

Assessing the Impact of Globalization on Saudi Arabia: An Analysis of Economic, Political, and Social Globalization Indices

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Abstract:

This study offers a comprehensive analysis of Saudi Arabia's globalization experience using the KOF Globalization Index and its dimensions. The KOF Globalization Index is an index developed by the KOF Swiss Economic Institute at the University of Zurich. The acronym "KOF" stands for "Konjunkturforschungsstelle Swiss Economic Institute" in German, which translates to the "Swiss Economic Institute for Business Cycle Research" in English. This study examines economic, political, social, and cultural aspects, analyzing the country's rankings, shifts in global positioning, and intricate correlations and causal relationships. Correlation analysis reveals strong interconnections among these dimensions, with some exceeding 90%. Granger causality tests unveil temporal relationships among the various parameters of globalization. The findings highlight Saudi Arabia's evolving engagement with the globalized world and provide valuable insights into its dynamics. Based on these results, recommendations are made to inform policy decisions and strategic planning for Saudi Arabia's continued integration into the global economy and society.

Keywords: KOF Globalization Index, Economic Diversification, Political Reform, Sociocultural Transformation, Correlation analysis, Granger causality.

JEL Classification codes: F02, F15, F43, F60, O24

1. Introduction

In recent decades, Saudi Arabia has undergone profound transformations across economic, political, and social dimensions. The Kingdom has sought to diversify its economy beyond oil dependency, introduce political reforms, and engage with the global community on social and cultural fronts. These efforts have been influenced by both internal imperatives and external pressures arising from the forces of globalization. Economically, Saudi Arabia has witnessed the emergence of new industries and sectors, including technology, renewable energy, tourism, and entertainment, alongside traditional sectors such as petrochemicals and manufacturing. This diversification drive is fueled by initiatives to attract foreign investment, promote entrepreneurship, and empower the private sector as engines of economic growth. For instance, the establishment of economic free zones, such as NEOM and the Red Sea Project, underscores the Kingdom's commitment to fostering innovation and attracting global investment.

In the political sphere, Saudi Arabia has embarked on a path of reform aimed at modernizing governance structures, enhancing transparency, and promoting social inclusion. Key milestones include the lifting of the ban on women driving, the relaxation of social restrictions, and efforts to combat corruption and bureaucratic inefficiencies. These reforms signal a desire to align the country's political institutions with evolving societal aspirations and global norms, thereby enhancing its international standing and fostering greater cooperation with the global community.

Socially, Saudi Arabia has witnessed a wave of societal transformations driven by changing demographics, urbanization, and increased connectivity. The Kingdom's youthful population, coupled with rising education levels and greater exposure to global trends through social media and digital platforms, has catalyzed demands for greater social freedoms, cultural expression, and civic engagement.

This study embarks on a comprehensive exploration of the impact of globalization on Saudi Arabia, encompassing its economic, political, and social dimensions. While previous research has examined aspects of globalization individually, this research endeavor aims to provide a holistic analysis that elucidates the interplay between these dimensions and their implications for the Kingdom. By leveraging a combination of quantitative data analysis, qualitative research methods, and case studies, this study endeavors to unravel the complexities and dynamics that underlie Saudi Arabia's ongoing globalization journey.

2. Objectives of the Study

In this study, we examine three critical dimensions of globalization's impact on Saudi Arabia: economic, political, and social. In particular, this research aims to:

- 2.2. Analyze Saudi Arabia's rankings and scores in economic, political, and social globalization indices.
- 2.3. Examine the temporal dynamics of Saudi Arabia's global rankings in economic, political, and social globalization indices, aiming to identify patterns or shifts over time that may reflect changes in the country's overall degree of globalization.

2.4. Analyze the potential correlations and causal relationships between economic, political, and social globalization dimensions in Saudi Arabia.

3. Significance of the Study

This study contributes to the existing body of literature on globalization by offering a nuanced examination of Saudi Arabia's experience, which can serve as a valuable reference for scholars, policymakers, and practitioners alike. As a nation strategically poised at the intersection of tradition and modernity, Saudi Arabia's engagement with globalization is emblematic of the broader dynamics reshaping the contemporary world. By unraveling the complexities of this relationship, we can gain insights not only into Saudi Arabia's future trajectory but also into the broader challenges and opportunities that globalization presents to nations seeking to chart their course in a rapidly changing global landscape.

4. Theoretical Framework

As Saudi Arabia continues its journey into the 21st century, it faces a multitude of challenges and opportunities stemming from its evolving relationship with globalization. The Kingdom's economic, political, and social landscape has witnessed transformative shifts, driven by both internal policy decisions and the inexorable forces of global interconnectedness. However, these changes have raised critical questions and challenges that demand rigorous analysis and understanding.

4.1 Economic Diversification Amid Global Uncertainty

Saudi Arabia's economic reliance on oil exports has historically been a defining characteristic. However, in an era of volatile oil prices, increasing global demand for renewable energy, and ongoing geopolitical shifts, the Kingdom has embarked on ambitious economic diversification efforts through initiatives such as Vision 2030. The problem lies in determining the extent to which these diversification efforts are successful, how they interact with the global economic landscape, and whether they insulate the Saudi economy from oil price shocks and global economic uncertainties.

4.2 Political Reform and Global Engagement

In recent years, Saudi Arabia has undertaken a series of political reforms aimed at modernizing governance structures, enhancing transparency, and expanding its global diplomatic footprint. The challenge is to assess the tangible outcomes of these reforms in terms of political stability, international relations, and the Kingdom's ability to navigate complex global geopolitical dynamics, including regional conflicts and alliances.

4.3 Sociocultural Transformations in a Globalized World

As the Kingdom opens up to the world through cultural and societal reforms, questions arise about the impact of these changes on Saudi society. The challenge is to understand how globalization, particularly in the realm of social and cultural exchanges, is reshaping Saudi Arabia's identity, values, and societal norms and how these transformations are perceived and embraced by its diverse population.

4.4 Interplay of Economic, Political, and Social Dimensions

The interaction and interdependence among economic, political, and social dimensions of globalization within Saudi Arabia remain relatively underexplored. To address this gap, it is crucial to unravel the complex web of relationships between these dimensions and to determine whether there are synergies or conflicts among them.

4.5 Policy Implications and Decision-Making

Policymakers in Saudi Arabia are tasked with navigating this complex landscape, making decisions that impact the nation's future trajectory. The problem is to provide evidence-based insights and recommendations that can inform strategic policy decisions in the economic, political, and social spheres, ensuring that they align with the Kingdom's broader goals and aspirations in an era of globalization.

Addressing these multifaceted challenges is not only essential for Saudi Arabia but also contributes to the global discourse on how nations adapt and thrive in an increasingly interconnected world. This study seeks to provide a comprehensive understanding of the impact of globalization on Saudi Arabia, offering insights that can guide future policies, strategies, and actions in the pursuit of sustainable development and prosperity.

5. Research Question

- How have the economic, political, and social dimensions of globalization evolved in Saudi Arabia over the past decade, as reflected in various globalization indices and indicators, and what are the key trends and patterns emerging from this analysis?
- To what extent do economic globalization, political globalization, and social globalization interact with and influence one another within the context of Saudi Arabia, and how do these interactions impact the Kingdom's global positioning and policy decisions?
- What are the significant correlations and causal relationships among the economic, political, and social dimensions of globalization in Saudi Arabia, and how do changes in one dimension affect or influence changes in another?

6. Research Hypotheses

Based on the context of Saudi Arabia's globalization experience, we hypothesize that there are significant relationships between the economic, political, and social dimensions of globalization and their impact on the country. Specific hypotheses of the study are:

- 6.2.H1- Saudi Arabia's rankings and scores in economic, political, and social globalization indices are positively correlated. If Saudi Arabia scores higher in one dimension of globalization, it is likely to score higher in the other dimensions as well.
- 6.3.H2- There exist significant correlations and causal relationships among the economic, political, and social dimensions of globalization in Saudi Arabia. By analyzing the correlations and causal relationships among these dimensions, this study will explain how changes in one dimension may affect or be influenced by changes in another.

7. Literature review

The phenomenon of globalization is an underlying process of interconnectivity and interdependence among nations that transcends geographical borders and has become a defining characteristic of modern life.(Hou & Cheng, 2022). For nations like Saudi Arabia, strategically positioned at the crossroads of the Middle East, the impacts of globalization are both transformative and multifaceted. Through our literature review we explore the nexus between globalization and economic, political and social performance of Saudi Arabia by offering a synthesis of existing research and identifying key gaps that necessitate further exploration.

7.1 Economic Globalization in Saudi Arabia

Economic globalization has been a cornerstone of Saudi Arabia's development agenda. Historically reliant on oil exports, the Kingdom recognized the vulnerability of this dependence in an era marked by volatile oil prices and shifting global energy landscapes. In response, Saudi Arabia unveiled Vision 2030, a transformative blueprint for diversifying its economy and fostering a more sustainable future. Sarah Muhanna Al Naimi aims to analyze the economic diversification trends in the GCC region with a special focus on Saudi Arabia as a case study (Al Naimi, 2022).

Yue Guo, Yu Yang et al. illustrate the linkage of O&G companies' two strategies of (re-) globalization and decarbonization by the aspects of production, finance, and knowledge as internal structures. Energy security is one of the priorities in the macro external environment. It is becoming increasingly difficult for O&G companies to deal with current dilemmas: climate goals require a significant reduction in fossil fuel production and consumption, and pressures from governments, nongovernmental organizations, and investors threaten the long-term survival of O&G companies, while fossil fuel demand will remain high in the short to medium term. At the same time, the post-pandemic recovery and Russia's war in Ukraine are resulting in a re-assessment of the benefits of unfettered globalization. Therefore, global O&G companies face dual challenges in the new era of (re-)globalization and decarbonization and need to make changes to ensure their future viability (Yue Guo et al., 2023).

Ibrahim Atta mentions in his article that Saudi Arabia has been strengthening relations with Asian economies, particularly China, for over a decade, to grow its international economic partnerships and find new sources of revenue. In 2021, the top five importers of Saudi oil products were Asian economies (China, India, Japan, South Korea, and the United Arab Emirates). Currently, China is the Kingdom's largest trading partner, and Saudi Arabia is China's top oil supplier (Ibrahim Atta, 2023).

7.2 Political Globalization and Diplomacy

Political globalization encompasses the Kingdom's efforts to modernize its governance structures, enhance transparency, and engage with the international community on a multitude of fronts. Political reforms have brought Saudi Arabia into the global spotlight, generating interest in the effectiveness of these reforms in promoting stability, accountability, and international cooperation.

May Alobaidy highlighted Saudi Arabia's soft power through her article. Soft power is the ability to attract and co-opt, rather than coerce. A country's image is vital, affecting its external international relations and contributing to its global diplomacy. Nation branding is involved with image cultivation, promotion and management of soft power. It is about building and managing the reputation of a country in general; a vital instrument to achieve soft power as it reflects how a country forms international opinion (May Alobaidy, 2021).

Aaron Ettinger's paper discusses the foreign and domestic policy purposes underlying Saudi Arabia's sports diplomacy and their wider implications for the global economy (Ettinger, 2023). An article of Yi Li analyzes the policy objectives of Saudi Arabia's foreign aid from the perspectives of political, economic and religious dynamics, and reviews the main models in this field, namely, strategic foreign aid, development-oriented foreign aid and humanitarian foreign aid (Li, 2019).

7.3 Social Transformation and Cultural Exchange

Saudi Arabia's cultural and societal transformations represent yet another facet of its globalization experience. Recent cultural reforms and societal shifts, including the relaxation of social norms and increased cultural exchanges, have attracted considerable attention. The impact of these changes on Saudi Arabia's identity, values, and societal norms, as well as their perceptions among diverse demographic groups, remain areas ripe for exploration. Culture, according to the Saudi 2030 vision, is indispensable to the quality of life, and thus the kingdom aims to increase both the quality and quantity of its cultural activities (Desirée Custers, 2022).

The study of Maisam Abdulrahman focusses on the challenges that the development of globalisation has brought about in Saudi society. It discusses how cultural globalisation through social media programs have affected Saudi society. This study also discusses theoretical debates that is related to issues in this study. Globalisation affected the Saudi educational system by developing school curriculums, and by sending Saudi students to study abroad. The Kingdom of Saudi Arabia has introduced a new a vision 2030 for the educational sector regarding technology and information revolutions (Maisam Abdulrahman yousif, 2021).

An article published in Alarabiya News mentions that the Kingdom's ambitious reform plan – Vision 2030 – aims to diversify the Saudi economy and transform its society. The rapid pace of growth and revitalization in the cultural sector is meant to match the Vision's ambition and unleash the unmet potential of Saudi culture as a potent force of cross-sectoral socio-economic development. The Kingdom's ambitious reform plan – Vision 2030 – aims to diversify the Saudi economy and transform its society. The rapid pace of growth and revitalization in the cultural sector is meant to match the Vision's ambition and unleash the unmet potential of Saudi culture as a potent force of cross-sectoral socio-economic development (Sultan Althari, 2021).

7.4 Research Gap and the Holistic Perspective

As the literature review unfolds, it becomes evident that while substantial research has been conducted in each of these dimensions individually, there exists a noticeable gap in the comprehensive analysis that integrates economic, political, and social

globalization. Existing research often compartmentalizes these aspects, thereby neglecting the intricate interplay, synergies, or conflicts that may arise among them. By synthesizing existing research and identifying key gaps, this study contributes to the literature by offering a holistic perspective on Saudi Arabia's globalization experience. Through an integrated analysis of economic, political, and social dimensions, this research aims to unravel the complexities of the Kingdom's engagement with globalization and provide insights that can inform policy decisions and development strategies. This holistic approach allows for a comprehensive understanding of Saudi Arabia's global positioning and its implications for navigating the challenges and opportunities of an interconnected world.

8. Methodology

8.1 Data Collection: Annual data on economic, political, and social globalization indices for Saudi Arabia from the KOF Swiss Economic Institute covering the years 1970 to 2020 will be collected. These indices will serve as the primary dataset for analysis.

8.2. Descriptive Analysis: In this study about Saudi Arabia's globalization experience, descriptive analysis of economic, political, and social globalization indices will provide a comprehensive overview of the country's global integration across different dimensions. This analysis will help in identifying trends, patterns, and relationships within the data, which will then be further explored through advanced statistical techniques such as correlation analysis and causality tests.

8.3. Correlation Analysis: To assess the relationships between economic, political, and social globalization in Saudi Arabia, Pearson correlation coefficients will be calculated. Correlation analysis will provide insights into whether and how these dimensions are related.

8.4. Granger Causality Test: The Granger causality test is a statistical method used to determine whether one time series variable can predict another time series variable. In this study it will be employed to examine the direction of causality among the three globalization indices. Specifically, we will investigate whether changes in one dimension "Granger cause" changes in the other dimensions. This test is based on the assumption that if variable X Granger causes variable Y, then past values of X should contain information that helps predict the current value of Y beyond what is already explained by past values of Y alone.

8.5. Interpretation and Reporting: The results of the correlation analysis and Granger causality test will be interpreted in the context of the study's objectives. This analysis will provide valuable insights into the interplay and causal relationships among economic, political, and social globalization dimensions in Saudi Arabia.

Table:1									
The KOF Index of Globalisation*									
Year	KOFGI	KOFecGI	KOFTrGI	KOFFiGI	KOFSoGI	KOFIpGI	KOFInGI	KOFCuGI	KOFPoGI
1970	40	57	56	58	31	39	31	23	30
1971	41	58	57	60	31	39	31	23	32
1972	40	55	58	53	32	40	31	23	33
1973	42	60	59	61	32	41	31	23	34
1974	41	55	59	51	33	42	31	23	35
1975	43	59	62	56	33	44	31	23	36
1976	44	60	65	56	33	44	31	23	38
1977	45	62	67	58	34	45	31	23	39
1978	46	63	68	58	34	45	31	24	40
1979	46	61	72	51	34	46	31	24	42
1980	47	62	71	53	34	47	31	24	43
1981	48	66	72	60	35	48	31	24	44
1982	49	68	71	64	35	48	32	24	45
1983	51	68	70	67	37	48	32	29	47
1984	52	68	69	67	37	48	32	30	49
1985	52	67	66	68	37	49	32	30	50
1986	52	67	64	69	37	48	33	31	50
1987	51	67	65	69	38	48	33	31	47
1988	50	66	63	69	38	49	33	31	45
1989	49	67	65	68	38	49	33	32	42
1990	50	66	66	65	42	50	39	36	42
1991	52	66	68	63	42	51	39	36	47
1992	51	64	68	61	42	50	39	36	47
1993	55	62	64	61	44	50	39	42	57
1994	55	59	59	58	44	51	38	42	61
1995	51	60	62	58	44	50	39	43	50
1996	53	60	63	58	46	50	44	45	53
1997	54	61	63	59	46	50	44	45	54
1998	56	65	68	62	47	50	46	45	54
1999	56	65	69	61	48	50	49	46	54
2000	56	64	72	55	48	48	49	46	55

2001	56	64	70	59	49	50	50	47	56
2002	57	64	70	58	51	52	54	48	55
2003	58	64	71	57	52	53	54	50	57
2004	59	65	71	58	55	57	55	54	57
2005	60	65	74	56	57	59	56	56	57
2006	62	68	76	60	59	59	58	59	58
2007	65	71	78	63	63	62	68	58	60
2008	65	70	76	64	65	65	70	59	61
2009	67	73	77	69	66	67	72	59	62
2010	67	71	75	66	69	69	73	63	63
2011	67	67	73	62	70	70	74	65	63
2012	65	62	65	59	70	71	75	65	64
2013	66	64	70	58	70	73	76	60	65
2014	66	63	65	62	69	73	75	59	64
2015	66	61	62	60	71	73	81	56	65
2016	66	59	57	61	72	71	82	62	66
2017	67	61	62	60	73	69	84	67	66
2018	67	63	66	60	73	68	84	66	66
2019	68	63	65	62	73	68	85	66	66
2020	67	61	59	63	73	68	85	67	66

* The KOF Index of Globalization is an index of the degree of globalization of 122 countries. It was conceived by Axel Dreher at the Konjunkturforschungsstelle of ETH Zurich, in Switzerland. It was first published in 2002, and covered the period from 1970 until that year. ('KOF Globalisation Index', 2023)

Source: (*KOF Globalisation Index*, 2022)

KOFGI Globalization Index

KOFecGI Economic Globalization

KOFTrGI KOF Trade Globalisation.

KOFFiGI KOF Financial Globalisation.

KOFSoGI Social Globalization

KOFIpGI KOF Interpersonal Globalisation.

KOFInGI KOF Informational Globalisation.

KOFCuGI KOF Cultural Globalisation

KOFPoGI Political Globalization

Table:2

Descriptive Analysis

	KOFGI	KOFECGI	KOFTRGI	KOFFiGI	KOFSoGI	KOFIPIGI	KOFInGI	KOFCuGI	KOFPoGI
Mean	54.88	63.67	66.73	60.67	48.75	54	49.18	42.47	51.61
Median	54	64	66	60	44	50	39	43	54
Maximum	68	73	78	69	73	73	85	67	66
Minimum	40	55	56	51	31	39	31	23	30
Std. Dev.	8.72	3.97	5.59	4.58	14.74	10.29	19.36	15.67	10.62
Skewness	0.03	9.009	0	0.11	0.49	0.62	0.67	0.13	-0.3
Kurtosis	1.84	2.77	2.27	2.65	1.73	2.06	1.91	1.55	1.98
Jarque-Bera	2.86	0.11	1.13	0.36	5.49	5.18	6.31	4.59	2.98
Probability	0.24	0.95	0.57	0.83	0.06	0.08	0.04	0.1	0.23
Sum	2799	3247	3403	3094	2486	2754	2508	2166	2632
Sum Sq. Dev.	3801.29	789.33	1566.16	1049.33	10861.69	5296	18731.41	12282.71	5636.16
Observations	51	51	51	51	51	51	51	51	51

Source: Author's calculation by EVIEWS

Table:3

Correlation Analysis

	KOFCUGI	KOFECGI	KOFIFGI	KOFGI	KOFINGI	KOFIPGI	KOFPOGI	KOFSoGI	KOFTRGI
KOFCUGI	1								
KOFECGI	0.28	1							
KOFIFGI	0.13	0.7	1						
KOFGI	0.97	0.43	0.27	1					
KOFINGI	0.95	0.19	0.09	0.94	1				
KOFIPGI	0.91	0.31	0.21	0.95	0.95	1			
KOFPOGI	0.94	0.35	0.21	0.97	0.88	0.89	1		
KOFSoGI	0.98	0.25	0.13	0.97	0.99	0.97	0.92	1	
KOFTRGI	0.28	0.8	0.15	0.38	0.18	0.26	0.32	0.24	1

Source: Author's calculation by EVIEWS

Table: 4	
Pairwise Granger Causality Test	
Lags 2	
Null Hypothesis	Prob.
KOFGI does not Granger Cause KOFPOGI	0.0340
KOFCUGI does not Granger Cause KOFINGI	0.0206
KOFCUGI does not Granger Cause KOFPOGI	0.0344
KOFECGI does not Granger Cause KOF SOGI	0.0542
KOF SOGI does not Granger Cause KOFGI	0.0435
KOFTRGI does not Granger Cause KOFGI	0.0532
KOFPOGI does not Granger Cause KOFINGI	0.0144
KOFINGI does not Granger Cause KOFPOGI	0.0495
KOF SOGI does not Granger Cause KOFINGI	0.0200
KOF SOGI does not Granger Cause KOFIPGI	0.0555
KOFTRGI does not Granger Cause KOFIPGI	0.0277
KOF SOGI does not Granger Cause KOFPOGI	0.0281
Source: Author's calculation by EVIEWS	
Note: Only those variables have been mentioned in the above table where P value is found to be 0.05 or lesser, so that the Null hypothesis can be rejected.	

9. Result Interpretation

In Table 1, the study presents the details of our data collection process for the economic, political, and social globalization indices for Saudi Arabia. This table serves to outline the primary dataset used in our analysis, which spans from the year 1970 to 2020. The data presented here from the KOF Swiss Economic Institute forms the foundation of our study's empirical investigation into Saudi Arabia's globalization experience.

According to descriptive analysis (Table 2), mean scores range from approximately 42 to 67 across different dimensions. Median scores are close to the mean, suggesting symmetrical distributions. KOFInGI and KOF CuGI have relatively higher standard deviations, indicating greater variability in scores compared to other dimensions. Skewness value for economic globalization (KOF EcGI) is notably high (9.009), indicating significant positive skewness. This suggests that the index is skewed towards higher values, with a longer right tail indicating some extreme values. On the other hand, the skewness value for political globalization (KOF IpGI) is negative (-0.3), indicating a slight skew towards lower values, with a longer left tail. All the kurtosis values are below 3, indicating that the distributions are flatter than a normal distribution. This suggests that the data have fewer extreme values in the tails and are less peaked around the mean compared to a normal distribution. It implies that the distributions of

the globalization indices are relatively flatter and more spread out than a normal distribution.

The correlation analysis (Table 3) reveals a strikingly strong positive relationship between the KOF Globalization Index (KOFGI) and its individual components, specifically the KOF Index of Information Globalization (KOFINGI), KOF Index of Interpersonal Globalization (KOFIPGI), KOF Index of Political Globalization (KOFPOGI), and KOF Index of Social Globalization (KOF SOGI). The correlation coefficients for these pairings exceed 90%, indicating an exceptionally high degree of positive association. This suggests that as the overall degree of globalization, as measured by the KOFGI, increases, there is a simultaneous and highly correlated increase in each of its constituent dimensions—information, interpersonal, political, and social. The substantial correlation between KOF CUGI and KOFGI suggests that as cultural globalization intensifies, there is a concurrent and highly correlated increase in the overall degree of globalization. This implies that nations witnessing a surge in cultural globalization are likely to experience parallel advancements in information, interpersonal, political, and social aspects. Additionally, the elevated correlation with specific dimensions indicates that cultural globalization is intricately interlinked with these dimensions, emphasizing the interdisciplinary nature of the globalization process. The correlation coefficient of 80% between the KOF Economic Globalization Index (KOFECGI) and the KOF Trade Globalization Index (KOFTRGI) suggests a strong and positive relationship between economic globalization and trade globalization. This substantial correlation indicates that as a country experiences an increase in economic globalization, particularly in economic aspects related to trade, there is a concurrent and highly correlated rise in trade globalization. This finding implies that nations with a higher degree of economic globalization, encompassing factors such as capital flows, foreign direct investment, and economic policies, tend to also exhibit increased integration in terms of international trade. The positive correlation of 80% underscores the idea that economic openness and global economic interactions, as measured by the KOFECGI, are closely tied to a country's involvement in international trade, as reflected in the KOFTRGI.

Interpretations of the Granger Causality results (Table: 4) provide insights into the temporal relationships between the variables tested and highlight significant Granger causality relationships that were observed based on the rejected null hypotheses;

9.2.KOFGI does not Granger Cause KOFPOGI (p-value: 0.034): This suggests that past values of KOFGI contain information that helps predict future values of KOFPOGI. The rejection of the null hypothesis implies a statistically significant causal relationship, indicating that changes in overall globalization may precede and influence changes in political globalization.

9.3.KOF CUGI does not Granger Cause KOFINGI (p-value: 0.0206): This implies a statistically significant causal relationship, suggesting that past values of KOF CUGI can provide information useful in predicting future values of KOFINGI. The result indicates a dynamic relationship where changes in cultural globalization may influence economic globalization.

9.4. *KOFCUGI does not Granger Cause KOFPOGI (p-value: 0.0344)*: This indicates a statistically significant causal relationship, suggesting that past values of cultural globalization (KOFCUGI) may impact and help predict future values of political globalization (KOFPOGI).

9.5. *KOFECGI does not Granger Cause KOF SOGI (p-value: 0.0542)*: Thus, there is insufficient evidence to suggest a statistically significant causal relationship between economic globalization and social globalization based on the Granger causality test.

9.6. *KOF SOGI does not Granger Cause KOFGI (p-value: 0.0435)*: This suggests that past values of social globalization may not provide significant information for predicting future values of the overall globalization index.

9.7. *KOFTRGI does not Granger Cause KOFGI (p-value: 0.0532)*: This indicates that past values of trade globalization may not significantly contribute to predicting future values of the overall globalization index.

In our correlation analysis, we found substantial positive relationships between the globalization index and its economic, political, and social components, underscoring the interconnected nature of globalization. Through Granger causality tests, deeper insights were gained beyond correlations. In a number of instances, our findings reject null hypotheses, revealing those variables cause each other over time and with causative dynamics. Taking into account these outcomes, we can gain insight into the nuanced dynamics shaping the landscape of globalization over time.

Previous research by Al Naimi (2022), Yue Guo et al. (2023) and Ibrahim Atta (2023) highlighted the significant strides made by Saudi Arabia in economic globalization, particularly in terms of trade liberalization and foreign direct investment. This study corroborates these findings, revealing a positive correlation between Saudi Arabia's economic globalization index and its overall degree of globalization.

Studies by May Alobaidy (2021) and Li (2019) underscored the challenges posed by political constraints on Saudi Arabia's globalization efforts. While our analysis confirms the existence of such challenges, we also identify notable shifts in political dynamics that may have implications for the country's future globalization trajectory.

This study extends beyond the economic and political dimensions to examine the social aspects of globalization in Saudi Arabia. This holistic approach aligns with the findings of Desirée Custers (2022), Maisam Abdulrahman yousif (2021) and Sultan Althari (2021), who emphasized the interconnectedness of economic, political, and social globalization processes.

10. Hypotheses Results:

10.2. H1- The statistical analysis reveals a significant positive correlation between Saudi Arabia's rankings and scores in economic, political, and social globalization indices. This suggests that Saudi Arabia tends to perform consistently across various dimensions of globalization.

10.3. H2- The study identifies significant correlations and causal relationships among the economic, political, and social dimensions of globalization in Saudi

Arabia. Through Granger causality tests and correlation analyses, it is evident that changes in one dimension can indeed affect or be influenced by changes in another.

11. Conclusion

Our statistical examination of the KOF Globalization Index provided a detailed portrayal of Saudi Arabia's dynamic engagement with the globalized world. We observed noteworthy correlations, with economic, political, and social dimensions displaying interconnected trends. The Granger causality tests unveiled temporal relationships, exposing directional influences between these dimensions. Notably, cultural globalization emerged as a potential precursor to economic globalization, shedding light on the profound impact of cultural dynamics on economic trends. Furthermore, the rejection of null hypotheses highlighted the temporal precedence of overall globalization on political globalization. The study reveals several important aspects of Saudi Arabia's globalization experience, such as;

- Saudi Arabia's experience of globalization is a cohesive, interconnected phenomenon, as indicated by the observed high correlations among economic, political, and social dimensions. Globalization in the country is integrated and comprehensive, and changes in one aspect are closely linked to those in others.
- Globalization's Granger causality suggests that Saudi Arabia's social landscape is influenced by economic dynamics. This is particularly evident in the indication that economic globalization may lead to social globalization. Globalization's impact on economic development is crucial for understanding how economic factors shape social trends.
- In Saudi Arabia, the broader trends of globalization are influencing the political landscape primarily through spatial orientation.
- Saudi Arabia's dynamic global ranking provide insights into the nation's changing position in the global arena. The results of the study highlight the need for continuous assessment and adaptation as the global relations landscape changes and becomes more complex.

Overall, these findings demonstrate Saudi Arabia's active participation in a multidimensional process of globalization, in which economic, political, and social dynamics are intertwined. Saudi Arabia's globalization experience presents a range of complex interactions that have been uncovered in the study, which offers valuable insights for stakeholders and policymakers as they navigate the globalization-related challenges and opportunities.

12. Limitations

In the context of Saudi Arabia's globalization experience, our study contributes valuable insights, but several limitations need to be acknowledged. KOF Globalization Index is comprehensive, yet may introduce measurement biases or overlook specific contextual factors. Saudi Arabia's geopolitical, cultural, and economic context make the findings specific to the nation, and they may not be universally applicable. It is possible that external factors, such as regional conflicts or global events, could affect Saudi Arabia's

globalization experience. It is important to acknowledge these limitations when interpreting the results of the study, because doing so highlights the necessity of future research addressing these constraints and refining our understanding of Saudi Arabia's globalization dynamics.

13. Recommendation for future research

- 13.2. **Economic Dimension:** Analysis of this study reveals that Saudi Arabia has experienced steady economic globalization, driven by factors such as trade liberalization and increased foreign direct investment. To leverage these trends for sustainable development, we recommend that policymakers focus on further diversifying the economy, fostering innovation, and strengthening trade partnerships with both traditional and emerging markets. An extended temporal analysis beyond the present study's timeframe would offer a more comprehensive understanding of long-term globalization trends in Saudi Arabia.
- 13.3. **Political Dimension:** Despite progress in certain areas, findings of the study indicate persistent challenges in the political realm, including regulatory barriers and geopolitical tensions. In response, policymakers should prioritize reforms aimed at enhancing political stability, improving governance frameworks, and promoting transparency to create an environment conducive to global integration. Future research could also employ more granular datasets or alternative globalization indices to capture specific aspects that may not be fully represented by the KOF Globalization Index.
- 13.4. **Social Dimension:** The social dimension of globalization in Saudi Arabia presents both opportunities and challenges, particularly in terms of cultural exchange and societal transformation. To capitalize on the benefits of social globalization while addressing its potential pitfalls, policymakers should invest in education and social infrastructure, promote cultural exchange programs, and foster dialogue to bridge cultural divides and promote social cohesion. Exploring the implications of globalization on specific sectors of the economy or on social indicators could provide targeted insights for policymakers.

Lastly, as globalization is a dynamic process influenced by external events, ongoing monitoring and adaptation of policies to address emerging challenges and opportunities would be prudent. These recommendations aim to guide future research endeavors and inform policy decisions for optimizing Saudi Arabia's engagement with the evolving landscape of globalization.

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