

REFEREE'S REVIEW

Program:	MCF
Student:	Igor V. Buryak
Title of thesis:	Empirical study of CAPM and D-CAPM in Russia and in the USA

Justification of the topic choice. Accuracy in defining the aim and objectives of the thesis. Justification of the topic choice; accuracy in defining the aim and tasks of the thesis; originality of the topic and the extent to which it was covered; alignment of the thesis' topic, aim and objectives.	5			
Structure and logic of the text flow. Logic of research; full scope of the thesis; alignment of thesis' structural parts, i.e. theoretical and empirical parts.	5			
Quality of analytical approach and quality of offered solution to the research objectives. Adequacy of objectives coverage; ability to formulate and convey the research problem; ability to offer options for its solution; application of the latest trends in relevant research are for the set objectives.		4		
Quality of data gathering and description. Quality of selecting research tools and methods; data validity adequacy; adequacy of used data for chosen research tools and methods; completeness and relevance of the list of references.		4		
Scientific aspect of the thesis. Independent scientific thinking in solving the set problem/objectives; the extent to which the student contributed to selecting and justifying the research model (conceptual and/or quantitative), developing methodology/approach to set objectives.		4		
Practical/applied nature of research. Extent to which the theoretical background is related to the international or Russian managerial practice; development of applied recommendations; justification and interpretation of the empirical/applied results.	5			
Quality of thesis layout. Layout fulfils the requirements of the Regulations for master thesis preparation and defense, correct layout of tables, figures, references.		4		

Each item above is evaluated on the following scale, as applicable: 5 = excellent, 4 = good, 3 = satisfactory, 2 = poor .

Additional comments:

It is well-known, that development and use of the CAPM model for the required rate of return estimation is adequate, if the following assumptions are valid: the returns distribution is symmetric with respect to the average, and the distribution of returns doesn't have "thick tails". If those assumptions are not valid, it is recommended to use models with revised parameters. One of those models, recommended to use in case, if the returns distribution is not symmetric, is a model D-CAPM. For parameters estimation in this model semivariance is used as a measure of dispersion of returns values, that are below average. The use of these models as suggested by studies Estrada (2000, 2002, 2003, 2007), is especially relevant for emerging markets. Therefore the topic of the I. Buriak's thesis is relevant. The main goal of his empirical research was to compare applicability of models CAPM and D-CAPM for USA and Russia. Being based on methodology used in studies by Estrada (2002,2003), (Bukhvalov and Okulov 2006b), (Bukhvalov et al. 2010), the author conducted his own research. This study has its strong aspects like a good literature review on the topic, clear and logical exposition, and attempt to conduct a study using statistical and econometric methods. One of the positive sides of the thesis, from the reviewer perspective, is competent and justified approach to the data used: frequency of returns calculation, choice of the risk-free rate. Section 2.5 is of a very good quality (The use of the downside beta for investment decision making in companies). I.V. Buriak considered the situation on how approaches to the cost of equity estimation affect the investments evaluation. Reviewer shares the author's point of view that models used for various financial decisions should be adjusted to those current conditions in which companies operate.

A number of critical remarks should be emphasized:

1. From the reviewer's point of view, a literature review is not sufficient in terms of the most recent empirical studies, related to the D CAPM application. Besides that, the author mentions only the report by S. Cheremushkin in his critics of the model. But there is a number of more recent publications, that cast a doubt on the applicability of D CAPM, based on their studies on various markets. The thesis could get a credit for the detailed discussion of this model's critics.
2. With regard to the empirical part – the reviewer did not find either in the body of the thesis or in appendices information about the following:
 - 2.1) what number of observations was obtained for each company during the whole period, as well as on periods before and after the crisis? The author mentions only the period of observations.
 - 2.2.) which size of sample was used to find estimations for the coefficient of skewness and kurtosis (tables 4-7)?

3. Despite that estimations of the average values of coefficients of skewness and kurtosis differ from zero (tables 4-7), it was necessary to test hypotheses on significant difference from zero of respective theoretical characteristics. It is even more so, given the fact, that in other parts of his paper the author demonstrates competently the technique of hypotheses testing.

4. Which formulas did the author use in his estimation of kurtosis? What statistical software did the author use for calculations?

5. In papers by Teplova T. and Javier Estrada, referred to by the student, authors conduct parameters estimation on cross-sectional data. As far as reviewer understood, I.V. Buriak used time-series of stock and index returns for the traditional beta and downside beta estimation. Is it true? If it is, did the student test time-series on stationarity? Cointegration? Did the author make a test on autocorrelation?

5. From the reviewer's point of view, in the model equation, as well as in the description of the variable y_i it should be the index i meaning that instead of $y_t = \text{Min}(R_{it}; 0) \quad y_t = \beta_d x_t + \varepsilon_t$, it is necessary to write the following: $y_{it} = \text{Min}(R_{it}; 0) \quad y_{it} = \beta_{di} x_{it} + \varepsilon_{it}$. In his description of other equations the author is correct.

Master thesis of Igor Buriak meets the requirements of the MCF program, and deserve good grade, thus the author can be given the desired degree.

Irina V. Berezinets

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