Economics Bulletin

Volume 45, Issue 1

Nobody (even stock markets) likes war: Evidence from the Israel-Hamas war

Budi Wahyono
Universitas Sebelas Maret, Indonesia

Whelsy Boungou
Paris School of Business, France

Subroto Rapih
Universitas Sebelas Maret, Indonesia

Khresna Bayu Sangka
Universitas Sebelas Maret, Indonesia

Abstract

We examine the effect of the war between Israel and Hamas on the stock markets of countries in the Middle East and North Africa (MENA). Due to the intensification of attacks since the outbreak of the war and the proximity of MENA countries to the warring territories, the stock indices of MENA countries react negatively to this war. This negative impact is particularly pronounced in countries with fewer oil reserves, prompting investors to seek safety in government bonds.

This work was supported by Universitas Sebelas Maret (Issue 1.2/UN27.22/PT.01.03/2024). The funder had no role in the design or conduct of the study.
Citation: Budi Wahyono and Whelsy Boungou and Subroto Rapih and Khresna Bayu Sangka, (2025) "Nobody (even stock markets) likes war: Evidence from the Israel-Hamas war", *Economics Bulletin*, Volume 45, Issue 1, pages 188-195
Contact: Budi Wahyono - budiwahyono@staff.uns.ac.id, Whelsy Boungou - boungouwhelsy@yahoo.com, Subroto Rapih - subrotorapih_89@staff.uns.ac.id, Khresna Bayu Sangka - b.sangka@gmail.com.
Submitted: December 28, 2024. **Published:** March 30, 2025.

1. Introduction

"*The turmoil in the global markets after the Israel-Palestine escalations has worried investors...*"
[Sonam Srivastava, The Economic Times, October 12, 2023]

While the World continues to be plagued by conflict and geopolitical tension, on October 7, 2023, the war between Israel and Hamas erupted with a Hamas attack on Israel. This ongoing conflict has resulted in significant loss of life and material destruction. The economic impact extends beyond Israel and Palestine, potentially affecting neighboring countries in the Middle East and North Africa (MENA) region. This type of conflict has also raised questions about the impact of war on financial markets, as war exerts a significant influence on stock market indices (Bianchi, 2023). Indeed, understanding the exposure of stock market indices to this war seems crucial to us since if this war were to become regional, the consequences would be even more serious, affecting the entire market. Despite this, to our knowledge, there have been no studies examining how the Israel-Hamas war specifically affected stock market performance in the MENA[1].

Against this background, this article aims to analyze the reactions of stock market indices in MENA countries to the war between Israel and Hamas. Considering the MENA region has at least two advantages. First, understanding the reactions of MENA stock indices is crucial, as the conflict between Israel and Hamas is likely to escalate into a full-scale war in the Middle East. This would threaten regional stability. Second, other countries, including those in North Africa, could become embroiled in the conflict, exposing them to unforeseen consequences beyond mere shock and awe. The MENA region, therefore, appears to be an excellent laboratory for this analysis. We complete our analysis by investigating how these reactions may be influenced by the holding of oil reserves. Furthermore, we investigate whether the impact of the war on stock market indices has prompted investors to return to safe-haven assets such as government bonds. Finally, we assess the influence of public attention to the conflict on stock market performance.

We document a significant and negative stock market reaction to the war between Israel and Hamas. In other words, in response to this war, MENA stock market indices underperformed. In addition, we also highlight the influence of the detention of oil reserves on stock market index responses to the conflict between Israel and Hamas. Our analysis reveals that countries with lower oil reserves suffer more pronounced negative effects during the conflict. Our results also highlight the fact that the conflict led to a flight to safety by investors, who turned to government bonds in the face of rising uncertainty and war-related risks. Finally, we find that public attention to the war between Israel and Hamas negatively affects stock market performance in MENA countries, with the effect being most pronounced in the first week after the start of the war.

This article contributes to the literature on at least three levels. First, we complement previous work that has focused on the exposure of financial markets to war (among

[1] To the best of our knowledge, previous studies have focused mainly on exposures to global stock market indices (Pandey et al. 2024), sometimes to specific regions such as the United States and China (Yudaruddin et al. 2024) or even to a variety of stock market indices around the world (Ijaz et al. 2025), including bonds and commodities (Martins, 2024) or sectors of activity of firms (Bouattour et al. 2024).

others Hudson and Urquhart, 2015; Boungou and Yatié, 2022) by providing new evidence with the war in Israel. Second, we contribute to the literature on the international stakes of conflicts (e.g., De Groot, 2010; Carmignani and Kler, 2017), highlighting that the current conflict has effects beyond the warring territories. Third, we complement the literature on the role of safe-haven assets in times of war (Connolly et al., 2005; Lin et al., 2018; Martins, 2024) by highlighting investors' recourse to treasury bonds in response to the war between Israel and Hamas. The results of this analysis should enable investors, portfolio managers, and policymakers to measure the stakes involved in wars and thus formulate effective financial strategies to reduce their exposure to wars.

The rest of this paper is structured as follows. The data and methodology are presented in Section 2. The results are discussed in Section 3. Finally, Section 4 concludes our analysis.

2. Data and methodology

To analyze the impact of the conflict between Israel and Hamas on financial markets, we consider 13 daily stock market indices from the MENA region.[2] We sourced daily data on country stock indices from the Investing database (https://investing.com). We subsequently conducted an event study analysis to quantify the stock market's response to the Israel-Hamas conflict, setting the event date as October 8, 2023.[3] Normal returns are derived using the market model, as follows:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \quad (1)$$

where the normal return ($R_{i,t}$) is the daily log return for country i on day t, and the market index return ($R_{m,t}$) is the daily log return of the Dow Jones MENA Index on day t. We estimate the α_i and β_i parameters through an OLS regression over a 120-day estimation period, that is, from 140 to 20 days before the day of the event. Daily abnormal returns (ARs) are calculated by determining the difference between actual and expected returns:

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t}) \quad (2)$$

Our analysis focuses on ARs on the event date, during specific time windows preceding the event, as well as those following the event. Furthermore, we consider periods encompassing both before and after the event. The ARs are then cumulated over a period around the event to obtain the cumulative abnormal returns (CARs), calculated as follows:

$$CAR[t_1, t_2] = \sum_{t=t_1}^{t_2} AR_{i,t} \quad (3)$$

[2] Bahrain, Egypt, Israel, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, the United Arab Emirates, Morocco, and Tunisia.

[3] While the first attack by Hamas on Israel occurred on October 7, 2023, we have designated October 8, 2023, as the event date due to the stock market holiday on October 7, 2023.

To account for potential outliers in the abnormal returns of the event and to address any departures from normality in their distributions, we employ both parametric and non-parametric tests in the analysis (El Ghoul et al., 2023). Therefore, following Kolari and Pynnönen (2010), we conduct t-tests and signed-rank tests to examine the hypothesis of a market reaction significantly different from zero.

3. Results and discussion

3.1. Baseline results

In this section, we present the results of our analysis on stock market reactions to the conflict between Israel and Hamas. Table 1 displays the baseline findings of our study. The results indicate no statistically significant Cumulative Abnormal Returns (CARs) before the event date. However, significant negative CARs were observed during and after the event date, highlighting the stock markets' adverse reactions to events surrounding the Israel-Hamas war.[4] In the same vein, Martins (2024) found that Negative abnormal returns in global equity markets are limited to the Middle East related to the conflict between Israel and Hamas.[5] One plausible explanation for these results is that investors are averse to uncertainty, which is heightened during periods of increased geopolitical risk (He, 2023). Consequently, markets may respond by selling stocks and seeking less risky alternatives (Schneider and Troeger, 2006).

Table 1. Stock market reactions to the Israel-Hamas war.

Event window	CAR	t-stat	z-stat
[0, 0]	–0.014	–2.417**	–2.481**
Before the event date			
[–5, 0]	–0.010	–1.275	–1.083
[–10, 0]	–0.010	–1.294	–1.223
[–15, 0]	–0.010	–1.113	–0.734
[–20, 0]	–0.013	–1.295	–0.943
After the event date			
[0, +5]	–0.024	–1.938*	–1.712*
[0, +10]	–0.023	–1.394	–1.572
[0, +15]	–0.033	–1.542	–1.992**
[0, +20]	–0.034	–1.862*	–2.132**
From before to after the event date			
[–1, +1]	–0.014	–2.426**	–2.271**
[–1, +2]	–0.013	–2.091*	–1.782*
[–1, +3]	–0.017	–2.328**	–1.852*
[–1, +4]	–0.019	–1.898*	–1.642*

** and * indicate significance at the 5% and 10% levels, respectively.

[4] We contemplate extending the estimation window to include a more extended period for the robustness check, using [−250, −20] days before the event date. Similar results are found, though not reported here to save space (available on request).

[5] Our findings align with the analysis conducted by Boungou and Yatié (2022), who similarly observed adverse reactions of global stock indices to Russia's invasion of Ukraine.

3.2. Additional analysis

To enhance our discussion, we conducted several additional analyses, elaborated on in the sub-sections below.

3.2.1. Oil reserves

Traditionally, conflicts in the Middle East were seen as having a global impact due to the importance of oil. In other words, depending on a country's exposure to or holding of oil reserves, the response of stock market indices can be different. In doing so, our sample was categorized into two groups: countries with high oil reserves and those without.[6] The MENA region holds nearly half of the world's known oil reserves (Tagliapietra, 2019). Additionally, a conflict between Israel and Hamas represents one of the most significant geopolitical risks to oil markets since Russia's invasion of Ukraine (Grover and Ghaddar, 2023). Consequently, we hypothesized a divergence in stock market reactions between these two sub-samples. The results of this analysis are presented in Table 2. Specifically, following the Israel-Hamas conflict, the CARs for countries with high oil reserves are not statistically significant, while other countries exhibit significantly negative CARs. These findings suggest that adverse stock market reactions are more pronounced in countries without high oil reserves. A plausible explanation is that oil prices tend to rise following Hamas attacks on Israel (Liang, 2023), benefiting countries with high oil reserves, which may reduce the sensitivity of investors in these countries to the conflict.

Table 2. Countries with high oil reserves vs. without.

Event window	With high oil reserves (N=6)			Without high oil reserves (N=7)		
	CAR	t-stat	z-stat	CAR	t-stat	z-stat
[0, +10]	0.001	0.037	–0.314	–0.044	–2.487**	–2.366**
[0, +15]	0.002	0.053	–0.524	–0.064	–2.719**	–2.366**
[0, +20]	–0.008	–0.243	–0.314	–0.057	–3.219**	–2.366**
[–1, +1]	–0.009	–1.597	–1.572	–0.019	–1.918	–1.690*
[–1, +2]	–0.004	–0.705	–0.734	–0.020	–2.079*	–2.028**
[–1, +3]	–0.005	–0.728	–0.314	–0.027	–2.427*	–2.366**

** and * indicate significance at the 5% and 10% levels, respectively. The countries in the sample are classified based on their oil reserves. Those with high oil reserves include Kuwait, Egypt, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. Meanwhile, Bahrain, Israel, Jordan, Lebanon, Palestine, Morocco, and Tunisia are considered to have lower oil reserves.

3.2.2. Government bonds

In our baseline analysis, we observe a significant negative reaction of stock markets to the Israel-Hamas war. In such circumstances, investors may shift their preference from stocks to safe-haven assets, such as government bonds (Connolly et al., 2005; Lin et al., 2018). Consequently, we anticipate a positive market response to government bonds, motivating a more thorough examination of these market dynamics. To support this, we

[6] We acquired country-specific oil reserve data from OPEC's 2023 Annual Statistical Bulletin, accessible at https://asb.opec.org/data/ASB_Data.php. Following this, we classified Kuwait, Egypt, Oman, Qatar, Saudi Arabia, and the United Arab Emirates as countries possessing high oil reserves.

conduct a bond market event study analysis. Following the methodologies of Bessembinder et al. (2009) and Ederington et al. (2015), we calculate abnormal bond returns (ABRs) across various event windows surrounding the event dates. Bond returns (BRs) "clean" over the event window [t–1, t+1] are calculated as:

$$BR_{i,[t-1,t+1]} = \frac{P_{i,t+1} - P_{i,t-1}}{P_{i,t-1}} \quad (4)$$

where $P_{i,t}$ reflects the price of the bond. Subsequently, ABRs are calculated as follows:

$$ABR_{i,[t-1,t+1]} = BR_{i,[t-1,t+1]} - BM_{i,[t-1,t+1]} \quad (5)$$

where $BM_{i,t}$ denotes the index return of a rating/maturity-matched portfolio for bond i. In alignment with our hypothesis, findings demonstrate a pronounced positive market response to government bonds during the Israel-Hamas conflict (Table 3). This result is also consistent with previous analyses that highlight the role of government bonds as a hedge against stock market risks during periods of geopolitical tension (e.g., Dong et al., 2023; Omar et al., 2017). Martins (2024) also observes that bonds (as well as commodities) were a safe haven against the risk of conflict during this war.

Table 3. Bond market reactions.

Event window	ABR	t-stat	z-stat
[–1, +1]	0.024	3.294**	1.753*
[–1, +2]	0.030	2.067*	1.483
[–2, +2]	0.019	1.500	1.483

** and * denote significance at the 5% and 10% levels, respectively. The analysis includes the following countries: Bahrain, Egypt, Israel, Morocco, and Qatar. We utilize the 5-year government bond yield for each country. For the index return of a rating/maturity-matched portfolio, we use U.S. Treasury bonds.

3.2.3. Public attention to the Israel-Hamas conflict

In the latest additional analysis, we delved deeper into the relationship between public attention to the Israel-Hamas conflict and stock market reactions. Using Google search volume as a proxy for measuring public attention, a common practice in sentiment analysis research (e.g., Da et al., 2011, 2015), we obtained daily data on search volumes related to the Israel-Hamas conflict (including terms like "Israel" and "Palestine") from Google Trends. The data covers the period from October 8, 2022, to November 20, 2023, for each country sample. We then employ a regression model with the following specifications.

$$AR_{i,t} = \alpha + \beta_1 Search_{i,t-1} + \varepsilon_{i,t} \quad (6)$$

where $AR_{i,t}$ represents the abnormal returns of country i on day t. $Search_{i,t-1}$ denotes the log of Google search volume data for country i on day t-1,[7] and $\varepsilon_{i,t}$ is the error term. The results of the regression analyses are presented in Table 4. Our findings reveal a significantly negative relationship between public attention to the Israel-Hamas conflict and ARs. This outcome supports the notion that concerns associated with the Israel-Hamas conflict correlate with a diminished performance of the stock market in MENA countries. Furthermore, our supplementary analysis (Table 5) demonstrates a stronger impact at the beginning of the war but weakens several weeks after the invasion, suggesting a recovery in MENA stock markets.

Table 4. Public attention to the Israel-Hamas war.

	(1)	(2)	(3)	(4)
Israel	–0.007**	–0.007**		
	(0.003)	(0.003)		
Palestine			–0.006**	–0.006**
			(0.003)	(0.003)
Country fixed effect	No	Yes	No	Yes
Obs.	390	390	390	390
R^2	0.015	0.017	0.015	0.014

** indicates significance at the 5% level. Figures in parentheses represent standard errors.

Table 5. Weekly impact of the Israel-Hamas war.

	1 week		2 weeks		3 weeks	
	(1)	(2)	(3)	(4)	(5)	(6)
Israel	–0.013***		–0.008**		–0.007**	
	(0.005)		(0.004)		(0.003)	
Palestine		–0.012***		–0.007**		–0.007**
		(0.004)		(0.003)		(0.003)
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	111	111	215	215	318	318
R^2	0.074	0.086	0.020	0.020	0.015	0.017

***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Figures in parentheses represent standard errors.

4. Conclusion

This study provides empirical evidence on how MENA stock markets respond to the recent conflict between Israel and Hamas. The findings reveal a significant negative market reaction, with the impact being more pronounced in countries with smaller oil reserves, prompting investors to shift towards safer assets such as government bonds. Our results indicate that investors in the MENA region perceive the Israel-Hamas conflict

[7] Given the potential delay in stock market responses (Kaplanski and Levy, 2010), we introduce a one-day lag to our variable, following the approach of Boungou and Yatié (2022).

as a serious economic risk. Consequently, the persistence of the conflict could have far-reaching global financial implications. It is therefore imperative for governments to take proactive measures to ensure financial stability and bolster investor confidence in their respective economies.

References

Bessembinder, H., Kahle, K. M., Maxwell, W. F., & Xu, D. (2009) "Measuring Abnormal Bond Performance" *The Review of Financial Studies* **22**(10), 4219–4258.

Bianchi, D. (2023) *How the Israel-Hamas war could affect the world economy and worsen global trade tensions*. https://theconversation.com/how-the-israel-hamas-war-could-affect-the-world-economy-and-worsen-global-trade-tensions-215930.

Bouattour M., Amar A., Hachicha N. (2024) "How does Hamas–Israel war impact stock markets in the Middle East? Country and sector-level analysis" *Applied Economics Letters*, 1–9.

Boungou, W., and Yatié, A. (2022) "The impact of the Ukraine–Russia war on world stock market returns" *Economics Letters,* **215**.

Carmignani F., Kler P. (2017) "The spillover of war in time and space: exploring some open issues" *Applied Economics* **49**(3), 273-288.

Connolly, R., Stivers, C., & Sun, L. (2005) "Stock Market Uncertainty and the Stock-Bond Return Relation" *Journal of Financial and Quantitative Analysis* **40**(1), 161–194.

De Groot O. (2010) "The spillover effects of conflict on economic growth in neighbouring countries in Africa" *Defence and Peace Economics* **21**(2), 149-164.

Dong, X., Xiong, Y., Nie, S., & Yoon, S.-M. (2023) "Can bonds hedge stock market risks? Green bonds vs conventional bonds" *Finance Research Letters* **52**.

Ederington, L., Guan, W., & Yang, L. (Zongfei) (2015) "Bond market event study methods" *Journal of Banking & Finance* **58**, 281–293.

El Ghoul, S., Guedhami, O., Mansi, S. A., & Sy, O. (2023) "Event studies in international finance research" *Journal of International Business Studies* **54**(2), 344–364.

Grover, N., and Ghaddar, A. (2023). What Israel-Hamas war means for global oil market. https://www.reuters.com/markets/commodities/what-impact-will-israelhamas-war-have-oil-2023-10-13/

Hudson, R., and Urquhart, A. (2015) "War and stock markets: The effect of World War Two on the British stock market" *International Review of Financial Analysis* **40**, 166–177.

Ijaz M., Ali S., Du A., Khurram M., (2025) "Analyzing financial market reactions to the Palestine-Israel conflict: An event study perspective" *International Review of Economics & Finance* **98**.

Kaplanski, G., and Levy, H. (2010) "Sentiment and stock prices: The case of aviation disasters" *Journal of Financial Economics* **95**(2), 174–201.

Kolari, J. W., and Pynnönen, S. (2010) "Event Study Testing with Cross-sectional Correlation of Abnormal Returns" *The Review of Financial Studies* **23**(11), 3996–4025.

Liang, A. (2023). Oil prices rise following Hamas attack on Israel. https://www.bbc.com/news/business-67050612.

Lin, F.-L., Yang, S.-Y., Marsh, T., & Chen, Y.-F. (2018) "Stock and bond return relations and stock market uncertainty: Evidence from wavelet analysis" *International Review of Economics & Finance* **55**, 285–294.

Martins, A. M. (2024) "Global equity, commodities and bond market response to Israel-Hamas war" *Finance Research Letters* **67**.

Omar, A. M. A., Wisniewski, T. P., & Nolte, S. (2017) "Diversifying away the risk of war and cross-border political crisis" *Energy Economics* **64**, 494–510.

Pandey D., Kumari V., Palma A., Goodell J. (2024) "Are markets in happier countries less affected by tragic events? Evidence from market reaction to the Israel–Hamas conflict" *Finance Research Letters* **60**.

Schneider, G., and Troeger, V. E. (2006) "War and the World Economy: Stock Market Reactions to International Conflicts" *Journal of Conflict Resolution* **50**(5), 623–645.

Tagliapietra, S. (2019) "The impact of the global energy transition on MENA oil and gas producers" *Energy Strategy Reviews* **26**.

Yudaruddin R., Lesmana D., Eksi I., Ginn W. (2024) "Market reactions to the Israel-Hamas conflict: A comparative event study of the US and Chinese markets" *Borsa Istanbul Review* **24**, 1345-1357.