

TERRORISM TRENDS AND ECONOMIC INFLUENCE IN EGYPT

C-DE211
DATA ANALYSIS
PROJECT

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INTRODUCTION

We investigated terrorism in Egypt between 1970 and 2017 to understand how political events and economic conditions (especially inflation) influence attack frequency, fatalities, and regional distribution.

OBJECTIVE

To analyze how terrorism patterns have changed over time and whether major political transitions and inflation rates are statistically related to the rise in terrorism incidents in Egypt.

METHODOLOGY

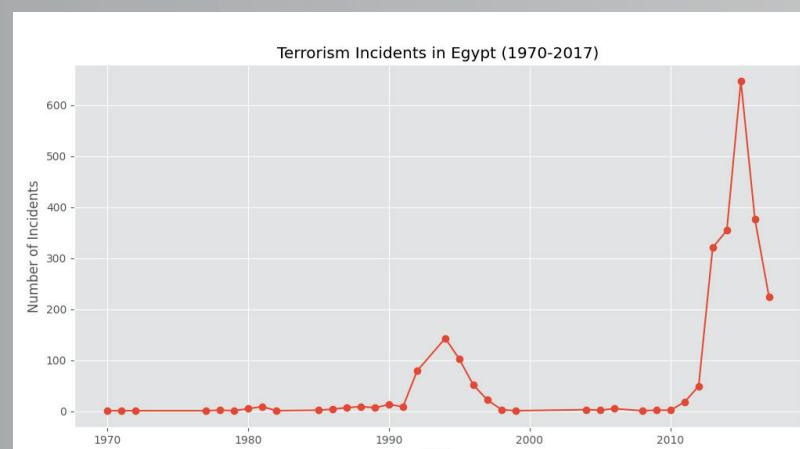
- Datasets: Terrorism in Egypt (Kaggle), Egypt Inflation Rate (MacroTrends)
- Over 7,000 incidents analyzed from 1970–2017
- Methods:
 - Time Series & Trend Analysis (Mann-Kendall Test)
 - Interrupted Time Series Analysis (ITSA) for political events
 - Pearson Correlation & Time-Lagged Correlation for inflation

HYPOTHESIS

- H1: Major political events significantly alter terrorism patterns.
- H2: Inflation rates are positively correlated with terrorism activity.
- H3: Terrorism incidents show a significant increasing trend over time.
- H4: Time-Lagged Relationship between Inflation and Terrorism Incidents in Egypt.

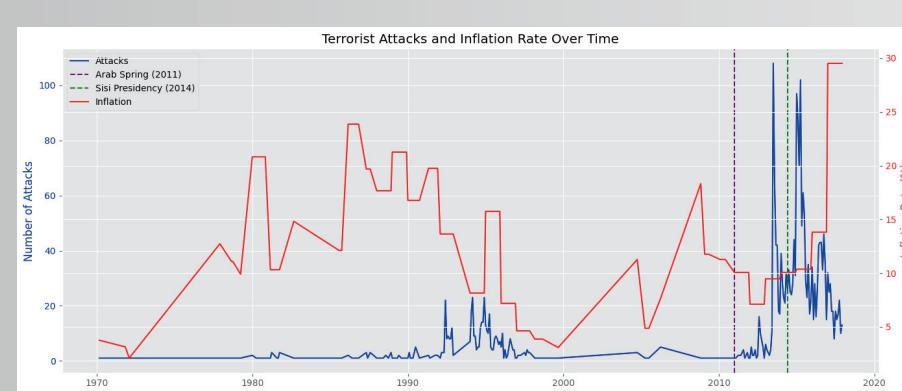
RESULTS/FINDINGS

- ✓ Terrorism incidents increased steadily over 47 years (+1 incident/year, $p < 0.001$)
- ▲ Spikes occurred post-Arab Spring (2011) and Sisi's rise (2014)
- ⌚ Inflation has no significant correlation with monthly attacks ($p > 0.05$)
- ✗ No significant link between inflation and fatalities
- 📍 North Sinai, Red Sea: highest terrorism + inflation levels
- 📍 Urban centers (Cairo, Alexandria): more resilient, lower incidents



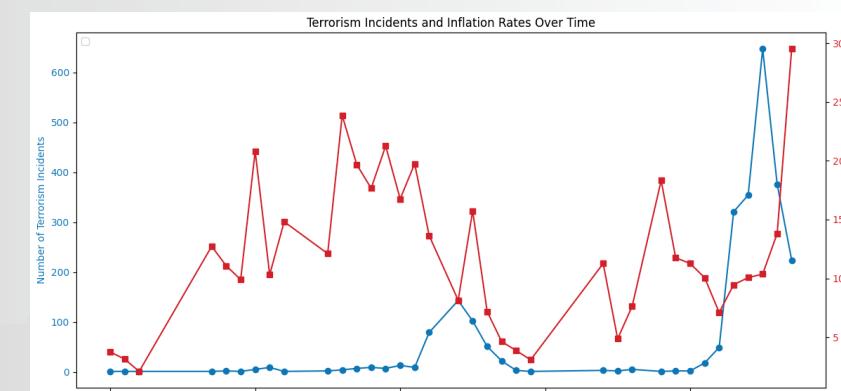
Terrorism Incidents in Egypt by Year
(1970–2017)

THIS GRAPH CLEARLY ILLUSTRATES THE EVOLUTION OF TERRORISM PATTERNS, DEMONSTRATING A STATISTICALLY SIGNIFICANT INCREASING TREND IN THE FREQUENCY OF INCIDENTS IN EGYPT OVER THE STUDIED PERIOD. IT HIGHLIGHTS A GENERAL ESCALATION, WITH PARTICULARLY SHARP INCREASES VISIBLE IN THE LATER YEARS (POST-2011).



The relationship between the annual inflation rate and the number of terrorism incidents per year.

GRAPH SHOWS NO RS BETWEEN INFLATION RATES AND TERRORIST ATTACKS IN EGYPT. WHILE INFLATION FLUCTUATED WIDELY (1-25%) OVER FIVE DECADES, TERRORIST INCIDENTS REMAINED LOW UNTIL SPIKING DRAMATICALLY AFTER POLITICAL EVENTS IN 2011 AND 2014, SUGGESTING POLITICAL TRANSITIONS—NOT ECONOMIC CONDITIONS—PRIMARILY DROVE TERRORISM PATTERNS.



The trend of terrorism incidents and the trend of inflation rates over the years (1970–2017)

IT VISUALLY CONTRASTS THE SIGNIFICANT UPWARD TREND IN TERRORISM INCIDENTS (EVOLUTION) WITH THE FLUCTUATING PATTERN OF INFLATION RATES. THE LACK OF A CONSISTENT PARALLEL MOVEMENT BETWEEN THE TWO LINES REINFORCES THE CONCLUSION THAT INFLATION IS NOT A PRIMARY DIRECT DRIVER OF TERRORISM FREQUENCY IN THIS CONTEXT, WHILE CLEARLY SHOWING THE OVERALL EVOLUTION OF BOTH METRICS.

ANALYSIS

The Mann-Kendall test confirmed a long-term increasing trend in attacks. ITSA revealed that both 2011 and 2014 were key inflection points for attack frequency. Inflation correlates significantly with monthly attack frequency, but not with fatalities. Regions with high inflation (Red Sea, North Sinai) reported more attacks, suggesting economic hardship contributes to terrorism vulnerability.

CONCLUSION

Terrorism in Egypt increased significantly between 1970 and 2017. Political upheaval had a clear impact on frequency of attacks, while inflation was found to influence attack volume — but not lethality. Strategic, region-specific policies addressing both security and economic instability are necessary for long-term resilience.