

# Report on Bachelor / Master Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague

<b>Student:</b>	<b>Jakub Kourilek</b>
<b>Advisor:</b>	<b>Karel Janda</b>
<b>Title of the thesis:</b>	<b>Does the Shale Gas Revolution Mean the End of Biofuels?</b>

## **OVERALL ASSESSMENT** *(provided in English, Czech, or Slovak):*

The thesis is composed from two related parts. First part is the description of the current situation in the area of the economics of biofuels and related fossil fuels, especially shale gas. Second part is dealing with econometric analysis based on Kristoufek, Janda and Zilberman (2014) article (see item 4 in the list of references of this Bachelor Thesis).

The first descriptive part is clearly related to the second econometric part since it provides necessary description of biofuels and related commodities, description of institutional and market developments etc. However these two parts of the Bachelor Thesis are not really well connected. The Thesis reads more like two closely related papers than a monograph with two principal chapters.

This final version of the Bachelor Thesis incorporated most of my earlier remarks and concerns and it improved significantly as compared to previous drafts. However some references are still rather dated. For example the World Watch Institute (2011) figures on EU market shares on biodiesel market are old – they do not reflect the recent development of biodiesel in USA.

Some statements, description, conclusions are too general or not substantiated enough for specialist reader. For example to say on page 4 that Brazil has 27.5% mandate on the use of bioethanol is oversimplification since this required mix fluctuates (sometime quite significantly) yearly in response to sugar cane harvest and similar factors influencing relative price of sugar cane used for biofuels production with respect to sugar and other commodities. Similarly, on p. 6, the most recent development of EU institutional framework relevant to biofuels is described – but this is sometimes too brief, not sufficiently explained – see for example “ indicative target 0.5%” on p.6. 0.5% of what?

The Thesis correctly characterizes regulation uncertainty (p. 7) as the major obstacle of further investments into biofuels and of the development of biofuels sector in general.

Stylistically, the paper could be written better. 15 points, which I give for Manuscript Form in this evaluation is rather generous evaluation.

The thesis is working with appropriate literature – recent articles in relevant energy journals, working papers, specialized books and booklets. The literature is rather focused on institutional and policy relevant official documents, it is not as much related to academic literature. While the entries to the List of References are now

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well formatted and carefully written, I would prefer to order them alphabetically. Currently used ordering is not the usual one for the economic writings. The level of econometric analysis is appropriate for IES bachelor thesis.

The econometric analysis of biodiesel is interesting since biodiesel receives much less attention in the world literature than ethanol (both due to data availability and US agriculture policy relevance of ethanol). Also the data in the current version of the Thesis are covering a recent and policy interesting period April 2009 – January 2015. Therefore the data cover both so called food crisis of 2011 and the rather surprising decrease of prices of oil and agricultural commodities in the second half of 2014. It would be nice if during the defence the student could elaborate more on the policy relevance of his econometric results and to connect them more with market development, especially already mentioned events in 2011 and 2014.

The connection of biodiesels and natural gas, used in the econometric part of the paper is rather novel – it is not a usual variable used in these analyses (well, maybe its low statistical significance obtained in the previous version of this Thesis, dealing with earlier data, has something to suggest why natural gas prices were not used in this type of analysis before). The connection of biofuels and natural gas is well fitting with the overall theme of this thesis (Shale Gas Revolution and Biofuels). However this interesting topic is not really sufficiently analysed and commented in this Thesis – this would need a lot of additional background work, leading maybe to interesting original results.

The analytical part is using techniques and modelling approach from Kristoufek, Janda and Zilberman (2014) article (see item 4 in the list of references of this Bachelor Thesis). There is nothing new in the analytical approaches used, but the techniques used are used appropriately and well documented. Sometimes they are described in too much detail. Section 3.4.1 contains rather too long and too detailed description of Prais-Winsten transformation. It is a standard econometric technique, nothing new here. While this level of description would not be appropriate for a journal article, it is tolerable in Bachelor thesis. It would be probably better to place such detailed description of standard econometric technique into an Appendix. Similarly for 2SLS in section 3.4.2. Similarly for detailed description of D-W test in section 3.4.3.

If the student spends so much space on describing standard econometric methods then he should be more precise on p. 26, when he writes “The model meets assumptions.” Which assumptions?

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During the defense the student could explain how does it come that in Brazil only half of total fleet are flexible fuel vehicles and at the same time there is 27.5% mandatory mixing (see p. 4).

As a conclusion, I recommend this thesis for the defense and I recommend the grade Excellent (grade 1) conditional on the results of final defense and opinion of the defense committee.

## **SUMMARY OF POINTS AWARDED** (for details, see below):

<b>CATEGORY</b>	<b>POINTS</b>
<i>Literature</i> (max. 20 points)	19
<i>Methods</i> (max. 30 points)	27
<i>Contribution</i> (max. 30 points)	20
<i>Manuscript Form</i> (max. 20 points)	15
<b>TOTAL POINTS</b> (max. 100 points)	<b>81</b>
<b>GRADE</b> (1 – 2 – 3 – 4)	<b>1</b>

**NAME OF THE REFEREE:** *Karel Janda (the advisor for this thesis)*

**DATE OF EVALUATION:** *May 28, 2015*

*Karel Janda*

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**Referee Signature**

**EXPLANATION OF CATEGORIES AND SCALE:**

**LITERATURE REVIEW:** *The thesis demonstrates author's full understanding and command of recent literature. The author quotes relevant literature in a proper way.*

Strong            Average            Weak  
20                10                0

**METHODS:** *The tools used are relevant to the research question being investigated, and adequate to the author's level of studies. The thesis topic is comprehensively analyzed.*

Strong            Average            Weak  
30                15                0

**CONTRIBUTION:** *The author presents original ideas on the topic demonstrating critical thinking and ability to draw conclusions based on the knowledge of relevant theory and empirics. There is a distinct value added of the thesis.*

Strong            Average            Weak  
30                15                0

**MANUSCRIPT FORM:** *The thesis is well structured. The student uses appropriate language and style, including academic format for graphs and tables. The text effectively refers to graphs and tables and disposes with a complete bibliography.*

Strong            Average            Weak  
20                10                0

**Overall grading:**

TOTAL POINTS	GRADE		
81 – 100	<b>1</b>	= excellent	= výborně
61 – 80	<b>2</b>	= good	= velmi dobře
41 – 60	<b>3</b>	= satisfactory	= dobře
0 – 40	<b>4</b>	= fail	= nedoporučuji k obhajobě