Reviewers’s Diploma Thesis Assessment

Title: Application of the Real Option Methods in Baidu Company Valuation

Student: Bc. Junyan Guo

Diploma thesis of the student Bc. Junyan Guo concentrates on the application of the real option approach in company valuation. This approach enables to quantify the value of future opportunities, which are modelled as call and put options and should be incorporated into total assets value. It is possible to state that the topic and the level of difficulty of the diploma thesis correspond to requirements on the diploma thesis of graduated of master degree students at the Finance department at VSB-TU of Ostrava.

The goal of the diploma thesis (as declared in the introduction) is to apply the real option method in company valuation. As it is apparent from the results and procedure, the goal was fulfilled.

In accordance with the diploma thesis assignment, the diploma thesis is divided into five chapters, where chapter two is theoretical part; chapter three and four represents the application.

Second chapter concentrates primarily on the description of the real options valuation. The main idea, analogy with financial options and real options classification is described here. At the end of the chapter, analytical (B-S) model and discrete (binomial) is described; necessary mathematical apparatus is derived as well.

The chapter three is devoted to economic and financial characteristics of Baidu Company, a company whose equity is being valued. Moreover, author performs here common-size analysis and financial ratio analysis.

The most important part of the diploma thesis is the chapter fourth.

Here the author applies the real option method to company equity valuation. For solution, discrete binomial model is employed. There are two real options (future opportunities) assumed: expand and contract; in addition, multinomial real options (portfolio consisting of both options) are assumed as well. Author performs the impact of the flexibility on company value by assuming four different scenarios with different expansion and contraction rates over observed horizon. Results of each variant are summarized in the table 4.8, 4.9 and 4.10 and are commented in an appropriate manner. It is obvious from the results that under risk and flexibility, the future management’s actions can have significant impact on the company value and should be in the valuation process always considered.

Question for defence

1. Are there any limitations for using the real option method? (or alternatively, state some assumptions required for its application)?

2. Can the flexibility value (option price) be zero even though you assume some real options in the calculation?
Overall summary

On the basis of procedure and the results it is obvious that the main objective of the diploma thesis was fulfilled. The author of the thesis proved to be able to solve given financial issue, which is the main assumption for the recommendation of the diploma thesis for defence.

Ostrava, 15th May 2015

Ing. Miroslav Čulík, Ph.D.

diploma thesis reviewer