, and at the rate of 17.5%. The last edit, but also a number of earlier, unfortunately, are approved under time pressure at the last moment. If traders, business entities do not know the new VAT rate in sufficient time, causing its introduction of chaos, confusion, when carried out the tax and accounting business transactions, which creates a space for possible fraud, misleading conduct.

Key words: VAT rates in the Czech Republic and in the European Union, posting of VAT, intra-Community transactions.

JEL: M410

Introduction
Value added tax (VAT, tax) is the most important indirect taxes and at the same time the most complex on the calculation of the tax system. TAX forms the most important part of the tax revenue of the State budget of the Czech Republic. VAT is the most important part of the tax revenue of the State budget. VAT is a general tax on consumption applied to commercial activities involving the production and distribution of goods and provision of services. Tax is included in the title that at every stage in the value added tax only. VAT tax is characterized as:

1. General - one system would we tax the supply of goods, real estate and the provision of services with the capture of imports and exports
2. Multistage - means the taxation of each instance in the production and delivery of products, goods and services
3. On consumption-this tax is burdened with the consumption of goods and services
4. Indirect - VAT payers are not entities (consumer), which concerns the taxation Value added tax applies to all citizens of the CZECH REPUBLIC in the form of purchased goods or services, however, the charges shall be the seller of the goods or services, IE. VAT is paid for by the State of another person within the Czech Republic, the so-called the tax payer than the participant to whom the effects of the
fall of this tax, i.e. the so-called taxpayer's tax. It follows from this that VAT does not apply to direct consumers to State institutions, but the seller, the buyer pays the full amount to which the price of the purchase of goods or services, including VAT, that of the obligations to the State tax is doing. SALES TAX is based on the principle of payment of tax payer from the difference between the inputs and outputs of prices for goods and services, when the State budget so follows the difference between received and paid taxes. A typical hallmark for VAT is its neutrality, which consists of a single system of taxation of products and services, when the final share of taxes in the price of a product or service conforms to the prescribed rate of VAT and does not depend on the number of degrees of processing, i.e. product or service not taxed inputs, which have already been taxed, but only to the value added. Equally important, significant and substantial difference between the specifications of the indirect and direct taxes is the fact that the tax payer pays tax in the course of a calendar year, i.e., Monthly or quarterly, not only an year, as is the case for the payment of direct taxes in the Czech Republic.

The introduction and development of VAT rates in the Czech Republic
In the Czech Republic, the value added tax was introduced from 1st January 1993 to 31. December 1992, applied to goods and services sales tax. The issue of VAT in the Czech Republic is governed by Act No. 235/2004 Coll., of the VAT Law. In most other countries of the European Union value added tax was introduced previously, for example in Denmark, Germany, France, the Netherlands and Sweden have introduced VAT already in the 1960s years. In the 1990 's, years, along with the CZECH REPUBLIC implement these States, such as the SALES TAX Croatia, Cyprus, Latvia, Bulgaria, Malta and Finland. [6] Within the European Union the issue of VAT is being edited by several directives, when major was the first Directive 67/227/EEC which defines the justification of the need for the adoption of the VAT and the VAT system to the 1. 1.1970; Furthermore, the Sixth Directive 77/388/EEC, which has been the interpretation of the basic concepts — the tax base included, the territorial reach and, above all, the introduction of the levy of the tax rates of the national VAT revenue in the EU budget; Directive 92/77/EEC [5], which laid down the minimum values and determine tax rates from 1. 1.1993 And key then the sixth directive 2006/112/EC, which is the amendment to Directive 77/388/EEC [4] and in force from 1 January. 1.2007. This directive (2006/112/EC) codifies the provisions governing the introduction of the common system of VAT in the European Union. [2] In the present period of 2014 in the Czech Republic are two VAT rates, i.e. the base and the reduced rate. From the 1st January 2013 is the basic VAT rate is fixed at the rate of 21 %, which applies to products and services with the exception of those which are listed in annex 3 of the law on VAT and the reduced VAT rate of 15 % in value. The reduced rate is generally applied to the selected types of food, animals, plants, accommodation services, care for the sick or disabled citizens, paper books or magazines, etc. articles. Since the inception of this tax is the value of VAT rates changed over time in the Czech Republic, see table No. 1 – evolution of VAT rates in the Czech Republic.
and chart the evolution of VAT rates in the Czech Republic (in %). Tabular and graphical representation of the points to the value of VAT rates within the timeframe of 20 years, when changes in the rate, a total of six times. It can be noted that this is the frequent changes; however, the fact of the frequency change is frequent, for example for countries such as Croatia, Latvia, Romania and Finland. Slovakia and Cyprus made changes to the VAT rate in the past 20 years, even eight times. Not forgetting also the countries that have introduced VAT already in the 1960s and 70. Years whose values have changed and the VAT rate 20 times. Most commonly the value of VAT rates changes Ireland since the introduction of VAT, i.e. from the 1. 1.1972 changed the rate values 33 times.

VAT rates in the Czech Republic, both in the percentage rates of VAT, i.e. Basic and reduced rate, show a relatively high value. In particular the value of the reduced rates of VAT, that is from the time of the introduction (1. 1.1993) increased by 10 percentage points (from 5 % to 15 %). This increase of reduced VAT rates has resulted in consumer households increase final prices of goods and services. For the basic rate of the VAT in the time periods of the year 1993 up to the present there is so little change. Since the introduction of the (1. 1.2013) the value of the VAT rate has fallen by only 2 percentage points (from 23 % to 21 %). In comparison with the countries of the CZECH REPUBLIC in the European Union value the basic VAT rate in the Czech Republic belongs to the average values, but the value of reduced rates of VAT is ranked one of the highest. Only the Republic of Hungary has a higher value than the reduced VAT rate, i.e. the Czech Republic. The value of reduced rates of VAT in this case amounts to 18 %. However, it should be noted that the Republic of Hungary used two reduced VAT rates, when the second value of the reduced rate is equal to the specified minimum limits, i.e. 5 %.

Tab 1: Evolution of the rates of VAT in the Czech Republic (in %)

<table>
<thead>
<tr>
<th>Period</th>
<th>The basic vat rate</th>
<th>Reduced vat rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 1. 1995 – 30. 4. 2004</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>1. 1. 2013 - now</td>
<td>21</td>
<td>15</td>
</tr>
</tbody>
</table>


Material and Methods

The aim of the paper is to characterize the development of the rates of VAT in the Czech Republic in basic mode and reduced rates and to harmonize the level of VAT rates in the European Union countries in the system of uniform rules set for determining the value of VAT rates. A priority goal is to create proposals for changes to the amount of VAT rates in the Czech Republic in VAT posting mode,
acquisition of goods, tax payer from another EU country, post invoices, and the
creation of the General reports referred to the practice as an example of using the
methods of collecting data and information, interpretation of results and discussion
to the final evaluation of the unification of the rates of VAT on level 17, 5 % by
2016.

Results and Discussion

The current VAT rates in the European Union countries and the establishment
of rules for determining the value of VAT rates

The amount of VAT rates can Member countries of the European Union to
identify and determine for yourself based on your discretion, however, must
comply with the rules laid down by the European Union as referred to in
Directive 92/77/EEC - determination of minimum rates of TAX with effect from
2006, this came into force from 1 January. in January 2007, on the common
system of value added tax, which, inter alia, specifies the minimum threshold
amount of VAT rates for all Member States of the European Union, provided that
the basic VAT rate must not be less than 15 % (in the period from January 1,
2011 to December 31, 2015, Member States of the European Union to apply only
one base rate which shall be determined by each Member State as a percentage of
the taxable amount the tax is the same for the supply of goods and provision of
services), or provides for a reduced rate, which may not be lower than 5 %
(European Union, Member States may apply one or two reduced rates, which
shall be determined by each Member State as a percentage of the taxable amount,
the amount is the same for the supply of goods and the provision of services
The number of VAT rates and their amount in the individual Member States of the
European Union may vary, but must adhere to the above mentioned rules and
regulations on minimum border values of VAT rates. In terms of practice and
experience we can meet up with five TAX rates applied in the framework of the
European Union, and more specifically, for example with:

• standard rate - within the European Union, this rate is subject to most of the
offered and sold goods and services; This rate is used by all Member countries
of the European Union, and the value is in the range from 15 % to 27 %, when
the lowest value rates Luxembourg and uses only the highest value only
Hungary, the average value of the basic rates of around 21,5 %; in comparison
with the countries of the European Union, the rate in the Czech Republic,
therefore, moves within the average basic rate

• Reduced rate - within the European Union, this rate is subject to only the
goods and services of those categories, which are approved by the European
Union and exhaustively listed in annex III 6. Directive 2006/112/EC, which
sets out the application of the reduced rate option 21 – most commonly a
reduced rate subject to the food, pharmaceutical products, books and
newspapers, admission to cultural facilities, admission to sporting events,
hotel accommodation, transport, hairdressing services, undertakers and other; This rate is used by all Member countries of the European Union except Denmark (Denmark only uses the uniform rate of 25 %); the 15 countries using the options to apply two reduced rates (e.g. Belgium, Malta, Sweden, Greece, Lithuania); the value of the reduced rate ranges from 5% to 18 %, the lowest rate used by the eight countries (e.g. Croatia, Poland, Romania, United Kingdom) and the highest value of reduced rates used again but it uses Hungary (two reduced rates, and the other is in the amount of the border just 5 %), the average value of the basic rates of around 9 %, compared to the Member countries of the European Union is the reduced VAT rate is above the average, the higher in the Czech Republic (15 %) compared to other reduced rates of member countries of the European grouping of

- super reduced rate - a rate whose value is lower than the established minimum threshold of 5 %; This rate is used only by five countries (France, Ireland, Italy, Spain and Luxembourg, that this opportunity uses the most); most frequently super reduced rate shall be subject to, once again, food, medicines, books and newspapers, admission to the cultural establishment; the above rates are in the range of 2.1 % to 4.8 %; in the Czech Republic has never been used this rate

- parking rate - fulfils the function of measures to soften the transition from the reduced rates of VAT to the rate base, which currently uses only five countries (Belgium, Ireland, Luxembourg, Austria and Portugal), and this rate varies in the range from 12 % to 13.5 %; in the Czech Republic or the rate has never been used

- zero rate - the rate of the value, as is evident from the name, is at the rate of 0 %, i.e., some goods and services are fully exempt from VAT; This zero rate is given by the historical development and is applied temporarily for some Member States of the European Union (in particular countries: Ireland, Malta, United Kingdom, Sweden, Finland, Denmark, Italy and Belgium), in which it had established well before 1991; applies in particular: food delivery, delivery of books and newspapers, delivery of medicines; in the Czech Republic this rate also never used [11].
<table>
<thead>
<tr>
<th>State</th>
<th>Country code</th>
<th>Abbreviation for Vat</th>
<th>Super reduced rate</th>
<th>Reduced rate</th>
<th>Standard rate</th>
<th>Parking rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>BE</td>
<td>BTW / TVA</td>
<td>-</td>
<td>6, 12</td>
<td>21</td>
<td>12</td>
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<td>BG</td>
<td>DDS</td>
<td>-</td>
<td>9</td>
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<td>-</td>
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<td>MOMS</td>
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<td>KMKR</td>
<td>-</td>
<td>9</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>Finland</td>
<td>FI</td>
<td>ALV</td>
<td>10 / 14</td>
<td>24</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>France</td>
<td>FR</td>
<td>TVA</td>
<td>2,1</td>
<td>5,5 / 10</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>Croatia</td>
<td>HR</td>
<td>PDV</td>
<td>-</td>
<td>5 / 13</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Ireland</td>
<td>IE</td>
<td>VAT</td>
<td>4,8</td>
<td>9 / 13,5</td>
<td>23</td>
<td>13,5</td>
</tr>
<tr>
<td>Italy</td>
<td>IT</td>
<td>IVA</td>
<td>4</td>
<td>10</td>
<td>22</td>
<td>-</td>
</tr>
<tr>
<td>Cyprus</td>
<td>CY</td>
<td>FPA</td>
<td>-</td>
<td>5 / 9</td>
<td>19</td>
<td>-</td>
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<tr>
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<td>PVM</td>
<td>-</td>
<td>5 / 9</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
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<td>LV</td>
<td>PVN</td>
<td>-</td>
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<td>21</td>
<td>-</td>
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<tr>
<td>Luxembourg</td>
<td>LU</td>
<td>MwSt</td>
<td>3</td>
<td>6 / 12</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Hungary</td>
<td>HU</td>
<td>AFA</td>
<td>-</td>
<td>5 / 18</td>
<td>27</td>
<td>-</td>
</tr>
<tr>
<td>Malta</td>
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<td>VAT</td>
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<td>5 / 7</td>
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<td>-</td>
</tr>
<tr>
<td>Germany</td>
<td>DE</td>
<td>USt</td>
<td>-</td>
<td>7</td>
<td>19</td>
<td>-</td>
</tr>
<tr>
<td>Netherlands</td>
<td>NL</td>
<td>BTW</td>
<td>-</td>
<td>6</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>Poland</td>
<td>PL</td>
<td>PTU / VAT</td>
<td>-</td>
<td>5 / 8</td>
<td>23</td>
<td>-</td>
</tr>
<tr>
<td>Portugal</td>
<td>PT</td>
<td>IVA</td>
<td>-</td>
<td>6 / 13</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Austria</td>
<td>AT</td>
<td>USt</td>
<td>-</td>
<td>10</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>Romania</td>
<td>RO</td>
<td>TVA</td>
<td>-</td>
<td>5 / 9</td>
<td>24</td>
<td>-</td>
</tr>
<tr>
<td>Greece</td>
<td>EL</td>
<td>FPA</td>
<td>-</td>
<td>13, 6,5</td>
<td>23</td>
<td>-</td>
</tr>
<tr>
<td>Slovakia</td>
<td>SK</td>
<td>DPH</td>
<td>-</td>
<td>10</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>Slovenia</td>
<td>SI</td>
<td>DDV</td>
<td>-</td>
<td>9,5</td>
<td>22</td>
<td>-</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>UK</td>
<td>VAT</td>
<td>-</td>
<td>5</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>Spain</td>
<td>ES</td>
<td>IVA</td>
<td>4</td>
<td>10</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>Sweden</td>
<td>SE</td>
<td>MOMS</td>
<td>-</td>
<td>6 /12</td>
<td>25</td>
<td>-</td>
</tr>
</tbody>
</table>


**Proposals for changes in the level of rates in the Czech Republic**

As the author of the contribution lists, see table no. 2 Development of VAT rates in the European Union, in percentage terms, in the Czech Republic only uses one of the reduced rate of 15 % and the basic rate of 21 %, but the Coalition Council of the CZECH REPUBLIC proposes to use options to establish a second reduced rate of 10 %, which would be subject to, in particular, medicines, books, and children's
nutrition. This new rate should apply from 1 January 2015. Use the option of two reduced rates of value added tax is not within the European Union is no exception. In the aforementioned text, stating the example in the following table no. 3 VAT posting in the VAT payer acquisition of goods from another EU country, less the amount of VAT rates in the European Union used the 15 Member States of the European Union from 28. A lower tax rate for both is usually taxed at reduced rates, books and medicines. Similarly, this should also be in the Czech Republic when the planned introduction of the 1. January 2015, the third VAT rate for selected products.

Not forgetting the opinion proposal for representatives of political parties and business entities in the Czech Republic, who spoke to the unification of the basic and reduced rates and the use of only one of the VAT rates, i.e. Uniform rate of 17.5 %, which could be approved with effect from 1. January 2016. The uniform rate of VAT in EU Member States used only as a single, the above Denmark involved 25 %, which is above the level of the above base rates, let alone the reduced VAT rates. The question remains whether the discussion to be a pioneer in innovative changes in the rates of VAT in the Czech Republic modeled after the Kingdom of Denmark, which is not the Federative Republic of Brazil. For the introduction of the so-called unspoken the third series of politicians or business entities is the argument the simplification of the administrative and tax burden in terms of the financial burden of the tax return or the use of written documents and the substantiation within the Czech Republic and the European Union. Another concern, the reason for not imposing the so-called the second, less value added tax is clutter the tax system within the meaning of the prevention of tax evasion.

In contrast, for the introduction of two reduced rates of VAT in the Czech Republic are mainly residents, citizens of the CZECH REPUBLIC, final consumers households, for which the introduction of the second reduced VAT rates constitute a reduction in the prices of selected commodities. It is primarily about the group, the population of seniors and students, which would be the second reduced VAT rate, had a direct impact on the price of drugs, medicaments or books or textbooks in favor of a reduction of the sales price. Unfortunately, the final consumers to guarantee the reduction of the final selling price of the products in relation to the reduced value of the second reduced VAT rate because of concerns of the business market, where entrepreneurs in the context of possible losses from the sale of goods by reducing the value of VAT rates, which may increase the prices of commodity goods in order to make up the difference amount of VAT rates and sales prices of selected items, so they weren't financially harmed and guarantee them the same amount of income as under the terms of the uniform rate of VAT in the amount of 17,5 %, you propose. [8]

In the framework of the implementation of the changes above, namely an intra Community VAT rates are not for entrepreneurs, VAT, SALES TAX rates to above changes, the only decisive criterion. Not strictly ordered, what the amount of VAT rates in the European Union member country uses. The decisive criterion for intra-Community transactions within the EU is strict, uniform rule for all stakeholders, which clearly defines the method of payment of VAT-payer of VAT to
entrepreneurs who buy goods or services of the commodity in the domestic country, provided that the business entity is entitled to a tax deduction, i.e., that the entrepreneur will ultimately lead the State from commercial transactions 0 CZK VAT, when the dealer always issue the tax document (e.g. invoice, receipt, simplified tax document written document, etc.) in the summary of the price without VAT. From an accounting point of view posted business entity-payer of VAT, purchase of goods, as follows:

Tab 3: Posting of VAT tax payer in the acquisition of goods from another EU country

<table>
<thead>
<tr>
<th>Document</th>
<th>Accounting operations</th>
<th>MD</th>
<th>D</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOFA</td>
<td>Purchases of goods</td>
<td>131</td>
<td>321</td>
<td>Note: Value without VAT</td>
</tr>
<tr>
<td>VÚD</td>
<td>Payment of tax</td>
<td>349</td>
<td>343</td>
<td>Tax on output. income tax from purchase of goods</td>
</tr>
<tr>
<td>VÚD</td>
<td>Tax deduction</td>
<td>343</td>
<td>349</td>
<td>Tax on the entry the application of the right of deduction</td>
</tr>
</tbody>
</table>

Document: DOFA-delivered invoice, VÚD – the side ledger voucher
Source: Custom processing

Note: In practice, we can often encounter a variant of the so-called VAT accounting on a separate analytical account to the VAT account, IE. on account of 343.1/343.2 Analytical account we use in order to determine the value of VAT on intra-Community transactions on input (343.1) and output (343.2) as the value of VAT on intra-Community transactions, you cannot omit the fact that in the context of implementation of the EU member countries namely an intra Community fighting (among whom) against tax evasion. Leaks in the area of VAT, significantly influence the tax revenue of the Member States and distorts economic activity within the internal market by creating unjustified flows of goods and services allow you to sell goods for abnormally low dumped prices. One of the causes of such tax evasion is the shortcomings in the VAT system in the community, in particular, in the system of exchange of information on the supply of goods and services within the community. The reason the fight against this scourge and has therefore been issued Directive 2008/117/EC, which introduced the following measures:

• introduction of monthly deadlines for obtaining information on intra-EU
• introducing the same tax period for both the supplier and the buyer or recipient in the context of intra-EU
• reduction of administrative burdens, such that by the provision of information and various reports can be administered by simple electronic procedures
• Enable operators to submit summary reports on intra-EU quarterly, if the value of those supplies insignificant.

It follows from this that, in the framework of the implementation of the community—namely an intra Community in the EU is trying to simplify its regulations and directives and in particular to clarify the written documentation when trading with commodities used and archives. Community, the EU aims to unify the use of written documents and forms for the purpose of consistency, clarity, and coherence with
other related documents (invoice, receipt, an, order) we present in the following example, when a Czech company-payer of value added tax, offers of goods and services to other business entities within the EU (value added tax payers). The Czech company named as a company A the foreign company as company B – e.g. The company, based in Austria, a company based in Germany, (C), (D) with a company in Slovakia, where we assume that all these four companies are registered as monthly payer of value added tax. The subject of business of these foreign companies trading with ceramics when a Czech company and offers finished products, e.g. painted pottery, but also goods to order, for example painting ceramics other foreign bodies.

The Czech company A offered the three foreign companies in January of 2014, goods and services, when the shipment of these commodities was as follows. Company B was carried out 5 times the supply of goods and services with a total value of 150 000,-CZK; company C-2 delivery of goods with a total value of 50 000,-CZK and 1 x delivery services-paint pottery with a total value of 30 000,-CZK; company D, three delivery services-paint ceramics on the total value of 80 000,-CZK. These amounts are listed in the value without VAT-IE represents the tax base.

When the procedure of taxation of the supply of goods and services and the implementation of the Czech company a commercial transaction governed by the provisions of VI. The European Union Directive No 77/388/EEC in the framework of the Czech law on VAT in the case of the supply of goods and services, and how to apply the Czech company A taxation according to § 7, which notes that the place of supply of services is the place and time where the goods are located and the time in which the supply takes place, i.e., in the Czech Republic, where the taxable implementation. Since the goods or service is made by the tax payer from the Czech Republic towards another tax payer in the countries of the European Union, the transfer of the tax liability of the supplier of the goods or services to the recipient (buyer of goods), or to transfer the place of taxable transactions and obligations arising from the payment of tax, the so-called mode the "reverse charge". The "reverse charge" mechanism allows the customer or recipient to tax goods, respectively. Services in the country of sale of commodities without complicated the implementation of the right to deduct VAT in another EU Member country.

In the case of the provision of services of the company A shall apply the procedure for taxation according to § 9, which speaks volumes about the basic rules for determining the place of performance of the services. In our case, determines the place of performance place of business or registered office of the business entity. Even in this case, the transfer tax obligation occurs, i.e. the "reverse charge" from the service provider to the recipient of the service. For this reason, the companies billed the sale of goods without the burden of VAT in the Czech Republic according to § 64 of the law on VAT. In the case of the provision of the service is invoiced to companies providing the service without the burden of VAT in the Czech Republic, and this according to section 102 (2) 1 (b), d), as just mentioned in the guidelines for completing the form returns to the value added tax.

We could discuss the liberation of taxable transactions, must demonstrate to the company A the fact that the goods were actually or sent to foreign companies and
services were actually implemented. On the basis of this evidence and the Czech company a claim for exemption from sales tax. On the basis of this business transaction, the Czech company and issue the proper foreign companies tax document-invoice indicating the value of the goods sold and services provided without VAT. In our specific example, it issued invoices for delivered goods and services, when a Czech Companies accounted for as follows:

As listed in table no. 4 post invoices, the company A the company A, when posting the analytical evidence in order to determine to whom (what a foreign body) and for how much (the value of goods in CZK without VAT) on goods or services supplied. On the invoices issued by the Czech company A lists all the information such as in the case of the domestic population, only in a column for indicating the rate of VAT in the price column is 0 and the total with VAT, i.e. the price of the original without VAT, because he is entitled to an exemption. The amount of the exempted taxable transactions must Czech company A put into the proper tax declaration for value added tax as follows: on line no. 20-delivery of the goods to another Member State (section 64)-the sum of the supplies of goods-200 000,-Kčna, line 21-provision of services, the place of performance in another Member State, as defined in section 102 (2). 1(b) (d) the amount of the supply of services), a-110, 000,-CZK

Table No 5 shows the total value of supplies in CZK; under the appropriate codes agree with the amounts on the tax return in lines 20 and 21, which represent the sum of the values of performance always under the appropriate code, in this case, the code number "0" and "3". Code performance in the general report expresses what
action - what is a taxable supply. Expression is divided into four codes, where for now we need the following codes:
"0" - we provide the supply of goods to another Member State to a person who is also registered for VAT in another Member State
"3" - which we provide services at a place of performance in another Member State where it is required to declare and pay tax on the service recipient - this code began to pay 1.1.2010
All three companies B, C, and D in the tax act according to its laws on value added tax, but of course must continue to manage VI European Union Directive 77/388/EEC which is valid for all Member States. According to the guidelines set out in this Directive should be every company's purchase by its laws due to tax at the same time, however, entitled to deduct, as it is a trade between entrepreneurs - payers of value added tax in the European Union. Companies B, C and D must pay VAT, but the VAT can deduct. The invoices for goods and services, therefore, the company accounted for as follows:

Tab 6: Posting incoming invoices the individual companies

<table>
<thead>
<tr>
<th>Document</th>
<th>Accounting operations</th>
<th>Company</th>
<th>MD</th>
<th>D</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOFA</td>
<td>delivery of goods</td>
<td>B</td>
<td>131</td>
<td>321</td>
<td>tax base converted into Euros at a total value of supplies of goods</td>
</tr>
<tr>
<td>DOFA</td>
<td>VAT accounting</td>
<td>B</td>
<td>343.1</td>
<td>343.2</td>
<td>amount of VAT (20%) calculated from the tax base</td>
</tr>
<tr>
<td>DOFA</td>
<td>delivery of goods</td>
<td>C</td>
<td>131</td>
<td>321</td>
<td>tax base converted into Euros at a total value of supplies of goods</td>
</tr>
<tr>
<td>DOFA</td>
<td>VAT accounting</td>
<td>C</td>
<td>343.1</td>
<td>343.2</td>
<td>amount of VAT (19%) calculated from the tax base</td>
</tr>
<tr>
<td>DOFA</td>
<td>service delivery</td>
<td>C</td>
<td>518</td>
<td>321</td>
<td>tax base converted into Euros at a total value of service delivery</td>
</tr>
<tr>
<td>DOFA</td>
<td>VAT accounting</td>
<td>C</td>
<td>343.1</td>
<td>343.2</td>
<td>amount of VAT (19%) calculated from the tax base</td>
</tr>
<tr>
<td>DOFA</td>
<td>service delivery</td>
<td>D</td>
<td>518</td>
<td>321</td>
<td>tax base converted into Euros at a total value of service delivery</td>
</tr>
<tr>
<td>DOFA</td>
<td>VAT accounting</td>
<td>D</td>
<td>343.1</td>
<td>343.2</td>
<td>amount of VAT (19%) calculated from the tax base</td>
</tr>
</tbody>
</table>

Document: DOFA (delivered invoice)
Source: custom processing

When posting the VAT must lead for clarity, analytical company records to easily determine the amount of tax on the entry-IE. VAT settlement account debit (DEBIT), in our case, and the amount of tax to 343.1 output-IE. VAT settlement on the financial side gave (D), in our case, 343.2. When calculating the amount of VAT is a company governed by the rule that the delivery of the goods from any other VAT payer within the European Union and proceed as follows:

1. the amount of the value of the amount of goods without VAT, since it is intra-Community transactions is the invoice amount from the Czech company A without the burden of the Czech VAT-invoice issued on how we present in table 6 Posting incoming invoices the individual companies, it is in the column for the amount of VAT zero rate, and therefore the company (B), (C) and (D) have facilitated the procedure at this point
2. The company (B), (C) and (D) indicate the (who), the total value of purchased goods and services provided in the local currency of a foreign State (euro)
3. The corrected amount in euro multiplied by the appropriate rate of tax. In our case, this is the basic rate (how many, indicate the value for rates see for example.), for example in Austria and Slovakia is provided for in the basic VAT rate is 20%, in Germany on 19%.

As we can see, the process is not something complicated. To determine the total amount of goods will only post to sum the total value of the goods determined in Euros with VAT calculated value.

Summary

Changes to the amount of VAT rates (base and reduced) in those EU member countries are an important and decisive criterion, especially for consumers who paid for day-to-day purchases of goods or services the amount of VAT due in the country. The unification of VAT rates will be a specific article for the consumer goods and services cheaper, some more expensive, but ultimately the result will remain at the same level, i.e. household consumers to purchase goods and services with the same amount of funding may ultimately even more. If political leaders are not their business plans in relation to the changes in the rates of VAT for the year 2015 and 2016, the year change, it will be for all stakeholders (political leaders, business entities, but also consumers, households) a lot of confusion. The reason is the administrative-technical preparation of two novel consecutive TAX periods of 2015 and 2016, which will be in terms of the volume of the administrative burden in relation to challenging reevaluation of the accounting software with other accounting and tax acts within the meaning of the preparation and creation of accounting and tax documents for the purpose of overestimating the offered goods and services. Consumer household’s frequent changes will encourage nostalgia for the process of constant change, which can encourage stakeholders in the fallible behavior and act outwardly.

References


[5] COUNCIL DIRECTIVE 2008/117/EC on the common system of value added tax to combat tax evasion connected with intra - Community transactions


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CAPITAL ASSET PRICING MODEL AND ITS APPLICATIONS IN CORPORATE FINANCE

MODEL CIEN KAPITÁLOVÝCH AKTÍV A JEHO APLIKÁCIE V PODNIKOVÝCH FINANCIÁCH

Abstract: CAPM has become the prevalent statistical tool in corporate finance. It is a powerful technique in determination of equity costs within business valuation process. In our paper we briefly describe the literature on the CAPM and general index model specifying risk premium and equity costs determination. However the published literature suggests that while the CAPM is still popular with the professional practice, its effectiveness for risk premium determination is limited. So in the next part we provide an augmented approach to the traditional CAPM form. To illustrate applicability of the model we employ this augmented concept by incorporating only unexpected changes in the autoregressive time series models in a specified company. In the final part we discuss achieved results and their possible applicability in equity risk premium determination. Distribution fitting and simulation techniques have been also used to provide more viable results of equity costs.

Key words: Equity Risk Premium, Capital Asset Pricing Model, Time-Varying Beta, Cost of Equity.

JEL: C51, C52, G12 G32

The work was supported by the Ministry of Education of the Slovak Republic under grant VEGA No. 1/0799/13.

Introduction

Capital asset pricing models are used to forecast the expected return and risk of a set of investments. Expected return is usually used in the determination of Equity Costs that is the key element of any discounted cash flow or residual income model in business valuation or capital asset valuation. The theoretical emphasis usually focuses on Capital Asset Pricing Model, Arbitrage Pricing Theory or some other modification of these basic concepts. These concepts are also ubiquitous in expert papers or analysts’ reports. Cost of equity is directly linked to expected return of a capital investment because it describes the financial expectation from the stockholders’ perspective.

In a valuation estimating fair market value, the discount rate is a market-driven rate Kisela et al. (2014). In common it represents the expected yield rate necessary to commit available funds to the subject investment, given its level of risk. Usually the discount rate, or the rate of return that investor require, incorporates elements like a risk free rate, that includes a rental rate and expected rate of inflation, and a
premium for risk. The equity risk premium is a premium over and above the risk-free return, whereby investors must expect some additional return to induce them to invest in non-treasury bonds, equities or in similar securities. When net cash flow to equity is measured to convert it to present value, the above mentioned capital asset pricing model is applicable.

The capital asset pricing model is part of a larger body of economic theory known as capital market theory. The capital asset pricing model is a conceptual cornerstone of modern capital market theory. As Užík and Šoltés (2009) mentioned, its relevance to business valuation consists in it that businesses and business interests are a subset of the investment opportunities available in the total capital market.

The paper is organized as follows: in the first part of the paper briefly describes the literature on the CAPM or generally index model for risk premium and equity costs determination; draws on the larger literature related to index model from the risk premium point of view. Our review of the published literature suggests that while the CAPM is still popular with the professional practice, its effectiveness for risk premium determination is limited. The second part shortly describes the applicability of the time-varying CAPM as an augmented approach to the traditional CAPM. In the third part we employ this augmented concept incorporation only unexpected changes in the autoregressive time series models in a specific company. In the final part we discuss achieved results and their possible applicability in equity risk premium determination within Monte Carlo simulation framework.

**CAPM and equity premium**

Basic element of capital asset pricing was developed historically by economist Markowitz (1952) and early extended by Tobin adding the risk-free rate in the theory. The theory of portfolio was expanded by Sharpe, Lintner and Mossin to develop the capital asset pricing model based on the additional risk assumed over the return from a risk-free rate investment.

First time the time-varying capital asset pricing model was used within the methodology established by Harvey (1991), which has enabled to apply time-varying capital asset pricing model to assess country risk level. He introduced a fundamental beta model based on the capital asset pricing model. Harvey and Zhou (1993) proofed and confirmed the efficiency of using the international asset pricing formula in examining risk at the country level.

Later some other authors had been focusing on same topic, like Erb et al. (1996), Gangemi et al. (2000), or Verma and Soydemir (2006). Time-varying variant of the CAPM for the determination of systematic risk of a stock has been also used in Glova (2013). An analysis of company level with scorecard techniques is described in detail in Gavurová (2011, 2012), Gavurová et al. (2014) or in Vajda et al. (2009).

In this part of the paper we shortly discuss the company risk term and its relationship with the capital asset pricing methodology. As already mentioned in the introductory part of the paper the CAPM is a conceptual cornerstone of capital market theory. The model itself was introduced in 1970s, whereby according to the theory risk is being divided into two components: systematic and unsystematic risk. Systematic means risk is the uncertainty of future returns resulting from the
sensitivity of the return on the investment to movements in the return on the investment market as a whole. Specifically the fundamental assumption of the CAPM is that the risk premium is a function of security’s systematic risk. The relationship between an investment’s return and market’s return is illustrated in the next equation:

$$R_i = R_f + (R_{m} - R_f)\beta_i$$

(1)

The CAPM is useful in measuring expected stock or portfolio return($R_i$), when three core factors are determined: risk-free rate, market risk premium and above specified Beta or systematic risk. There are three reasonable alternatives for estimating the risk-free rate using governmental securities: the rate for Treasury bills, the rate for ten-year Treasury bonds or the rate for thirty-year Treasury bonds. We know that the risk of a firm should be determined by some combination of the firm’s fundamentals and the market characteristics of the firm’s stock. Beaver, Kettler, and Scholes (1970) attempted to relate systematic risk to fundamental firm variables. They developed fundamental beta through incorporating the effects of relevant fundamental variables simultaneously into analysis via multiple regression analysis as is illustrated with the next equation

$$\beta_i = \beta_0 + \sum_{j=1}^{n} \beta_{ji} y_{j,t} + \epsilon_i$$

(2)

Data and methodology
In our analysis the beta coefficient of Dell Inc. in 52 time periods (from Q1/2001 till Q4/2013) have been estimated. At the beginning we started with twenty four variables in the time-varying CAPM model: stock returns of Apple Inc. (f1), consumer price index in USA except of health care services (f2), values of companies’ earnings in the production sector (f3), short 6-month interest rate in Eurodollars (f4), effective interest rate of federal funds (f5), total fixed investment of private sector in USA (f6), GDP in U.S. in current prices (f7), percentual change in GDP in U.S. (f8), import and export price index (f9), inflation rate in U.S. (f10), total net export in USA (f11), net export of goods and services with China (f12), monetary aggregate M1 (f13), monetary aggregate M2 (f14), employment in manufactory sector (f15), purchasing manager index – manufacturing (f16), producer price index (f17), percentual change in work productivity (f18), public debt of U.S. government (f19), market return on 10-year T-bonds (f20), market return on 6-month T-bill (f21), U.S. state budget deficit (f22), unemployment rate in U.S. (f23), and USD/Euro exchange rates.

packages “car”, “fBasics”, “forecast” and “lmtest”, has been used for providing all necessary computation and illustration.

We employ the aforementioned fundamental Beta approach rearranging it from the previous model (2) to the time series model where the excess return of a company \((n_{it} - n_{mt})\) is explained through the excess return of market \((n_{it} - n_{kt})\)

\[
(n_{it} - n_{kt}) = \alpha_t + \beta_{it}(n_{it} - n_{mt}) + \epsilon_{it}.
\]  

We applied the Gangemi et al. (2000) definition by considering only unexpected or unanticipated reaction in the particular variables. We estimated the unanticipated components as the residuals from ARIMA models fitted to analysed data. Applying the fundamental beta concept we can illustrate a time-varying model using the equation (4) as follows

\[
\delta_{it} = \beta_{it} + \sum_{j=2}^{n} \beta_{jt}\delta_{jt} + \epsilon_{it},
\]  

where all variables are defined as their unanticipated components. Rearranging and substituting the equation (4) into equation (3) we can specific time-varying beta market model of a selected company through

\[
(n_{it} - n_{kt}) = \alpha_t + \beta_{it} + \sum_{j=2}^{n} \beta_{jt}\delta_{jt} + \epsilon_{it}.
\]

Model estimation and diagnostics

To estimate the unanticipated components of our twenty four independent variables we fit appropriate ARIMA model. But usual case is that the financial time series are non-stationary, so we are applying the appropriate statistical test to determine the stationarity. Two different unit root tests have been used - augmented Dickey-Fuller (ADF) test and Phillips-Perron test. In regard to very low power to discriminate between alternative hypotheses (especially when the data have jumps and structural breaks) of ADF test we use less restrictive assumptions on the errors in the form of the Phillips-Perron tests, which are generally favored for financial data analysis.

The next step in analysis is to specify the appropriate model. In our research we use a tool to estimate the valid and reliable model using the forecast package of software R – auto.arima, developed and described by Hyndman and Khandakar (2008). So we have fixed the order of differentiation with the tool and detected several appropriate models for each variable. Thereafter the model diagnostic has been used to inspect the model adequacy, i.e. we inspected plots of the residuals over time, we used QQ (quantile-quantile) plots for assessing normality of residuals, and we proofed the independence of the noise terms in the model. We have fitted the most appropriate model for each of the relevant variables using this methodology for time series analysis.
In accordance with the equation (5) we obtain new time series explanatory variables, which are created by the market excess returns and residuals from fitted ARIMA models. We use these new variables for model specification and parameters estimation of the multiple linear regressions as denoted in the equation (5). A potential problem with multiple linear regressions is that explanatory variables may have a high degree of correlation between themselves – multicollinearity. We used variance inflation factor or VIF to detect the presence of potential multicollinearity. If necessary we have dropped the least significant of the collinear variables until multicollinearity was no longer a problem. The next step in multiple linear regression analysis was diagnostic of the residuals, where the assumptions of normality, autocorrelation and heteroscedasticity have been inspected. We employed Durbin-Watson (DW) test for autocorrelation, Breusch-Pagan (PB) test for heteroscedasticity detection, and Jarque-Bera (JB) test for the normality of the residuals. The most reliable model has been estimated after providing the analysis and diagnostic; see the following equations for the CAPM (6) and fundamental beta (7)

\[
R_{it} - R_f = \beta_{0,\text{Betas}} (R_{m} - R_f) + \beta_1 \sigma_{t} \sigma_{m} + \epsilon_t
\]  
(6)

\[
\beta_{it} = \beta_{0,\text{Betas}} + \sum_{j \neq t} \beta_{jt} \epsilon_{j}\epsilon_{t} + \epsilon_{it} = \beta_{0,\text{Betas}} + \beta_{1,\text{Betas}} \epsilon_{t} + \epsilon_{it}
\]  
(7)

The parameters and summary results of the model with market return on 6-month T-bill (f21) as a variable are visualized in Table 1. In the table we see the high influence of short term return on U.S. government T-bills on excess return of stock market index. The other variables haven’t passed our test and haven’t been considered in the final model.

**Tab 1 Estimated coefficients of the final and their summary statistics.**

| Estimate | Std. Error | t value | Pr(>|t|) |
|----------|------------|---------|---------|
| er_sp    | 1.2791     | 0.2788  | 4.588   |
|          | 3.03e-05   | ***     |         |
| f21      | -1.7339    | 0.6644  | -2.610  |
|          | 0.0119     | *       |         |

Residual standard error: 0.1398 on 50 degrees of freedom
Multiple R-squared: 0.4888
Adjusted R-squared: 0.4684
F-statistic: 23.91 on 2 and 50 DF,
p-value: 5.175e-08
Results

As the next step of our analysis we calculated time-varying fundamental Betas for Dell Inc. described in Table 2. Examining results as visualized in Figure 1, there is visible a slight vulnerability of the estimated beta coefficient during the analyzed time period. If we consider the market prices as the results of generated by a random process, we will get the best modeling results possible by accurately describing that process.

Tab 2 Descriptive statistics of the estimated beta coefficients of Dell Inc.

<table>
<thead>
<tr>
<th>Value</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1.322350</td>
</tr>
<tr>
<td>Median</td>
<td>1.236200</td>
</tr>
<tr>
<td>Maximum</td>
<td>3.419019</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.143967</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.560500</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.260453</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>3.085614</td>
</tr>
<tr>
<td>Count</td>
<td>52</td>
</tr>
</tbody>
</table>

Once the beta coefficient had been estimated we can fit distributions to data and use it for simulation purpose. We applied BestFit tool in @Risk package provided by Palisade Inc. and estimated the Risk Log Logistic distribution as the most appropriate distribution regarding specific statistic indicator and the nature of data. Using CAPM model we can estimate expected rate of return or so called equity costs of Dell Inc. as illustrated in Figure 2.
Simulation or Monte Carlo simulation allows us to have a range of possible outcomes and the probabilities that occur for any choice of action. So we can illustrate all possible consequences for Equity cost determination. In @Risk tool the Monte Carlo simulation with 10,000 iterations has been applied. Detailed statistics of the result is summarized in Table 3 and visualized in above mentioned Figure 2 (right).

Tab 3 Simulated Equity Cost of Dell Inc. - descriptive statistics. Source: own calculation.

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>10.74%</td>
</tr>
<tr>
<td>St. deviation</td>
<td>3.40%</td>
</tr>
<tr>
<td>Variance</td>
<td>0.001154031</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.081879632</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>6.557124606</td>
</tr>
<tr>
<td>Median</td>
<td>10.38%</td>
</tr>
<tr>
<td>Mode</td>
<td>9.78%</td>
</tr>
<tr>
<td>Minimum</td>
<td>1.25%</td>
</tr>
<tr>
<td>Maximum</td>
<td>32.89%</td>
</tr>
</tbody>
</table>

**Conclusion**

Capital asset pricing models and their applications are an important issue in the area of financial investment and financial management. This paper deals with the theoretical and practical definition and overview of previous research in area of determination of the cost of equity. This area is closely connected with the capital market perspective, as the determination of the volatility and correlation structure of returns is crucial for defining the expected return on equity holders in the company. In the analytical part of the paper we apply selected factor models.
in systematic risk analysis of Dell Inc. We demonstrated the applicability of CAPM models in the definition of the expected rate of return and cost of capital within the time-varying CAPM framework.

References


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TAX OPTIMALIZATION FOR STATES OF EUROPEAN UNION

DAŇOVÁ OPTIMALIZÁCIA ŠTÁTOV EURÓPSKEJ ÚNIE

Abstract: This paper presents tax heaven as instrument of tax optimization. In praxis are used offshore financial center through the firms decrease their tax burden. Tax optimization consist in minimization of tax burden and to search the legal instrument of tax law how to obtain minimal taxes.

Key words: taxes, tax evasions, tax heaven, taxes optimalization, taxes planning

JEL: H25

Introduction

Financial specialists define international tax planning as taxonomic analysis and utilization of various instruments that they assist to decreasing of global tax liability in actual period or in the future years. Tax optimalization is complex of tax effects, legal tax instruments how to minimize tax obligation. The aim of this paper is to show at possibilities of using Tax havens and tax optimalization by „offshore „companies. With tax planning and tax optimalization is connecting tax speculation. Potential risks of economy are inaccurate regulations that are in tax havens. The magazine Trend cited R. Ricol: „Often is problem in fast money from corruption and criminal activity. In offshore tax havens is a lot of milliard. “[3]

Tax Havens

In the tax havens are using preferential tax treatment. Actual economy offers these models of tax allowance:
- individual tax allowance for strategically investors,
- tax allowance for holding,
- tax allowance for companies that use territorial principle of tax,
- tax allowance in application reduced tax rate (Netherlands Antilles’, Cyprus, Hungary),
- tax allowance of flat rate ( Seychelles’, British Virgin Islands),
- tax allowance for countries without tax (Bahamas’ Island, Anguilla, Cayman Islands).

In international tax planning are four general parties of countries:
- landscapes bidder individual tax advantages,
- Advanced landscapes with high tax load, though with offer tax allowance for holding (for example member countries of European Union how Belgium, France, Denmark, Austria, G.B.),
- advanced landscapes susceptible creation tax deliverance terminal (Hong Kong, Panama, Jersey and Guernsey),
- Modal tax paradise – “off-shore”.

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**Offshore strategy**

Offshore strategy involves legal and completely legitimately utilizing liberality legal and tax jurisdiction of the third countries. Application offshore policy brings these advantages:

- Tax advantages,
- Discretion and anonymity,
- Protection of assets.

Adam Starchild defines in their publication “Tax Haven Report”, word: tax heaven as „ country, that legislation, tradition stipulation makes possible decreasing of the total load". [5]

Tax heaven and offshore locality are not identifying. Difference between them exists and Barry Engel, expert of this area explains in this manner: „ Planning of international operations, protection of property, globally investment, acceleration and simplification of international commercial transactions are activities that were known as tax havens and now are known as offshore financial center “. [5,7]

Difference between tax havens and offshore financial centers exists. Tax Heaven abets bigger tax benefits for investors. In offshore financial centers are consider only landscapes, those offer competitive advantages for foreign investors. It isn't possible non-to detail most distinguished doings self-regulation of offshore financial centers and together very important documents for financial centers that are very influence this self-regulation. Documents:

- Publication “Edward news” about offshore sectors on Jersey, on Guernsey and on Island Man in year 1998,
- cancellation companies in Island Man in year 1999,
- cancellation Irish companies in year 1999,
- Publication of excellence essays of OSN “Financial havens, bank secret and laundering money” in year 1998,
- issue list processing OECD in 2000, that includes document 50 countries, that are by OECD they have not sufficient legislative in area of laundering money,
- issue list processing FATF (Financial Action Task Force) in year 2000 for 15 countries, that are they have not sufficient legislative in area of laundering money.[4,6]
**Offshore companies**

Offshore companies we can divide into several groups. Offshore companies foundation by special law, tax free companies. Majority offshore centers abets foundation offshore companies different from those, by those oneself tax companies indoor, then companies make business on territory given of the state. Those offshore companies call international companies (International Companies) or international commercial companies (International Business Companies, IBC), companies foundation by general law about companies.

The main advantage of using of offshore companies is tax free of incomes or expressive tax advantages. Between most distinguished belong: tax-exemption of dividends, exemption from VAT, tax holidays, investment reliefs, minimal control sidelong of office or governments, liberal immigrate legislative, existence of bargain about preclusion double taxing, existence of foreign trade zone and no dutiable zone, security mentioned advantages in time of changes in legislative.

**Conclusion**

Organization for economic co-operation and development (OECD) marks 41 countries and dependent territory how tax heaven. OECD definite their following four criterion: inconsiderable or never tax laws, absence transparency in tax business, absence dating altering with others country and loathsomeness for businesses with fictional activity. Some countries oneself event after negotiations with OECD, which oneself bent coordination economic politics between main industrial state, on steps for improvement transparency. Andorra, Monaco and with tax scandal declension Lichtenstein do not reline information. 38 countries are obligated with OECD, that provide for transparency and exchange of data. The main of this access of OECD is to battle against laundering money.

**References**

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The textbook titled „Introduction to coaching as a modern method of education in management“ introduces to the readers coaching as a tool for linking the approaches to employees. For managers, acquiring these coaching skills may represent enrichment of their managerial competences towards inspirational leadership. To acquire the basic coaching skills is the first step towards transformation from „management“ to true „leadership“ of people.

The mission of coaching is to help with development. If a coach helps with the development of the coachee as well as himself or herself, then the current more advanced and more powerful coaching becomes a result of the coaching process which helps one as well as others in development. Naturality of the coaching approach lies in its connection to the latest findings in psychology, personality development, neuroscience, and is further enriched by new pieces of knowledge so that it approaches people as closely as possible. It builds on the sources which every organization has available and which are crucial.

The proposed textbook offers a brief overview of the goals, attitudes, principles, tools, methods and forms of coaching with their application in management. It describes the possible uses of coaching and its principles in management and offers practical tasks for their practice. It is designed primarily for management students, but it may be also applied in the courses and trainings for managers.

The text is presented very clearly, factually and comprehensibly. The linguistics is at a good level. It takes into account the current state and needs in this area. The book will be appreciated not only by the professional public and students, but it will be also welcomed by other professionals in the area of related studies. It is the first output of the conducted science and research grant project KEGA No. 028PU-4/2014: Základy koučovania v manažmente – inovácia obsahu a spôsobu výučby predmetu, vysokoškolská učebnica a metodické texty [Essentials of coaching in management – innovation of the content and form of teaching of the subject, a university textbook and methodological texts].

doc. PhDr. Miroslav Frankovský, CSc.
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Author's address

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