

# Report on Master Thesis

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

<b>Student:</b>	<b>Martin Polanka</b>
<b>Advisor:</b>	<b>doc. PhDr. Jozef Baruník, Ph.D.</b>
<b>Title of the thesis:</b>	<b>The Price Determinants of Investment Rums</b>

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

### **Short summary**

This thesis investigates the factors influencing rum pricing and explores the potential of rum as an alternative investment asset. Employing a range of advanced econometrics methods, the study identifies aging and brand reputation as the primary determinants of rum prices. While these factors significantly impact rum pricing, the research reveals that rum does not behave like traditional collectible assets, such as fine wines or whiskey, since its prices do not exhibit consistent appreciation over time. This inconsistency is attributed to the relatively small size of the rum market compared to whiskey, resulting in a limited consumer base and lower demand. Despite the positive skewness in the Repeat-sales index indicating potential price escalation in select periods, the overall lack of consistent price growth suggests that rum may not currently be a viable alternative investment asset.

### **Contribution**

The thesis makes several significant economic contributions. First, the author himself creates and utilizes a unique dataset, perhaps the first of its kind in the literature, which is crucial for the detailed analysis conducted. This dataset, gathered via web scraping from the Rum-X website and the Rum Auctioneer online auction platform, includes various attributes such as distillery parameters, aging techniques, ratings, Alcohol By Volume (ABV), or transactional data from auctions, and thus allows for an elaborate exploration of rum pricing determinants. The development of this dataset addresses the lack of available data on rum pricing in the field, particularly concerning investment-grade rums.

Subsequently, the research fills a gap in the existing literature, where data scarcity has previously hindered comprehensive studies on rum as a collectible asset. It thus sets a precedent for future research in this specific market. An extensive empirical analysis provides important insights into the factors that significantly impact rum prices, particularly highlighting the roles of aging and brand reputation. These findings address the gap in the economic literature where rum has been less studied compared to similar commodities such as fine wines and whiskey.

Finally, the examination of rum's potential as an investment asset offers implications for investors who seek diversification within alternative assets. The thesis demonstrates that rum prices, compared to whiskey or wine, do not consistently appreciate over time, which challenges a naive intuition that all collectible alcoholic beverages should behave similarly in the market. It thus emphasizes the need for cautious and informed investment strategies in this specific market segment.

### **Methods**

The methodological base definitely surpasses the master-level curriculum. The author skilfully applies a range of properly selected methods, including Hedonic analysis through Weighted Least Squares, Stepwise regression, Lasso regression, Bayesian Model Averaging, and Repeat-sales regression.

The methodologies are rather concisely but well-theoretically described and explained. Assumptions of OLS, while elementary, should have also been discussed. Additionally, the thesis very openly maps the work progress and discusses methodological challenges the author had to overcome, such as way many incomplete observations, large collinearity, and sample bias. All these inevitably lead to a necessity of some theoretically sub-optimal research decisions that, in turn, finally allowed for the practical elaboration of the analysis. The author also fairly discusses the empirical and methodological limitations that might affect the robustness of the findings.

### **Literature**

An atypical aspect of this thesis is the lack of relevant economic literature. It is understandable due to the originality of the topic; however, I still believe that Introduction and Chapter 2 should have included at least some key references, e.g., from closely related fields or topics. The literature review for the main methodology (3.1) contains only two references. In 3.1.1., the author mainly uses indirect references taken from Oczkowski (2001). Why are these papers not included directly? Also, is there

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really only one paper about the pricing of whiskey (3.1.2.)? All in all, the connection from the literature review to the following parts of the thesis is not completely clear to me, especially at the level of variable selection for the empirical part of the thesis. Citations are displayed properly using a standard style for economic papers.

## Manuscript form

The thesis is written in very sound English, standardly structured, and typeset in LaTeX. The writing style is very clear, and the whole works read well. As a fan of whiskey, I learned a lot! However, the thesis contains a number of single-sentence paragraphs. Eq. 5.4. should perhaps have the “\hat” symbol for residuals. A (potential) use of generative AI technologies in the writing process should have been declared, but it is clear that the previous year's template used does not contain such a section. The bibliography section is complete and well-formatted. Referencing tables and figures is done correctly in the text, the tables are very well designed, and both figures and tables are self-contained.

## Overall evaluation and suggested questions for the discussion during the defense

The assessed thesis undoubtedly surpasses the IES FSV UK master-level standards. Thus, I can confidently recommend it for the defense and suggest a grade of A (excellent).

The results of the Turnitin analysis (10% overall similarity) do not indicate significant text similarity with other available sources.

Additional topics for the discussion:

- 3.1.1. suggests that Oczkowski (2001) uses 2SLS for a wine pricing regression. How does the current analysis differ so that 2SLS is not a relevant method for the thesis toolkit?
- Can you provide more technical details about the process of data web-scraping?
- All numeric variables were Min-Max-normalized. Why not standardized?
- What rationale does it follow to display F-stats and Adjusted R-Squared in single variable regressions in Tab. 6.2? How relevant are these regressions when obviously affected by omitted variable bias?
- What is the threshold for the “highly significant correlation” among variables stressed in the thesis? Why a standard VIF (correlation) analysis of the collinearity issue was not used?
- In Tab. 6.7., is the Adj. R-Squared = - 0.228 a typo? Is a negative value theoretically possible?

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

<b>CATEGORY</b>	<b>POINTS</b>
<i>Contribution</i> (max. 30 points)	30
<i>Methods</i> (max. 30 points)	30
<i>Literature</i> (max. 20 points)	17
<i>Manuscript Form</i> (max. 20 points)	19
<b>TOTAL POINTS</b> (max. 100 points)	<b>96</b>
<b>GRADE</b> (A – B – C – D – E – F)	<b>A</b>

**NAME OF THE REFEREE: Jiří Kukačka**

**DATE OF EVALUATION: 9. 6. 2024**

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**Referee Signature**

**EXPLANATION OF CATEGORIES AND SCALE:**

**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.*

**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.*

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

**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.*

**Overall grading:**

TOTAL	GRADE
91 – 100	A
81 - 90	B
71 - 80	C
61 – 70	D
51 – 60	E
0 – 50	F