

Report on Bachelor / Master Thesis

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

Student:	Švehla Matyáš
Advisor:	PhDr. František Čech, Ph.D.
Title of the thesis:	Volatility spillovers between Cocoa Futures markets and selected currency pairs.

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

Short summary

This thesis examines the spillover effects between cocoa futures and various currency pairs, focusing on both the U.S. and European cocoa futures. It analyzes the relationships and volatility patterns involving the U.S. dollar, British pound, Swiss franc, and Ghanaian cedi, spanning from July 2007 to May 2024. Using both daily and weekly data, they use univariate GARCH, VAR-DCC-GARCH and VAR-BEKK-GARCH to thoroughly examine the spillovers in mean, shock or volatility. They also use subsample analysis to explore how these dynamics change over different time periods.

Contribution

This thesis provides a detailed analysis of volatility spillovers between cocoa futures and key currency pairs, including the U.S. dollar, British pound, Swiss franc, and Ghanaian cedi, from July 2007 to May 2024. The thesis looks at the relationship between cocoa prices and the Ghanaian cedi, adding insight into how commodity-dependent economies are affected by global market dynamics. Overall, it contributes to our understanding of cross-asset volatility and financial market interconnectedness.

Methods

The author employs multivariate GARCH models, which are quite advanced methods for a bachelor's thesis. The models are well-introduced, with clear explanations of their purpose and application, and the estimation and interpretation of the results are thorough and precise. However, the thesis lacks an analysis of the residuals from these models, which is important for validating the model assumptions and ensuring the robustness of the results. Including such an analysis would have strengthened the credibility of the findings by confirming that the model assumptions are adequately met.

Literature

The literature provides a nice introduction to this topic. A relevant paper to include for comparison might be Damba, Osman Tahidu, Abdulbaki Bilgic, Joseph Amikuzuno, and Muazu Ibrahim. "Investing in cocoa-gold sector and the crude oil price-exchange rate uncertainty in Ghana: Volatility transmission and hedging approach." *African Review of Economics and Finance* 13, no. 1 (2021): 193-213.

Manuscript form

The thesis is well-written, with clear English, proper citations, and good formatting. While it demonstrates a strong understanding of complex econometric models, its length (90 pages excluding the appendix) could be greatly reduced to enhance readability. The extensive length is partly due to the broad scope of the thesis, which includes both daily and weekly data results, analyses using both DCC and BEKK models, and subsample analyses. To streamline the content, it would be better to consolidate similar sections or move some detailed results to an appendix. Additionally, section 2.1 would be better suited within the methodology section, as this would prevent repetition and improve the logical flow of the document.

Some minor notes:

Report on Bachelor / Master Thesis

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

Student:	Švehla Matyáš
Advisor:	PhDr. František Čech, Ph.D.
Title of the thesis:	Volatility spillovers between Cocoa Futures markets and selected currency pairs.

- on p.47, I would appreciate a citation for background on why 'We avoid using the contract with the earliest delivery month, the front month'.

- on p.48 The discussion regarding the trading hours mismatch would benefit from referencing relevant literature to support the claim that these mismatches do not significantly impact the analysis.

- As Cote d'Ivoire is the largest producer of cocoa beans, I missed an explanation of why we focus on Ghana and Ghana's currency.

- on p.72, A citation is needed for the methodology involving linear regressions used to obtain the results in Table 6.3, providing more context for the approach.

- regarding the hypotheses stated in the introduction, I would appreciate more clearly presented conclusions to them. It would be helpful to explicitly connect the results to the hypotheses as they are obtained, summarizing the findings in relation to each hypothesis. This would improve clarity and ensure that the reader can easily follow how the results support or refute the initial hypotheses.

Suggested questions/topics for the discussion during the defense:

Residual Analysis and Model Assumptions: The thesis omits an analysis of the residuals from the models, which is crucial for validating the model's assumptions. During the defense, I would like to hear which tests would be appropriate to use for analyzing residuals in this context. Additionally, I would like to discuss the distributional assumptions necessary for applying maximum likelihood estimation. Are these assumptions reasonable for your data? If not, what potential issues could arise, and how would you address them?

In my view, the thesis does fulfil the requirements for a bachelor thesis at IES, Faculty of Social Sciences, Charles University; That is, I suggest a grade A. The results of the Turnitin analysis do indicate significant text similarity with other available sources.

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

CATEGORY	POINTS
<i>Contribution (max. 30 points)</i>	30
<i>Methods (max. 30 points)</i>	27
<i>Literature (max. 20 points)</i>	20
<i>Manuscript Form (max. 20 points)</i>	18
TOTAL POINTS (max. 100 points)	95
GRADE (A – B – C – D – E – F)	A

NAME OF THE REFEREE: Lenka Nechvátalová

Report on Bachelor / Master Thesis

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

Student:	Švehla Matyáš
Advisor:	PhDr. František Čech, Ph.D.
Title of the thesis:	Volatility spillovers between Cocoa Futures markets and selected currency pairs.

DATE OF EVALUATION: 26.8.2024

*Digitally signed (26.8.2024):
Lenka Nechvátalová*

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