REFEREE'S REVIEW

Program:	Master in Corporate Finance
Student:	Taras Kladchenko
Title of thesis:	Decision making under uncertainty in the upstream petroleum sector: Gazprom Neft case

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	**4**	3	2
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	**4**	3	2
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.	5	4	**3**	2
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.	5	4	**3**	2
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.	5	4	**3**	2
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	4	**3**	2
Quality of thesis layout. Layout fulfils the requirements of the Regulations for master thesis preparation and defense, correct layout of tables, figures, references.	5	4	**3**	2

Each item above is evaluated on the following scale, as applicable: 5 = the thesis meets all the requirements, 4 = the thesis meets almost all the requirements, 3 = a lot of the requirements are not met in the thesis, 2 = the thesis does not meet the requirements.

Additional comments:

The thesis under review examines how oil production projects may be valued taking into account real options embedded in them.

First chapter of the thesis offers a review of existing research on oil prices modelling as well as real options valuation methodologies already developed in different studies. Being rather brief, it describes basic approaches to the problem and offers proper description of models themselves leaving aside how technological issues crucial to the industry are embedded in them (if at all).

Second chapter is designed to justify the model implemented in the research and outline data used in it. With the first objective being fulfilled, the second remains unclear: it is unclear what data was used to produce results in the next chapter (for example, how costs are calculated when deriving NPV).

Case study offered in Chapter 3 starts with description of Russian oil and gas industry which in many aspects is irrelevant to the research. At the same time it lacks information on technical and legal issues crucial to specifics of real options examined further and assumptions of subsequent study (i.e. how technically well mothballing is realized, how long it takes, what are the differences in short-term and long-term mothballing; what are legal requirements to stop production on oil field after production documents are approved by respective government bodies, what needs to be done to actually stop production on an oil field already on development stage from legal point of view). This information is crucial for further analysis, as being accounted for it invalidates some of the assumptions concerning timing between making a decision to use an option to mothball and actual production stop.

It is also crucial for a specific project examined in the study, that its resources consist of not only oil, but also gas and gas condensate, with the latter being a valuable and expensive commodity with a separate market, technology and price patterns. However the research examines oil issues only, fully ignoring condensate and not even mentioning it in further research suggestions.

Further implementation of the model is represented by assumptions used to produce the result, and research results themselves. Some assumptions are very simplistic in nature (10% annual discount rate for all 20 year time span, no time lag between decision and its implementation, renewability of oil and gas as mineral resources, etc.)and require either a thorough justification or discussion how more realistic assumptions would influence the output.

Overall the research presented in the study lacks deep discussion of industry specifics and is too generalized to properly incorporate case-related issues.

The layout of the thesis is rather careless, but generally meets requirements of the Regulations for master thesis preparation and defense. More accuracy in sentences structuring and industry-specific terms utilization is strongly advisable, since meaning of certain sentences is unclear.

Master thesis of Taras Kladchenko meets the requirements of Master of Corporate Finance program, and according to the reviewer's opinion deserves a "satisfactory" grade, (ECTS grade is E) thus the author can be given the desired degree.

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