

## Anexo I. Registro del Título del Trabajo Fin de Grado (TFG)

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PROGRAMA: E2 + BA

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Apellidos

Alejandro

Nombre

**Título provisional del TFG:** “How the war affects the market efficiency of defense industry through the application of Multi-Fractal Detrended Fluctuation Analysis (MFDFA).”

**ADJUNTAR PROPUESTA (máximo 2 páginas: objetivo, bibliografía, metodología e índice preliminares)**

- **Objetivo:**

The objective of this work is to analyze the efficiency of the defense industry regarding specific market events and evaluate whether it exhibits efficient or inefficient behavior, using the Multi-Fractal Detrended Fluctuation Analysis (MFDFA) to see how investors can benefit from investing in these companies and or if there are any arbitrage opportunities

- **Metodología**

1. Data Collection and Rationale:
  - a. Collect the data from public defense companies from USA and EU as well as a defense Index from each market
2. Qualitative analysis: define the keys events I will be using to compare the securities pre- and post- event
  - a. Event Study
3. Quantitative Analysis:
  - a. Returns and volatility analysis before and after the events
  - b. MFDFA application to examine the data multifractality and evaluate the market efficiency
  - c. Pre- and post-event comparison
4. Tools:
  - a. Python for the analysis and econometrics
5. Data and interpretation and results

- **Índice provisional:**

1. Introduction

1.1 Work Rationale

1.2 Data and Methodology

2. Defense Industry as a business

2.1 The Big Picture

2.2 Drivers of the industry

3. Main Current War Conflicts

3.1 Ukraine & Russia

3.2 Israel

3.3 How they affect the markets

4. Market Efficiency and the MFDFA theory

4.1 MFDFA theory

5. Data Analysis

4.1 ETFs chosen

4.2 MFDFA application

6. Results

7. Conclusion

8. Bibliography

9. Anex

- **Bibliografía**

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