

SCIENTIFIC ADVISOR'S REFERENCE

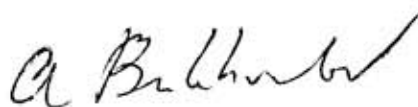
Program:	Master in Corporate Finance
Student:	Taras Kladchenko
Title of thesis:	DECISION MAKING UNDER UNCERTAINTY IN THE UPSTREAM PETROLEUM SECTOR: GAZPROM NEFT CASE

<p>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.</p> <p>Topic of flexible managerial decisions in the oil industry is extremely important practically and widely discussed academically. The author starts from seminal Dixit&Pindyck model (1994) for a copper mine and tries to apply it petroleum production. Taking into account transactions costs the hurdle prices of oil for conservation and re-conservation should be determined.</p>
<p>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.</p> <p>Thesis has appeared only on the date of submission so alignment of its structural parts is ill. The major drawback is lack of not only of justification of the approach but also of understandable description of methodology. VBA code is never considered as a substitute for paper and model.</p>
<p>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.</p> <p>Theoretical formulation of basic Dixit&Pindyck model is provided in Chapter 1. Author tries to develop another type of model more appropriate for oil. The model is discrete (CRR based) rather than continuous as in Dixit&Pindyck. Author uses classic dynamic programming model with backward reduction utilization. This is good. Unfortunately, in contrast to Dixit&Pindyck, optimization criterion has not been formulated in understandable form. Author uses also simulation techniques to generate trajectories for numerous scenarios. So, it is not an easy problem to program. Nevertheless, lack of theoretical explanations in the thesis makes this part likely in principle but not verifiable in details.</p>
<p>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.</p> <p>The author has found from his company (Gazpromneft) important information on oil-specific transaction costs.</p>
<p>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.</p> <p>The use of CRR model with one year step does not correspond to daily volatility of oil prices. So this part suffers of systematic error introduces by not appropriate model specification. Of course, correct approach would require much more sophisticated programming. My experience shows that Matlab calculations in appropriate setting demand more than 24 hours on mainframe.</p>
<p>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.</p> <p>If the results were successfully completed they would have high practical importance for large petroleum companies with long term licenses.</p>
<p>Quality of thesis layout. Layout fulfils the requirements of the Regulations for master thesis preparation and defence, correct layout of tables, figures, references.</p> <p>Layout is good.</p>

The Master thesis of Taras Kladchenko meets the requirements for master thesis of MCF program thus the author of the thesis can be awarded the required degree.

Date: June 13, 2015

Scientific Advisor: Professor Alexander Bukhvalov

A handwritten signature in black ink, appearing to read "A. Bukhvalov". The signature is written in a cursive style with a large, sweeping flourish at the end.