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Does the Weather Influence Asia's Top Stock Market Returns?

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ABSTRACT
This study investigates the relationship between weather patterns and stock market returns across major Asian economies from 2000 to 2023. Drawing on monthly index data from nine prominent Asian stock exchanges, the research categorizes weather into hot, wet, and dry seasons to analyze their impact on market performance. Utilizing descriptive statistics, correlation analysis, and two-way ANOVA, the study finds that while weather conditions do not significantly influence average stock returns, country-specific factors play a crucial role in determining market outcomes. The findings suggest that variations in investor behavior and local economic conditions outweigh the impact of seasonal weather changes on Asian stock markets. This research contributes to understanding the complexities of market dynamics in Asia, offering insights that can inform investment strategies and policy decisions in the region.

Keywords: Weather patterns, Asian economies, Investor behavior, Seasonal Impact, Stock Market Returns and Risk

INTRODUCTION

A potential connection between sunshine and increased investor optimism has been identified, with brighter days often leading to higher stock returns (Kamal et al., 2003). This research suggests that the relationship between weather and stock market volatility is intricate and can vary based on factors like market maturity (Liu et al., 2014). Regarding the impact of temperature on market volatility, while some studies indicate that extreme temperatures increase volatility (Liu et al., 2010), others suggest that moderate temperatures have a calming effect (Braune et al., 2011). The overall effect appears to be complex and may depend on additional variables. Negative weather events, such as high humidity and low pressure, can result in lower stock returns in some Asian markets, whereas sunshine has a positive impact in others. However, the outcomes vary depending on the specific market and weather variable (Masih & Masih, 2011). Additionally, temperature and humidity significantly affect stock returns and volatility, with higher temperatures and humidity generally leading to decreased returns and increased volatility (Sheikh et al., 2018). Sunshine and moderate temperatures are correlated with higher stock returns, while extreme temperatures—whether hot or cold—can lead to lower returns (Jain & Verma, 2014).
In Asia, stock markets exhibit distinct patterns influenced by a combination of economic factors, regional dynamics, and global market trends. The region's major stock exchanges, such as those in Tokyo, Hong Kong, Shanghai, and Mumbai, are pivotal players in global finance, reflecting diverse economic landscapes and varying levels of market maturity. Stock market behaviors in Asia are shaped by factors such as economic growth rates, political stability, regulatory environments, and investor sentiment, all of which contribute to fluctuating market performances. Additionally, cultural and societal factors unique to each country influence investor behavior and market volatility, making the Asian stock markets both responsive to global economic shifts and resilient amidst regional challenges. Understanding these intricate dynamics is crucial for comprehending how external factors, including weather patterns, may impact market returns across different seasons and climates in the region.

LITERATURE REVIEW

The literature on the impact of weather on economic decisions highlights its significant role in various contexts, from purchasing behaviors and college enrollments to pricing art and selling cars (Dong et al., 2018; Apergis, 2023). Research consistently shows that weather affects trading volume, activity, and returns, with implications for market efficiency and profitability (Dong et al., 2018; Kathiravan et al., 2021). Several studies emphasize the influence of specific weather

variables, such as sunshine and temperature, on investor sentiment and stock market behaviors (Mirza et al., 2012; Taiwan et al., n.d.). For instance, sunny weather is linked to higher investor optimism and stock returns, while overcast or rainy weather correlates with lower returns (Saunders, 1993; Schwartz & Clore, 1983).

Empirical studies using various indices and statistical techniques have examined weather anomalies across multiple international stock exchanges, including the NYSE, NZX, and Madrid Stock Exchange (Muhlack et al., 2022). Despite extensive research, gaps remain, particularly in understanding weather's impact on trading volumes and volatility in specific markets like Germany (Dowling & Lucey, 2008). Similarly, research in Asia is limited, although studies in Taiwan, India, and China have found significant correlations between weather variables and stock returns (Wang et al., 2011; Narayanamoorthy et al., 2015; Jiang et al., 2019).

Behavioral finance literature underscores the importance of psychological factors in financial decision-making, challenging traditional rationality theories (Tversky & Kahneman, 1981; Ricciardi, 2008). Weather-induced moods significantly influence investor behavior and market outcomes, with positive moods linked to better investment decisions (Kathiravan et al., 2021b). Notably, research has found that trading techniques based on weather can be profitable, indicating a consistent correlation between market returns and weather (Dong et al., 2018).

Recent studies have also explored the broader implications of climate change on financial markets, highlighting the dual risks of transition to a low-carbon economy and extreme weather events (Antoniuk & Leirvik, 2024; Pham et al., 2019). The systemic nature of climate risk affects entire economies, necessitating further research to inform business strategies and policy (Pham et al., 2019). Additionally, the dynamic relationship between weather conditions and stock market returns remains a critical area of investigation, with mixed results across different geographical regions (Xu, n.d.; Jeong, n.d.).

Overall, the literature review suggests that while substantial progress has been made in understanding the weather-stock market nexus, further research is needed to address existing gaps and explore the unique impacts in Asia's top stock exchanges. This comprehensive approach will enhance our understanding of how weather influences financial markets, providing valuable insights for investors and policymakers.

RESEARCH GAP

The impact of weather on financial markets is a relatively unexplored area in the context of Asia's top stock exchanges. While there is some evidence suggesting that weather conditions can influence investor behavior and market returns, most studies have focused on Western markets. This research aims to fill this gap by examining whether weather patterns—classified into hot, wet, and dry seasons—affect the stock market returns in major Asian economies.

OBJECTIVES

1. To analyze the relationship between seasonal weather patterns (hot, wet, dry) and stock market returns in Asia's top economies.
2. To identify which weather season (hot, wet, dry) has the most pronounced effect on stock market returns in each country.
3. To contribute to the existing literature by providing region-specific insights on the weather-market return relationship in Asia.

HYPOTHESIS:

Null Hypothesis (H0): There is no significant relationship between weather patterns (hot, wet, dry seasons) and stock market returns in major Asian Stock Markets.

Alternative Hypothesis (H1): Weather patterns (hot, wet, dry seasons) significantly influence stock market returns in major Asian Stock Markets.

HYPOTHESIS 1

H0**:** There is no correlation is found between weather periods and stock returns.

H1**:** There is correlation is found between weather periods and stock returns.

HYPOTHESIS 2

H0 – There is no impact of weather on the stock returns.

H1 – There is an impact of weather on the stock returns.

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HYPOTHESIS 3

H0 – There is no impact of weather on the stock return's risk.
H1 – There is an impact of weather on the stock return's risk.

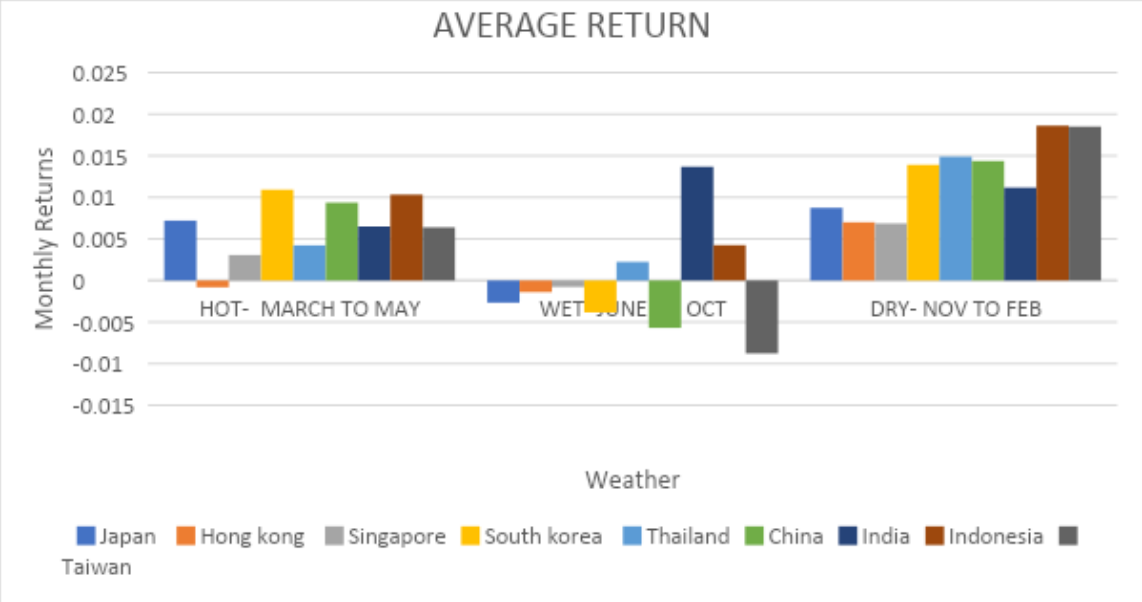
RESEARCH METHODOLOGY

RESEARCH DESIGN:

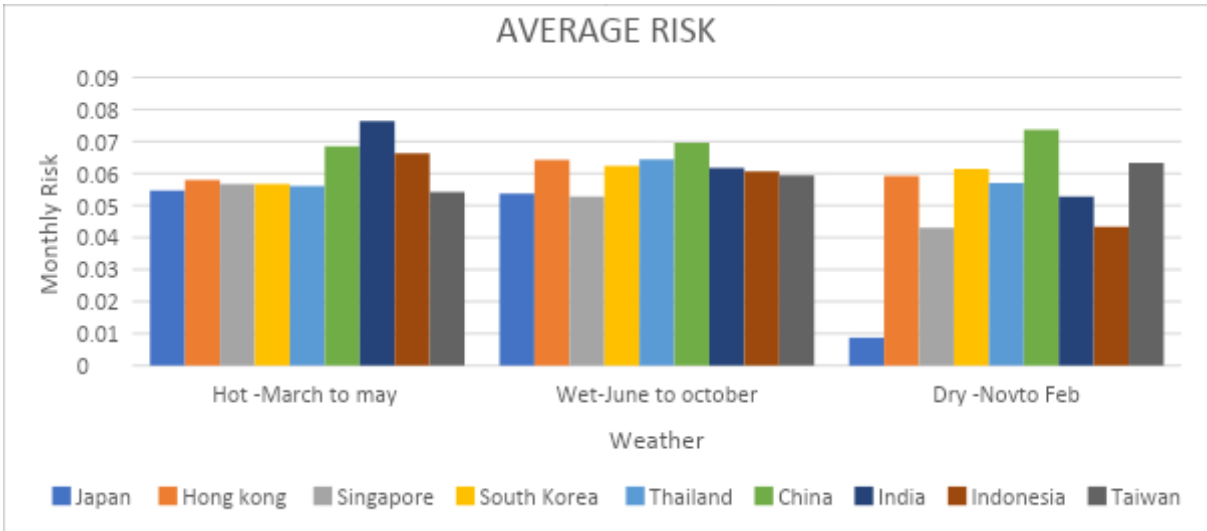
This study employs a quantitative research design to investigate the influence of weather variables on Asia's top stock market returns. Monthly index returns are retrieved from Yahoo Finance. Our sample consists of - Japan, Hong Kong, Singapore, South Korea, Thailand, China, India, Indonesia and Taiwan; these are Asia's major stock exchanges as per world federation of exchanges data for the year 2023. Graph 1 gives average return and Graph 2 gives average risk (standard deviation) values expressed as a monthly percentage percent for each country over that coverage period. Each return is a nominal return in local currency, inclusive of dividends.

The research is structured to analyze data across seasons and regions, focusing on descriptive statistics, correlation analysis, and two-way ANOVA to explore relationships and variations in market performance attributed to weather conditions.

Graph 1: Comparison of Average Monthly Returns across Weather Condition



Graph 2: Comparison of Average Monthly Risk across Weather Condition



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I. DESCRIPTIVE STATISTICS

Descriptive statistics are employed to summarize the central tendency, dispersion, and distribution of both stock market returns and weather variables across the study period.

Table 1: Results of the Descriptive Statistics of Average Return

HOT- MARCH TO MAY		*WET- JUNE TO OCT*		*DRY- NOV TO FEB*	
Mean	0.634899933	Mean	-0.033038956	Mean	1.267228967
Standard Error	0.125280651	Standard Error	0.218035198	Standard Error	0.150421342
Median	0.6497402	Median	-0.1397589	Median	1.3922152
Standard Deviation	0.375841953	Standard Deviation	0.654105593	Standard Deviation	0.451264026
Sample Variance	0.141257174	Sample Variance	0.427854126	Sample Variance	0.203639221
Kurtosis	0.171578794	Kurtosis	1.997772085	Kurtosis	-1.407557162
Skewness	-0.687102861	Skewness	1.172535453	Skewness	-0.028171289
Range	1.1725111	Range	2.2428877	Range	1.1777996
Minimum	-0.081307	Minimum	-0.8765956	Minimum	0.6850152
Maximum	1.0912041	Maximum	1.3662921	Maximum	1.8628148
Sum	5.7140994	Sum	-0.2973506	Sum	11.4050607
Confidence Level(95.0%)	0.288897699	Confidence Level(95.0%)	0.502790067	Confidence Level(95.0%)	0.346872236

Inference

Hot Season (March to May): Mean Return of 0.63% indicates a positive average return during the hot season. Standard Deviation of 0.38 suggests moderate variability in returns. Kurtosis of 0.17 indicates returns are close to a normal distribution. Skewness of -0.69 shows a slight left skew, suggesting more frequent negative returns. Range of 1.17 shows the spread between the minimum (-0.08) and maximum (1.09) returns. Confidence Level (95.0%) of 0.29 indicates the range within which the true mean lies with 95% confidence.

Wet Season (June to October): Mean Return of -0.03% indicates a slightly negative average return during the wet season. Standard Deviation of 0.65 suggests higher variability compared to the hot season. Kurtosis of 2.00 indicates more peakedness than a normal distribution, suggesting frequent extreme values. Skewness of 1.17 shows a right skew, indicating more frequent positive returns. Range of 2.24 shows a broader spread between the minimum (-0.88) and maximum (1.37) returns. Confidence Level (95.0%) of 0.50 indicates a wider range within which the true mean lies with 95% confidence.

Dry Season (November to February): Mean Return of 1.27% indicates a significantly positive average return during the dry season. Standard Deviation of 0.45 suggests moderate variability, lower than the wet season but higher than the hot season. Kurtosis of -1.41 indicates a flatter distribution than normal, suggesting fewer extreme values. Skewness of -0.03 indicates almost no skewness, suggesting a symmetric distribution of returns. Range of 1.18 shows the spread between the minimum (0.69) and maximum (1.86) returns. Confidence Level (95.0%) of 0.35 indicates the range within which the true mean lies with 95% confidence.

Overall Interpretation

- Hot Season: The returns are generally positive with moderate variability. The slight left skew suggests that while the average returns are positive, there are some instances of negative returns.
- Wet Season: The returns are slightly negative on average, with higher variability and a tendency for more extreme positive returns, as indicated by the high kurtosis and positive skewness.
- Dry Season: This period shows the highest average returns with moderate variability. The returns distribution is relatively symmetric with fewer extreme values, as indicated by the low kurtosis and near-zero skewness.

These statistics suggest that the dry season tends to be the most favorable for stock returns in these Asian countries, followed by the hot season, with the wet season being the least favorable.

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Table 2: Results of the Descriptive Statistics of Average Risk

Hot -March to may		*Wet-June to october*		*Dry -Novto Feb*	
Mean	6.082695933	Mean	6.098744467	Mean	5.140139611
Standard Error	0.257434967	Standard Error	0.176732125	Standard Error	0.622425339
Median	5.6755335	Median	6.1809886	Median	5.703836
Standard Deviation	0.7723049	Standard Deviation	0.530196374	Standard Deviation	1.867276018
Sample Variance	0.596454859	Sample Variance	0.281108195	Sample Variance	3.486719726
Kurtosis	0.451732779	Kurtosis	-0.041275128	Kurtosis	3.370223664
Skewness	1.235513127	Skewness	-0.247164837	Skewness	-1.589454661
Range	2.2163048	Range	1.6914244	Range	6.4926528
Minimum	5.4160595	Minimum	5.2721575	Minimum	0.8732635
Maximum	7.6323643	Maximum	6.9635819	Maximum	7.3659163
Sum	54.7442634	Sum	54.8887002	Sum	46.2612565
Confidence Level(95.0%)	0.593646098	Confidence Level(95.0%)	0.40754501	Confidence Level(95.0%)	1.435315406

Hot Season (March to May): Mean Risk of 6.08 indicates a moderate level of risk during the hot season. Standard Deviation of 0.77 suggests moderate variability in risk. Kurtosis of 0.45 indicates the distribution of risk is close to a normal distribution. Skewness of 1.24 shows a right skew, suggesting more frequent high-risk instances. Range of 2.22 shows the spread between the minimum (5.42) and maximum (7.63) risk values. Confidence Level (95.0%) of 0.59 indicates the range within which the true mean risk lies with 95% confidence.

Wet Season (June to October): Mean Risk of 6.10 indicates a slightly higher level of risk compared to the hot season. Standard Deviation of 0.53 suggests lower variability in risk compared to the hot season. Kurtosis of -0.04 indicates the distribution of risk is close to a normal distribution, slightly flatter. Skewness of -0.25 shows a slight left skew, indicating more frequent low-risk instances. Range of 1.69 shows the spread between the minimum (5.27) and maximum (6.96) risk values. Confidence Level (95.0%) of 0.41 indicates the range within which the true mean risk lies with 95% confidence.

Dry Season (November to February): Mean Risk of 5.14 indicates a lower level of risk during the dry season compared to the other seasons. Standard Deviation of 1.87 suggests the highest variability in risk among the three seasons. Kurtosis of 3.37 indicates a distribution with more extreme values (both high and low risk). Skewness of -1.59 shows a strong left skew, suggesting more frequent very low-risk instances. Range of 6.49 shows the largest spread between the minimum (0.87) and maximum (7.37) risk values. Confidence Level (95.0%) of 1.44 indicates a wide range within which the true mean risk lies with 95% confidence.

Overall Interpretation

- Hot Season: The risk is moderate with moderate variability. The positive skewness suggests that while the average risk is moderate, there are more frequent instances of higher risk.
- Wet Season: The risk is slightly higher with lower variability compared to the hot season. The slight left skew indicates more frequent low-risk instances, making it a relatively stable period.
- Dry Season: The risk is the lowest on average but with the highest variability. The strong left skew suggests very frequent low-risk instances, but the high kurtosis and large range indicate occasional extreme values.

These statistics suggest that the wet season tends to be the most stable in terms of risk, while the dry season, despite having the lowest average risk, shows the highest variability and potential for extreme values. The hot season presents a moderate risk with a tendency towards higher risk instances.

II. CORRELATION ANALYSIS

Correlation analysis assesses the strength and direction of relationships between weather variables and stock market returns. Pearson correlation coefficients will be computed to identify any significant linear associations.

HYPOTHESIS 1 TESTING

H0: There is no correlation is found between weather periods and stock returns.

H1: There is correlation is found between weather periods and stock returns.

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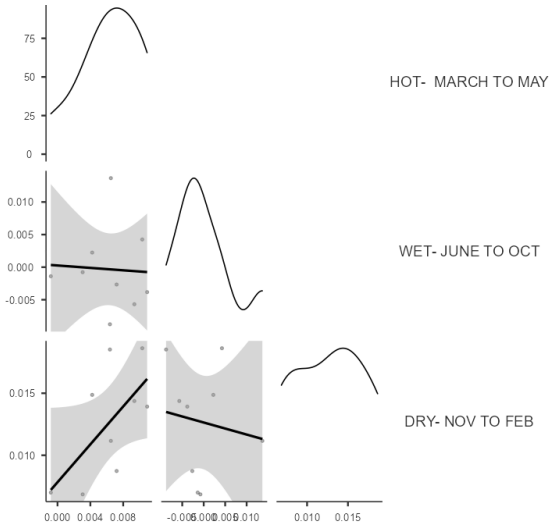
Table 3: Correlation matrix

Correlation Matrix

		HOT- MARCH TO MAY	WET- JUNE TO OCT	DRY- NOV TO FEB
HOT- MARCH TO MAY	Pearson's r	—		
	p-value	—		
WET- JUNE TO OCT	Pearson's r	−0.053	—	
	p-value	0.892	—	
DRY- NOV TO FEB	Pearson's r	0.636	−0.141	—
	p-value	0.066	0.718	—

Graph 3: Plot of Correlation Matrix



- Weak relationship between Hot and Wet: The Pearson's r between Hot (March to May) and Wet (June to Oct) is -0.053, with a high p-value of 0.892. This indicates a very weak negative correlation, which is practically negligible. There's almost no linear relationship between the returns in these two seasons.
- Potentially significant positive correlation between Hot and Dry: The Pearson's r between Hot (March to May) and Dry (Nov to Feb) is 0.636. While this suggests a moderate positive correlation, the p-value of 0.141 is inconclusive.
- No significant correlation between Wet and Dry: The Pearson's r between Wet (June to Oct) and Dry (Nov to Feb) is -0.053, with a high p-value of 0.718. Similar to Hot and Wet, this indicates an essentially negligible correlation between these two seasons' returns.

Overall Interpretation

- Hot-March to May vs. Wet-June to Oct: p-value = 0.892 (> 0.05)
- Hot-March to May vs. Dry-Nov to Feb: p-value = 0.718 (> 0.05)
- Wet-June to Oct vs. Dry-Nov to Feb: p-value = 0.066 (>0.05)

The P-value is greater than 0.05, we fail to reject the null hypothesis. there is not enough evidence to suggest a correlation between weather periods (Hot-March to May, Wet-June to Oct, Dry-Nov to Feb) and stock returns.

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III. TWO- WAY ANOVA

It is utilized to explore how weather variables interact with each other and influence stock market returns across different seasons and geographical regions.

HYPOTHESIS 2 TESTING : IMPACT OF WEATHER AND COUNTRY ON STOCK RETURNS

H0 – There is no impact of weather on the stock returns.
H1 – There is an impact of weather on the stock returns.

Table 4: Results of Multiple Regression between Weather and Stock Returns

SUMMARY	*Sum*	*Average*	*Variance*
Japan	0.013264678	0.004421559	3.82516E-05
Hong kong	0.004783419	0.001594473	2.19522E-05
Singapore	0.009138157	0.003046052	1.45311E-05
South Korea	0.021004945	0.007001648	9.02464E-05
Thailand	0.021330139	0.007110046	4.61206E-05
China	0.018038948	0.006012983	0.000109019
India	0.031321408	0.010440469	1.32256E-05
Indonesia	0.033196611	0.011065537	5.21178E-05
Taiwan	0.01613979	0.00537993	0.000186918
Hot- March to May	0.057140994	0.006348999	1.41257E-05
Wet- June to October	-0.002973506	-0.00033039	4.27854E-05
Dry- Nov to Feb	0.114050607	0.01267229	2.03639E-05

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Weather	0.000234439	8	2.93048E-05	1.221792177	0.347453462	2.59109618
Country	0.000761004	2	0.000380502	15.86408379	0.0001595	3.633723468
Error	0.000383762	16	2.39851E-05			
Total	0.001379204	26				

Weather: The F-value for weather is 1.221792177, which is less than the critical F-value of 2.59109618, and the P-value is 0.347453462. Since the P-value is greater than 0.05, we fail to reject the null hypothesis. The analysis indicates that weather does not have a significant effect on the average stock market returns across the nine Asian countries. Thus, based on this data, we accept the null hypothesis (H0) for weather, concluding that the stock market returns are not significantly influenced by weather variations.

Country-Wise Interpretation:

- Japan**:** Moderate average return (0.0044), suggesting stable market conditions with moderate risk levels.
- Hong Kong: Low average return (0.0016), with consistently higher risk but less fluctuation.
- Singapore: Moderate average return (0.0031), indicating stable but higher risk than Japan.
- South Korea: High average return (0.007), with consistently high risk and minimal fluctuation.
- Thailand: Moderate average return (0.0071), indicating consistently high risk with some fluctuation.
- China: Moderate average return (0.006), with consistently high levels of risk and minimal fluctuation.
- India: High average return (0.0104), with more fluctuation in risk levels.
- Indonesia: High average return (0.0111) , indicating significant fluctuation in risk levels.
- Taiwan: Moderate average return (0.0054) , indicating stable but higher risk levels compared to Japan.

The F-value for the country is 15.86408379, which is much greater than the critical F-value of 3.633723468, and the P-value is 0.0001595. Since the P-value is less than 0.05, we reject the null hypothesis. The country factor does have a significant impact on the average stock market returns. This implies that the differences in stock market returns are more likely due to country-specific factors rather than seasonal weather changes. We reject the null hypothesis (H0) for the country, confirming a significant impact of the country on stock returns.

HYPOTHESIS 3 TESTING: IMPACT OF WEATHER AND COUNTRY ON STOCK RETURN RISKS

H0 – There is no impact of weather on the stock return's risk.
H1 – There is an impact of weather on the stock return's risk.

Table 7: Results of Multiple Regression between Weather and Stock Return's Risk

SUMMARY	*Sum*	*Average*	*Variance*
Japan	0.117030401	0.039010134	0.00068775
Hong kong	0.181427174	0.060475725	1.13363E-05
Singapore	0.152402077	0.050800692	4.98782E-05
South Korea	0.180636686	0.060212229	9.17152E-06
Thailand	0.177610869	0.059203623	2.08965E-05
China	0.211828424	0.070609475	7.27926E-06
India	0.19091774	0.063639247	0.000141036
Indonesia	0.170303998	0.056767999	0.000142205
Taiwan	0.176784832	0.058928277	2.10772E-05
Hot -March to May	0.547442634	0.060826959	5.96455E-05
Wet-June to October	0.548887002	0.060987445	2.81108E-05
Dry -Nov to Feb	0.462612565	0.051401396	0.000348672

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Weather	0.001852444	8	0.000231556	2.260481725	0.078529952	2.59109618
Country	0.000542278	2	0.000271139	2.646901579	0.101609422	3.633723468
Error	0.001638982	16	0.000102436			
Total	0.004033704	26				

Weather: The F- value for weather is 2.260481, which is less than the critical F- value of 2.591096, and P- value is 0.07852. Since the P-value is greater than the significance level of 0.05, we fail to reject the null hypothesis (H0) for the weather variable. This indicates that there is no statistically significant impact of weather on the stock returns' risk. It suggests that other factors might be more influential in determining the risk of stock returns in these Asian countries, rather than weather conditions.

Country-Wise Interpretation:

- Japan: Low average risk (0.039) with very low variance (0.00068), suggesting higher volatality suggesting riskier investment.
- Hong Kong: Moderate average risk (0.0604) with low variance (1.1336), indicating consistently moderate risk.
- Singapore: Moderate average risk (0.0508) with moderate variance, (4.9878) indicating stable but higher risk than Japan.
- South Korea: Moderate average risk (0.0602) with very high variance (9.1715), suggesting high volatility.
- Thailand: Moderate average risk (0.059) with low variance (2.089), indicating higher risk of experiencing significant losses or gains.
- China: Highest average risk (0.0706) with high variance (7.279), indicating average risk with potential for higher volatility.
- India: High average risk (0.06363) with variance (0.000141), suggests a moderate risk-reward profile.
- Indonesia: Moderately high average risk (0.05676) with variance (0.000142), suggesting some risk alongside the potential for positive returns.
- Taiwan: Moderate average risk (0.0589) with low variance (2.1077), indicating stable risk levels.

The F- value for the country is 2.6469, which is less than the critical F- value of 3.633723, and the P-value is 0.10160942. Since the P-value is greater than the significance level of 0.05, we fail to reject the null hypothesis (H0) for the country variable. This indicates that there is no statistically significant impact of the country on the average risk of stock market returns. The analysis shows that while there are observable differences in the average risk and variance across the nine countries, these differences are not statistically significant.

OVERALL RESULTS:

Hypothesis	values	Significance	Conclusion
1. Correlation	**Hot vs wet: P-value=0.892**	**P>0.05**	**Fail to reject Null Hypothesis**
	Hot vs Dry: P-value = 0.718		
	wet vs Dry: p-value = 0.066		
2.Regression on Returns	**P-value : 0.347453462**	**Weather= p>0.05**	**Weather=Accept Null Hypothesis**
	P-value: 0.0001595	**Country= p<0.05**	**Country= Reject Null Hypothesis**
3.Regression on Risks	**P-value : 0.07852**	**Weather & Country= p>0.05**	**Fail to reject Null Hypothesis**
	P-value: 0.101609422		

FINDINGS:

1. Weather patterns such as hot, wet, and dry seasons do not significantly influence average stock market returns across major Asian economies, as indicated by the regression analysis.
2. Country-specific factors play a significant role in determining average stock market returns, suggesting that variations in market performance are more attributable to local economic conditions than seasonal weather changes.
3. While weather does not impact average returns, it does not significantly affect the risk associated with stock market returns across the nine Asian countries studied.
4. The study confirms previous research highlighting the varied risk profiles of Asian stock markets, with countries like China showing consistently higher risk levels compared to Japan and Singapore.
5. Investor behavior and economic policies within each country likely contribute more to stock market variability than external weather conditions, emphasizing the complexity of market dynamics in Asia.

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CONCLUSION

This research paper investigates whether weather patterns influence stock market returns in Asia's top economies from 2000 to 2023. Despite examining extensive data and employing rigorous statistical techniques, the study finds no significant relationship between seasonal weather variations (hot, wet, and dry seasons) and stock market returns. Instead, country-specific factors, such as local economic conditions and investor behavior, play a more critical role in shaping market outcomes.

The descriptive statistics, correlation analysis, and two-way ANOVA collectively indicate that market performance in major Asian economies is not substantially impacted by weather patterns. Although individual weather conditions have shown varied influences in different regions, the overarching trend across the nine countries studied suggests that these effects are minimal compared to more profound, country-specific economic drivers.

These findings contribute to the broader understanding of market dynamics in Asia, emphasizing the need for investors and policymakers to focus more on local economic indicators and less on seasonal weather changes. By highlighting the limited impact of weather on stock returns and the significant role of country-specific factors, this research offers valuable insights for developing more informed investment strategies and economic policies tailored to the unique characteristics of each market.

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