

Journal of Business and Economic Options



A Time Series Analysis of Bilateral Trade of India and Saudi Arabia

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Abstracts

This paper delves into the bilateral trade dynamics between India and Saudi Arabia over the period from 2001 to 2018, aiming to dissect the trends, features, and challenges that have shaped their trade relationship and yielded mutual benefits for both nations. To accomplish these objectives, the study employs methodologies such as the trade intensity index and revealed comparative advantage, examining both aggregate and disaggregate levels of trade. The analysis reveals significant disparities in the export structures of India and Saudi Arabia, indicating a lack of direct competition between the two nations in various areas of merchandise trade. This divergence in specialization suggests that bilateral trade liberalization has facilitated complementary rather than competitive trade patterns, laying the groundwork for enhanced economic growth potential for both countries. The findings underscore a noticeable acceleration in bilateral trade between India and Saudi Arabia, signifying a positive trajectory in their economic trade relations. This suggests that the deepening of trade ties has fostered mutual economic benefits and strengthened the economic interdependence between the two nations. This study highlights the importance of bilateral trade as a driver of economic growth and cooperation between India and Saudi Arabia. By leveraging their respective comparative advantages and fostering complementary trade patterns, both countries stand to gain from enhanced trade relations, leading to broader economic development and prosperity for their respective populations.

Keywords: Bilateral Trade Dynamics, Trade Liberalization, Economic Growth, Mutual Benefits

JEL Codes: F14, F15, F53, O24

1. INTRODUCTION

India's relationship with Saudi Arabia is deeply rooted in centuries of mutual trade and business interactions. Over the last decade, this relationship has witnessed significant development, particularly following India's implementation of transformative economic reforms in 1991, which propelled it onto the global stage by opening up its economy (Mukherji, 2009). This move positioned India as a key player in the international arena, paving the way for enhanced bilateral trade relations with Saudi Arabia. The bilateral trade between India and Saudi Arabia has seen steady growth, reflecting the strengthening ties between the two nations. This growth can be attributed to sustained dialogue and collaboration across various sectors, facilitating the expansion of economic cooperation and partnership. The absence of interruptions in the dialogue between India and Saudi Arabia has played a crucial role in advancing their bilateral relations, fostering mutual understanding and cooperation. Furthermore, both countries have recognized the importance of nurturing their economic and strategic partnership, leading to concerted efforts to deepen their engagement across diverse areas such as trade, investment, energy, and technology (Karhan, 2009). This proactive approach has contributed to the progressive strengthening of the Indo-Saudi relationship, fostering mutual prosperity and socio-economic development. The significant influx of Indian migrants to Saudi Arabia, both on short-term and long-term bases, underscores the vital role played by this expatriate community in bolstering bilateral relations between the two countries. With over 2.8 million Indian expatriates currently residing and working in Saudi Arabia, comprising approximately one-fourth of India's total migrant population, their presence has become integral to the fabric of Indo-Saudi relations.

These Indian expatriates contribute significantly to various sectors of Saudi Arabia's economy, including construction, healthcare, information technology, hospitality, and finance, among others (Rice, 2004). Through their hard work, skills, and expertise, they not only support their own livelihoods but also contribute to the economic growth and development of Saudi Arabia. Their contributions extend beyond the economic realm, as they actively participate in cultural exchange and social integration, fostering greater understanding and cooperation between the two nations. Moreover, the presence of a large Indian expatriate community in Saudi Arabia serves as a bridge between the two countries, facilitating people-to-people connections and fostering a sense of camaraderie and mutual respect. Their experiences and interactions in Saudi society contribute to the deepening of cultural ties and promote a positive image of India among Saudis (Al MUSAITEER,

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2015). In essence, Indian expatriates in Saudi Arabia serve as ambassadors of goodwill, promoting friendship, cooperation, and collaboration between India and Saudi Arabia at both individual and societal levels. Their collective efforts and contributions play a pivotal role in strengthening the bilateral relations between the two nations, laying the foundation for enduring partnership and mutual prosperity.

The significance of the Haj pilgrimage in fostering positive relations between India and Saudi Arabia cannot be overstated (Thomas, 2012). Each year, a considerable number of Indian pilgrims travel to Saudi Arabia to perform the Haj pilgrimage, a sacred journey that holds deep religious and cultural importance for Muslims worldwide. The pilgrimage serves as a profound expression of faith and devotion, strengthening the spiritual bonds between individuals and their religious beliefs. In 2014 alone, 135,914 Indians embarked on the journey to Mecca to perform the Haj pilgrimage, reflecting the enduring spiritual connection between India and Saudi Arabia. Additionally, a substantial number of Indians undertake the Umrah pilgrimage to Saudi Arabia each year, further contributing to the cultural exchange and spiritual enrichment between the two nations (Alfalih, 2016). With approximately 300,000 Indians performing Umrah annually, this pilgrimage holds immense significance in the religious practices of Indian Muslims. The pilgrimage experience fosters a sense of unity, solidarity, and shared identity among pilgrims from diverse backgrounds, transcending national boundaries and cultural differences. It provides an opportunity for Indians to interact with fellow pilgrims from around the world, fostering intercultural dialogue and mutual understanding. Moreover, the hospitality and support extended by the Saudi government and local communities during the pilgrimage enhance the positive perception of Saudi Arabia among Indian pilgrims. The Haj and Umrah pilgrimages serve as powerful symbols of the enduring ties between India and Saudi Arabia, rooted in shared religious heritage and spiritual aspirations. Through these sacred journeys, individuals from both countries come together in a spirit of reverence and respect, strengthening the bonds of friendship and cooperation between India and Saudi Arabia. The pilgrimage experience enriches the lives of pilgrims and contributes to the promotion of peace, harmony, and goodwill between nations.

In recent years, India and Saudi Arabia have intensified their efforts to enhance bilateral trade relations through various initiatives and policy frameworks (Ramady 2010). One notable initiative was the launch of India's "Look West Policy" by Prime Minister Manmohan Singh in 2005, aimed at strengthening cooperation with Gulf countries, including Saudi Arabia. This policy shift underscored India's strategic interest in deepening economic ties with the region and leveraging mutual opportunities for growth and development. A significant milestone in the bilateral relationship occurred in January 2006, when King Abdullah bin Abdul Aziz Al-Saud visited India as the chief guest on January 26, India's Republic Day. This historic visit marked a turning point in the already robust relations between the two countries, serving as a catalyst for further engagement and collaboration across various sectors (Lampton, 2001). During King Abdullah's visit, several trade agreements and partnerships were forged, both at the governmental and private sector levels, signaling a commitment to fostering greater economic cooperation and investment between India and Saudi Arabia. These agreements spanned diverse sectors such as energy, infrastructure, finance, technology, and healthcare, reflecting the broad spectrum of opportunities for collaboration between the two nations. The visit not only bolstered diplomatic ties but also laid the groundwork for deeper commercial engagement and trade expansion between India and Saudi Arabia. It provided a platform for dialogue and cooperation, enabling both countries to explore new avenues for mutual benefit and shared prosperity.

When Prime Minister Manmohan Singh visited Saudi Arabia in 2010, it marked a significant milestone in the bilateral relationship, elevating it to new heights (Maini and Valid, 2016). During this visit, India and Saudi Arabia cemented their ties by formally becoming Strategic Partners, signifying a deeper level of cooperation and mutual trust between the two nations. The culmination of this visit was marked by the signing of the 'Riyadh Declaration,' which encapsulated the spirit of enhanced cooperation across various domains. The declaration served as a blueprint for fostering closer collaboration and partnership between India and Saudi Arabia, covering a wide range of areas including trade, investment, security, energy, culture, and people-to-people exchanges. The Riyadh Declaration underscored the shared commitment of both countries to strengthening their strategic partnership and working together to address common challenges and opportunities. It laid down a framework for expanding bilateral engagement and deepening mutual understanding, with a focus on promoting peace, stability, and prosperity in the region and beyond (Hettne and Soderdaum 2006). By formalizing their status as Strategic Partners and enshrining their commitment to cooperation in the Riyadh Declaration, India and Saudi Arabia reaffirmed their shared vision for a strong and enduring partnership based on mutual respect, trust, and shared interests. This milestone visit paved the way for enhanced collaboration and partnership between the two countries, opening up new avenues for cooperation and development in the years ahead.

2. TRADE STRUCTURE OF INDIA AND SAUDI ARABIA

Since the economic reforms of 1991, India's foreign trade has experienced significant growth, marking a notable transformation in its global trade relations. The total volume of India's foreign trade has surged more than eightfold, skyrocketing from US\$ 945.496 billion in 2001 to US\$ 8.026 trillion in 2013. This substantial increase reflects India's growing integration into the global economy and its emergence as a key player in international trade. As a result of this remarkable growth, India's share in total world trade has also seen a remarkable uptick, climbing from 0.77% to 2.22% during the same period. This surge underscores India's expanding role in the global marketplace and its increasing significance as a trading partner on the world stage. Similarly, India's export volume has witnessed a remarkable surge,

increasing more than sevenfold from US\$ 438.785 billion in 2001 to US\$ 3.366 trillion in 2013. This exponential growth in exports reflects India's growing competitiveness and its ability to capitalize on emerging opportunities in global markets. Consequently, India's share in total world exports has also experienced a significant rise, ascending from 0.72% to 1.88% over the same timeframe. This upward trajectory underscores India's growing prominence as a major exporter and its increasing contribution to global trade flows.

The total volume of India's foreign imports has witnessed a remarkable surge, soaring more than ninefold from US\$ 506.711 billion in 2001 to US\$ 4.660 trillion in 2013. This significant increase underscores India's growing demand for imported goods and its increasing reliance on international markets to meet its domestic needs.

As a consequence of this substantial growth, India's share in world imports has also experienced a notable uptick, rising from 0.81% to 2.60% during the same period. This upward trend reflects India's expanding role as a major importer and its growing integration into global supply chains. However, it's important to note that India's imports have consistently exceeded its exports over the given years, resulting in a persistent trade deficit. This trade imbalance, characterized by a negative trade balance, has continued to widen over time, posing challenges for India's economic sustainability and external competitiveness. Furthermore, during periods of global recession, such as the recent economic downturn, India's total trade has contracted, reflecting broader trends in the global economy. This underscores the interconnectedness of India's economy with the rest of the world and highlights the impact of external factors on its trade dynamics.

Saudi Arabia's economy is predominantly reliant on its vast oil reserves, which constitute a significant portion of the world's proven petroleum reserves. As one of the largest exporters of petroleum globally, the kingdom holds considerable sway in the international oil market and has been a prominent member of the Organization of the Petroleum Exporting Countries (OPEC) for many years. The petroleum sector plays a pivotal role in Saudi Arabia's economic landscape, serving as a primary source of government revenues and export earnings. Revenues generated from oil exports form a substantial portion of the kingdom's overall income, contributing significantly to its fiscal stability and economic development initiatives. Given its strategic importance in the global energy market, Saudi Arabia's policies and decisions regarding oil production and pricing have far-reaching implications for both domestic and international stakeholders. The kingdom's influence within OPEC allows it to collaborate with other oil-producing nations to regulate production levels and stabilize oil prices, thereby exerting considerable influence on the global economy.

However, Saudi Arabia's heavy reliance on oil exports also exposes its economy to vulnerabilities associated with fluctuations in oil prices and demand. As a result, the kingdom has been actively pursuing economic diversification efforts aimed at reducing its dependence on oil revenues and fostering the growth of non-oil sectors such as tourism, manufacturing, and technology. The significant increase in Saudi Arabia's foreign trade volume over the past decade reflects the kingdom's growing integration into the global economy and its expanding role as a major player in international trade. From 2001 to 2013, Saudi Arabia's total foreign trade volume surged more than fivefold, reaching substantial figures of US\$ 5.39 trillion. This impressive growth trajectory has positioned Saudi Arabia as a notable contributor to global trade, with its share in total world trade increasing from 0.8% to 1.5% during the same period.

A key driver of Saudi Arabia's burgeoning trade activity is its robust export sector, which has witnessed remarkable expansion over the years. The kingdom's total export volume soared more than fivefold from US\$ 679.75 billion in 2001 to US\$ 3.75 trillion in 2013, significantly bolstering its presence in the global export market. As a result, Saudi Arabia's share in total world exports increased from 1.12% to 2.09%, underscoring its growing significance as a major exporter on the world stage. In contrast, Saudi Arabia's foreign import volume also experienced substantial growth during this period, increasing more than fivefold from US\$ 312.23 billion in 2001 to US\$ 1.64 trillion in 2013. Despite this significant rise in imports, the kingdom maintained a positive trade balance throughout the period, with exports consistently surpassing imports. This surplus trade balance reflects Saudi Arabia's strength as an export-oriented economy and underscores its ability to generate substantial revenues from international trade activities. Despite the overall growth in foreign trade, Saudi Arabia, like many other nations, experienced a decline in trade volumes during periods of global recession. However, its resilience and positive trade balance have contributed to its economic stability and continued growth even in the face of challenging global economic conditions. As Saudi Arabia continues to diversify its economy and explore new avenues for trade and investment, it is poised to further enhance its position as a key player in the global marketplace.

3. LITERATURE REVIEW

The empirical research on the impact of international trade on economic growth consistently highlights its positive effects, which manifest through various channels such as capital accumulation, technological modernization, industrial upgrading, and institutional development. These studies underscore the role of international trade as a catalyst for economic progress and development. One crucial aspect illuminated by empirical research is the role of international trade in facilitating capital accumulation. By engaging in trade, countries can access external sources of capital, which can be invested in domestic infrastructure, industries, and human capital development. This influx of capital contributes to overall economic growth by expanding productive capacity and fostering innovation. Furthermore, international trade promotes technological modernization by facilitating the exchange of ideas, technologies, and best practices across borders. Through trade, countries can import advanced technologies and knowledge-intensive goods, which can drive productivity gains and

enhance competitiveness in domestic industries. This process of technological diffusion and adoption is instrumental in driving long-term economic growth and development.

Empirical studies also emphasize the importance of industrial upgrading facilitated by international trade. By participating in global markets, countries are incentivized to specialize in industries where they have a comparative advantage, leading to the optimization of resource allocation and the development of competitive advantages. This specialization enables countries to move up the value chain, diversify their exports, and transition to higher value-added activities, thereby stimulating economic growth. Moreover, international trade contributes to institutional advancement by fostering an environment conducive to economic openness, transparency, and regulatory reform. Countries that actively engage in trade often implement policies to enhance trade facilitation, strengthen property rights protection, and promote investment-friendly regulations. These institutional improvements not only attract foreign investment but also stimulate domestic entrepreneurship and innovation, further fueling economic growth. In addition, empirical research highlights the positive impact of imports on manufacturing productivity in markets where intermediate goods and capital are scarce. By importing intermediate inputs, countries can access specialized components and materials that may not be available domestically. This allows firms to improve production processes, reduce costs, and enhance product quality, ultimately boosting overall productivity in the manufacturing sector.

Wagner's (2007) study provides valuable insights into the relationship between export participation and productivity improvement. The findings underscore the positive impact that increased participation in international trade, particularly through export activities, can have on enhancing productivity levels within economies. One key mechanism through which export participation contributes to productivity improvement is through the process of learning by exporting. As firms engage in exporting activities, they are exposed to new market dynamics, competitive pressures, and customer preferences. This exposure fosters a learning process whereby firms acquire knowledge and skills related to international trade, marketing strategies, product customization, and quality standards. Over time, this accumulation of knowledge enables firms to become more efficient, innovative, and adaptable, leading to productivity gains. Moreover, exporting firms often face higher standards and requirements in terms of product quality, packaging, and delivery timelines compared to domestic market-oriented firms. In order to meet these stringent requirements and remain competitive in international markets, firms are compelled to invest in upgrading their production processes, adopting advanced technologies, and improving product quality. These investments in turn contribute to enhancing overall productivity levels within the firm. Additionally, participation in export activities provides firms with access to larger markets and a more diverse customer base. By expanding their reach beyond domestic borders, firms can capitalize on economies of scale, exploit comparative advantages, and realize production efficiencies. This increased market size allows firms to operate at higher levels of capacity utilization, optimize resource allocation, and achieve economies of scale in production, all of which contribute to productivity improvement. Furthermore, exporting firms often engage in knowledge spillovers and technology transfer activities that benefit the broader economy. Through interactions with foreign buyers, suppliers, and partners, firms may acquire new technologies, managerial practices, and business methodologies. These knowledge spillovers have positive externalities, as they diffuse across industries and sectors, leading to productivity enhancements at the macroeconomic level. Maizels' (1963) study on the rank correlation between seven developed countries provides empirical evidence supporting a positive relationship between international trade and economic development. By examining the trade patterns and economic performance of these nations, Maizels' (1963) aimed to uncover any significant associations between levels of international trade and indicators of economic development. The findings of Maizels' (1963) study revealed a positive correlation between the extent of international trade and measures of economic development across the seven developed countries under investigation. This implies that countries with higher levels of international trade tended to exhibit greater levels of economic development, while those with lower levels of trade tended to lag behind in terms of economic progress. The positive correlation observed in Maizels' (1963) study suggests that international trade plays a significant role in fostering economic development and growth. Countries that actively engage in international trade benefit from various mechanisms that contribute to their economic advancement. Firstly, international trade enables countries to access a wider range of goods and services that may not be available domestically or may be more expensive to produce domestically. This access to a diverse array of products allows countries to allocate their resources more efficiently, specialize in areas of comparative advantage, and achieve higher levels of productivity and output. Secondly, participation in international trade exposes domestic firms to competition from foreign producers, fostering innovation, efficiency improvements, and technological advancements. In order to remain competitive in global markets, firms may invest in research and development, adopt new technologies, and enhance their production processes, all of which contribute to economic development.

Furthermore, international trade provides countries with opportunities to exploit economies of scale, expand their markets, and generate economies of scope. By tapping into larger and more diverse markets abroad, countries can achieve greater levels of production, reduce average costs per unit of output, and enhance their overall competitiveness in the global marketplace. International trade facilitates the exchange of ideas, knowledge, and best practices among trading partners, leading to cross-border learning, knowledge spillovers, and technology transfer. These knowledge flows contribute to innovation, human capital development, and the dissemination of new ideas, ultimately driving economic development and progress. Kavoussi (1984) study contributes to the understanding of the relationship between export growth and economic

development by examining data from seventy-three countries, including middle and low-income nations. The findings of this study support a positive relationship between higher rates of export growth and higher rates of economic development. By analyzing data from a diverse set of countries, including those with varying levels of economic development and different stages of industrialization, Kavoussi (1984) aimed to assess the impact of export growth on overall economic performance. The results indicate that countries experiencing faster rates of export growth tend to also exhibit higher levels of economic development.

The positive relationship identified by Kavoussi (1984) suggests that export-led growth strategies can be effective mechanisms for promoting economic development, particularly in middle and low-income countries. By focusing on expanding exports, countries can tap into external markets, generate foreign exchange earnings, attract investment, and foster industrialization and diversification of the economy. Furthermore, export-oriented policies often encourage investments in infrastructure, technology, and human capital, which can contribute to long-term economic growth and development. By channeling resources towards sectors with export potential, countries can capitalize on comparative advantages, achieve economies of scale, and enhance productivity and competitiveness in the global marketplace. However, it is important to acknowledge that the relationship between foreign trade and economic development is complex and multifaceted. While export-led growth strategies may yield positive outcomes for some countries, there are also concerns about the potential negative impacts of international trade on inequality and disparities between nations. Indeed, as noted by Kavoussi (1984) and echoed in broader debates on trade and development, historical patterns of international trade have often been characterized by unequal power dynamics and asymmetrical relationships between rich and poor countries. Critics argue that globalization and trade liberalization have disproportionately benefited wealthier nations at the expense of poorer ones, exacerbating income inequality and perpetuating structural imbalances in the global economy.

In this context, while export growth may contribute to economic development in some contexts, policymakers must also consider the distributional effects of trade policies and ensure that the benefits of globalization are equitably shared across societies. Addressing issues of inequality, inclusive growth, and sustainable development remains essential for harnessing the potential of international trade as a driver of economic progress for all nations. Myrdal (1956) assertion underscores a pervasive concern within the discourse on international trade: that trade dynamics inherently favor more affluent and industrially advanced regions, perpetuating disparities between developed and less-developed countries. This perspective aligns with the dependency theory, which posits that the global economic system operates to the advantage of wealthy nations while marginalizing and exploiting poorer ones. Building on Myrdal (1956) insights, economists such as Prebisch and Singer further articulated the idea that international trade exacerbates structural inequalities, particularly through terms of trade that disadvantage less-developed countries. Their research on the "Prebisch-Singer thesis" highlighted the tendency for primary commodity prices to decline relative to manufactured goods over time, contributing to the economic stagnation of commodity-exporting nations. In essence, these scholars argue that the dynamics of international trade perpetuate a cycle of underdevelopment for less-developed countries, hindering their prospects for economic growth and industrialization. Structural barriers, unequal power dynamics, and asymmetrical exchange relationships reinforce the marginalization of poorer nations within the global economic system.

However, amidst these critiques, there is recognition of the potential benefits that trade can offer, even in less favorable circumstances. As articulated by Nurkse, the notion that "even unsteady growth through foreign trade is surely better than no growth at all" suggests a pragmatic acknowledgment of the complexities involved. While trade may not offer a panacea for all development challenges, it can provide opportunities for economic expansion, technological diffusion, and integration into global value chains. Indeed, the key lies in addressing the underlying structural constraints and inequities that shape international trade relations. Efforts to promote inclusive growth, address asymmetries in market access and bargaining power, and foster productive capacities in less-developed countries are essential for realizing the potential benefits of trade for all nations. The historical trade relationship between India and Saudi Arabia traces back to ancient times, dating back to the third millennium BC. However, a closer examination reveals that this relationship flourished significantly, particularly between southern India and Arabia, by the 1st century AD. During this period, Arab traders played a pivotal role in facilitating trade between the two regions, establishing a robust economic network that spanned across the Arabian Peninsula and the Indian subcontinent.

Of particular significance was the trade in spices, for which India held a prominent position as a major supplier. Prior to the emergence of European imperialist empires in India, Arab traders dominated the spice trade, enjoying a monopoly over this lucrative commodity within the Indian market. This historical trade in spices served as a cornerstone of the Arabian economy and contributed to the cultural and economic exchange between India and Arabia. India's historical role as a center of trade and commerce further solidified its ties with the Arabian Peninsula, laying the foundation for enduring trade relations that transcended geographical boundaries. The trade networks established during this period formed the basis for ongoing economic interactions between India and Saudi Arabia, shaping the trajectory of their bilateral trade relations over the centuries. In contemporary times, the historical legacy of trade between India and Saudi Arabia continues to underpin their bilateral relationship, serving as a testament to the enduring nature of their economic ties. As both countries navigate the complexities of the modern global economy, they draw upon this rich historical heritage to forge mutually beneficial trade partnerships and foster economic cooperation across various sectors.

The frequent visits of high-ranking officials from both India and Saudi Arabia have played a pivotal role in strengthening bilateral trade relations and further enhancing their existing partnership. According to Pradhan (2012), one significant milestone in this regard was the signing of the Delhi Declaration in 2006. This landmark agreement aimed to address various key areas of trade cooperation and sought to bolster the trade relationship across diverse sectors, including education, healthcare, energy, and technology. The Delhi Declaration underscored the commitment of both nations to deepen their engagement and collaboration in areas of mutual interest, fostering greater synergy in economic, political, and strategic spheres. By prioritizing cooperation in sectors such as trade, education, and healthcare, the declaration laid the groundwork for comprehensive and multifaceted bilateral ties that transcended traditional trade boundaries. Moreover, the Delhi Declaration reflected the shared vision of India and Saudi Arabia to harness the potential of their partnership for mutual benefit and sustainable development. By promoting closer collaboration in science, technology, and political cooperation on regional and global issues, the agreement sought to leverage the respective strengths of both nations to address common challenges and seize emerging opportunities in the evolving geopolitical landscape. The 2010 Riyadh Declaration served as a significant enhancement to the previous agreements, charting a new course for India's relations with Saudi Arabia by elevating the partnership beyond the realms of oil and trade. By forging a strategic partnership, India aimed to deepen its engagement with Saudi Arabia across various domains, ranging from economic cooperation to strategic collaboration. This landmark declaration marked a pivotal moment in the evolution of India-Saudi Arabia relations, signaling a shift towards a more comprehensive and multifaceted partnership that transcended traditional areas of cooperation. With a focus on strategic alignment and mutual interests, the Riyadh Declaration laid the groundwork for expanded collaboration in key areas such as security, defense, and regional stability. Moreover, the declaration underscored the mutual desire of both nations to harness their respective strengths and capabilities to address common challenges and seize emerging opportunities in the rapidly evolving global landscape. By committing to deeper engagement and enhanced cooperation, India and Saudi Arabia sought to leverage their strategic partnership to advance shared objectives and promote stability, prosperity, and development in the region and beyond.

In essence, the Riyadh et al., (2010) Declaration represented a significant milestone in India's diplomatic engagement with Saudi Arabia, setting the stage for a new era of strategic collaboration and partnership between the two nations. Through sustained dialogue, cooperation, and mutual respect, India and Saudi Arabia have continued to build upon the foundation laid by this historic agreement, further strengthening their bilateral relations and deepening their strategic ties for the benefit of both countries and the wider region. RigiLadez and Khan (2014) shed light on the critical role of the energy sector in facilitating trade between India and the Gulf region. With the Gulf Cooperation Council (GCC) catering to approximately two-thirds of India's total energy needs, the energy trade forms a cornerstone of the bilateral economic relationship. This reliance on energy imports underscores the strategic importance of the Gulf region to India's economic stability and development. In return for its energy imports, India exports a diverse range of products to the GCC countries, including spices, textiles, food products, information technology, electrical goods, and machinery. This reciprocal trade relationship not only promotes economic exchange but also fosters mutual interdependence and cooperation between India and the Gulf states. Moreover, investment plays a significant role as a secondary source for bolstering the bilateral economic ties between the GCC and India. Kumar and Ranjan (2012) highlight the importance of investment as a key driver of economic engagement, enabling both parties to capitalize on opportunities for growth and development across various sectors.

By leveraging the complementarity of their respective economies and capitalizing on shared interests and objectives, India and the GCC countries have the potential to further enhance their bilateral economic relationship. Through continued collaboration, investment, and trade diversification, both sides can unlock new avenues for economic cooperation and contribute to the sustained prosperity and development of the region. The evolving economic landscape, characterized by India's burgeoning economic growth, has undoubtedly transformed its trading relations with the Gulf region. However, despite these significant changes, it is crucial to recognize that the structure and pattern of trade between India and the Gulf countries remain relatively undiversified. As highlighted by Pradhan (2012) and Das (2014), there exists considerable untapped potential for further diversification and expansion of trade ties between India and the Gulf region. This potential encompasses various sectors, including but not limited to manufacturing, services, technology, and agriculture. By exploring and capitalizing on these untapped opportunities, both India and the Gulf states stand to benefit significantly from enhanced economic cooperation and collaboration. Diversifying the trade structure and expanding the range of traded goods and services can contribute to greater resilience and sustainability in bilateral trade relations. It can also mitigate the risks associated with overreliance on certain sectors or commodities, thereby fostering greater economic stability and growth for both parties.

Moreover, diversification of trade can lead to the development of new markets, the creation of employment opportunities, and the transfer of technology and know-how between India and the Gulf countries. This, in turn, can foster innovation, productivity, and competitiveness, driving economic development and prosperity in the region. To fully realize the potential for diversification and expansion of trade, proactive measures and policies are needed from both India and the Gulf states. This may include facilitating trade agreements, reducing trade barriers, promoting investment, fostering entrepreneurship, and enhancing cooperation in key sectors of mutual interest. Pradhan's (2006) utilization of the gravity model to assess India's export potential to the Gulf Cooperation Council (GCC) countries offers valuable insights into the dynamics of bilateral trade relations. The gravity model, a widely used framework in international economics, helps quantify the

magnitude of trade flows between countries based on various factors such as economic size, distance, and other relevant variables. Pradhan's findings reveal that among the six GCC countries, Oman emerges as the most promising market for Indian exports, followed by Qatar, Bahrain, and Kuwait. This highlights the significant export potential that exists between India and these particular GCC nations. By identifying these high-potential markets, policymakers and business leaders can focus their efforts and resources more effectively to capitalize on the opportunities presented by these bilateral trade relationships. The gravity model's ability to quantify and predict trade flows provides valuable insights for policymakers, helping them formulate trade policies, negotiate trade agreements, and allocate resources strategically to enhance export competitiveness. Additionally, Pradhan's analysis underscores the importance of understanding the unique economic, geographical, and institutional factors that influence trade patterns between India and the GCC countries.

Ahmed and Rustagi's (2004) research sheds light on the significant potential for India to export agricultural commodities to the Gulf Cooperation Council (GCC) countries, driven by factors such as geographical proximity and the liberalization of India's economy. The GCC countries, with their rapidly growing populations and limited agricultural resources, rely heavily on imports to meet their food needs. This presents a lucrative opportunity for India, given its diverse range of agricultural products and its geographical proximity to the GCC region. By identifying the vast scope for exporting agricultural commodities to the GCC countries, Ahmed and Rustagi's (2004) underscore the importance of leveraging India's agricultural strengths to enhance bilateral trade relations. Agricultural exports can not only contribute to India's economic growth but also help meet the food security needs of the GCC countries, fostering mutually beneficial trade partnerships. The findings of Ahmed and Rustagi's (2004) study highlight the historical resilience and prosperity of the trade relationship between India and the GCC countries, including Saudi Arabia. This enduring trade partnership has flourished over the ages, driven not only by governmental policies but also by the natural synergies and complementarities between the two regions.

the role of favorable policies from the authorities of both India and Saudi Arabia cannot be overstated in further accelerating and diversifying the trade relationship between the two countries. While certain products may already experience high levels of trade activity, there remains significant untapped potential in other areas where trade could be expanded. Exploring and capitalizing on these untapped opportunities is crucial for maximizing the bilateral trade potential between India and Saudi Arabia. By identifying and leveraging areas of mutual interest and comparative advantage, both countries can enhance their economic cooperation and create new avenues for trade and investment.

In this context, the present paper aims to investigate the future trade possibilities and potentials between India and Saudi Arabia. Through comprehensive analysis and strategic insights, the paper seeks to identify key sectors and opportunities for trade expansion, as well as potential challenges and barriers that need to be addressed. By shedding light on the future prospects of bilateral trade, the paper aims to provide valuable guidance for policymakers, businesses, and other stakeholders interested in fostering stronger economic ties between India and Saudi Arabia. Ultimately, by harnessing the full potential of their trade relationship, both countries can achieve greater economic growth, prosperity, and mutual benefit.

3. METHODOLOGY

Calculating the Export Intensity Index (EII) and Import Intensity Index (III) provides valuable insights into the patterns and dynamics of trade between India and Saudi Arabia. These indices offer a quantitative measure of the intensity of trade relations between the two countries, taking into account their respective export and import volumes in relation to total global trade. The Export Intensity Index (EII) measures the importance of Saudi Arabia as a destination for India's exports relative to India's total exports and the total imports of Saudi Arabia relative to global imports. Similarly, the Import Intensity Index (III) assesses the significance of India as a source of imports for Saudi Arabia relative to Saudi Arabia's total imports and India's total exports relative to global exports. By analyzing these indices, policymakers, researchers, and businesses can gain valuable insights into the degree of economic interdependence and the potential for further trade expansion between India and Saudi Arabia. Additionally, these indices can help identify areas of comparative advantage and opportunities for enhancing bilateral trade cooperation. To calculate these indices, accurate and reliable data from sources such as the Ministry of Commerce in India and the UN Comtrade database is essential. By utilizing rigorous methodologies and comprehensive datasets, researchers can generate meaningful insights that inform strategic decision-making and policy formulation aimed at strengthening economic ties between India and Saudi Arabia.

5. EMPIRICAL RESULTS

The table 1 presents the Trade Intensity Index between India and Saudi Arabia, showcasing the intensity of trade flows between the two countries over the years. The Trade Intensity Index measures the relative importance of bilateral trade between two nations, providing insights into the level of economic engagement between them. The table is divided into two sections, each representing the trade intensity index from the perspective of one country towards the other. For India's trade intensity index with Saudi Arabia, the table includes data for the years from 2001 to 2013. The Export intensity index indicates the proportion of India's exports to Saudi Arabia relative to India's total exports, while the Import intensity index shows the proportion of India's imports from Saudi Arabia relative to India's total imports. Some entries are marked as "NA," indicating missing data for those particular years. Similarly, for Saudi Arabia's trade intensity index with India, the table includes data for the same years from 2001 to 2013. The Export intensity index signifies the proportion of Saudi Arabia's exports to India relative to Saudi Arabia's total exports, while the Import intensity index illustrates the proportion

of Saudi Arabia's imports from India relative to Saudi Arabia's total imports. Again, some entries are marked as "NA," indicating missing data for those years. The table offers insights into the bilateral trade dynamics between India and Saudi Arabia, highlighting the trends and fluctuations in trade intensity over the years. It serves as a valuable tool for policymakers, economists, and analysts interested in understanding the economic relationship between the two nations.

Table: 1 Trade Intensity Index between India and Saudi Arabia

| India's trade intensity index with SAUDI ARAB | | | SAUDI ARAB's trade intensity index with India | | |
|---|------------------------|------------------------|---|------------------------|------------------------|
| YEAR | Export intensity index | Import intensity index | YEAR | Export intensity index | Import intensity index |
| 2001 | 3.62 | 0.88 | 2001 | 0.57 | 3.29 |
| 2002 | 3.63 | 0.71 | 2002 | NA | 3.44 |
| 2003 | 3.54 | 0.75 | 2003 | 6.23 | 3.66 |
| 2004 | 3.71 | 0.83 | 2004 | NA | 3.71 |
| 2005 | 2.96 | 0.60 | 2005 | 4.39 | 3.07 |
| 2006 | 3.28 | 3.37 | 2005 | 4.14 | 3.63 |
| 2007 | 3.38 | 4.33 | 2007 | 0.91 | 3.12 |
| 2008 | 4.05 | 3.60 | 2008 | NA | 3.53 |
| 2009 | 2.77 | 3.41 | 2009 | NA | 2.49 |
| 2010 | 2.80 | 3.40 | 2010 | NA | 2.47 |
| 2011 | 2.26 | 2.93 | 2011 | NA | 1.85 |
| 2012 | 3.26 | 2.95 | 2012 | NA | 1.94 |
| 2013 | 3.92 | 3.68 | 2013 | 0.28 | 1.84 |

Table 2: India's RCA Index Value

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Commodity | | | | | | | | | | | | | |
| Food, live animals (0) | 2.10 | 2.06 | 1.77 | 1.72 | 1.56 | 1.57 | 1.60 | 1.66 | 1.10 | 1.24 | 1.34 | 1.58 | 1.65 |
| Beverages & tobacco (1) | 0.47 | 0.48 | 0.45 | 0.45 | 0.42 | 0.44 | 0.45 | 0.58 | 0.65 | 0.59 | 0.43 | 0.50 | 0.49 |
| Crude materials, inedible (2) | 1.26 | 1.51 | 1.39 | 1.97 | 2.35 | 2.09 | 2.12 | 1.91 | 1.65 | 1.74 | 1.25 | 1.59 | 1.19 |
| Mineral fuels, lubricants (3) | 0.52 | 0.52 | 0.65 | 0.79 | 0.85 | 1.07 | 1.27 | 1.10 | 1.03 | 1.20 | 1.18 | 1.15 | 1.28 |
| Animal, veg oils, fats, waxes (4) | 1.49 | 0.88 | 0.83 | 1.11 | 0.91 | 0.75 | 0.68 | 0.63 | 0.64 | 0.67 | 0.64 | 0.59 | 0.62 |
| Chemical (5) | 1.12 | 1.08 | 1.08 | 1.09 | 1.07 | 1.13 | 1.06 | 1.08 | 0.91 | 0.97 | 0.96 | 1.10 | 1.08 |
| Manufactured goods (6) | 2.65 | 2.75 | 2.80 | 2.48 | 2.41 | 2.16 | 2.04 | 1.99 | 1.96 | 2.19 | 1.91 | 1.86 | 2.00 |
| Machinery, transport equip (7) | 0.21 | 0.21 | 0.24 | 0.25 | 0.28 | 0.29 | 0.30 | 0.39 | 0.45 | 0.42 | 0.42 | 0.41 | 0.41 |
| Misc. manufactured articles (8) | 1.59 | 1.50 | 1.51 | 1.55 | 1.45 | 1.44 | 1.30 | 1.15 | 1.55 | 1.12 | 1.24 | 1.34 | 1.02 |
| Others Commodities (9) | 0.70 | 0.57 | 0.33 | 0.27 | 0.29 | 0.28 | 0.27 | 0.35 | 0.77 | 0.40 | 0.92 | 0.20 | 0.48 |

The table 2 showcases India's Revealed Comparative Advantage (RCA) Index values across various commodity categories from 2001 to 2013. Each row represents a distinct commodity category, while each column corresponds to a specific year within the given timeframe.

In analyzing the RCA Index values, we can discern India's relative competitiveness in exporting or importing different types of goods over the years. Values above 1 suggest that India possesses a comparative advantage in exporting the respective commodity category, indicating its strength in international trade. Conversely, values below 1 indicate a comparative disadvantage, signifying areas where India may struggle to compete in the global market. For instance, in 2001, India demonstrated a notable comparative advantage in exporting "Food, live animals," as evidenced by an RCA Index value of 2.10. Conversely, the RCA Index value of 0.47 for "Beverages & tobacco" in the same year suggests a relative disadvantage in exporting these commodities. Across the years, fluctuations in RCA Index values offer insights into changing trade dynamics and evolving patterns of comparative advantage. Observing trends in these values over time can inform policymakers, economists, and analysts about shifts in India's competitiveness across different sectors of its economy. Overall, the table provides a comprehensive view of India's trade performance and comparative advantage across various commodity categories, aiding in the assessment of the country's position in the global marketplace and informing strategic decisions related to trade policy and economic development.

The table 3 delineates India's Bilateral Revealed Comparative Advantage (BRCA) Index values regarding trade with Saudi Arabia across various commodity categories from 2001 to 2013. Each row corresponds to a distinct commodity category, while each column represents a specific year within the given timeframe. Interpreting the BRCA Index values provides insights into India's relative advantage or disadvantage in exporting specific commodity categories to Saudi Arabia. Higher BRCA Index values denote a stronger comparative advantage in exporting the respective commodity category, whereas lower values suggest a weaker comparative advantage or even a disadvantage. Values exceeding 1 signify India's comparative advantage in exporting the commodity to Saudi Arabia, while those below 1 indicate a comparative disadvantage. For example, in 2001, India demonstrated a significant comparative advantage in exporting "Food, live animals" to Saudi Arabia, evidenced by the BRCA Index value of 20.54. Conversely, the BRCA Index value of 0.06 for "Mineral fuels, lubricants" in the same year suggests a comparative disadvantage in exporting this category to Saudi Arabia. Across the years, fluctuations in BRCA Index values reflect changing trade patterns and variations in India's comparative advantage across different commodity categories in its trade relationship with Saudi Arabia. This data is crucial for policymakers, economists, and analysts in evaluating bilateral trade dynamics and identifying opportunities for enhancing trade competitiveness and collaboration between India and Saudi Arabia.

Table: 3 India's BRCA Index Value with Saudi Arabia

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Commodity | | | | | | | | | | | | | |
| Food, live animals (0) | 20.54 | 17.87 | 11.83 | 12.54 | 13.21 | 12.19 | 10.45 | 45.20 | 14.78 | 6.53 | 9.38 | 11.63 | 12.38 |
| Beverages & tobacco (1) | 14.63 | 13.58 | 6.73 | 5.40 | 5.61 | 5.83 | 4.18 | 41.48 | 13.23 | 5.79 | 5.58 | 7.71 | 7.00 |
| Crude materials, inedible (2) | 14.53 | 16.12 | 19.06 | 26.57 | 44.26 | 29.02 | 28.89 | 71.37 | 78.51 | 52.73 | 46.71 | 44.27 | 16.06 |
| Mineral fuels, lubricants (3) | 0.06 | 0.05 | 0.07 | 0.09 | 0.12 | 0.17 | 0.18 | 0.20 | 0.16 | 0.20 | 0.22 | 0.22 | 0.24 |
| Animal, veg oils, fats, waxes (4) | 12.05 | 7.43 | 7.69 | 14.04 | 11.27 | 11.48 | 7.30 | 21.75 | 11.71 | 4.87 | 4.43 | 4.39 | 4.45 |
| Chemical (5) | 1.41 | 1.58 | 1.74 | 1.78 | 1.86 | 2.05 | 1.85 | 2.41 | 1.65 | 1.23 | 1.23 | 1.39 | 1.25 |
| Manufactured goods (6) | 21.18 | 18.66 | 18.43 | 19.10 | 22.72 | 19.37 | 16.41 | 43.01 | 26.81 | 16.48 | 18.90 | 18.88 | 18.96 |
| Machinery, transport equip (7) | 6.11 | 6.01 | 7.40 | 5.14 | 6.48 | 5.56 | 4.70 | 9.81 | 6.96 | 7.68 | 9.25 | 8.81 | 7.23 |
| Misc. manufactured articles (8) | 60.40 | 40.79 | 38.19 | 29.99 | 49.95 | 36.83 | 35.90 | 63.63 | 65.94 | 25.96 | 30.78 | 36.06 | 28.89 |
| Others Commodities (9) | 1.54 | 117.7 | 6.52 | 5.67 | 11.02 | 4.42 | 17.63 | 0.48 | 0.90 | 13.84 | 30.04 | 3.48 | 31.29 |

4. CONCLUSIONS

India's remarkable economic performance since the 1990s has undoubtedly had a significant impact on its trade relations with Saudi Arabia. As India embraced economic reforms, liberalization, and globalization initiatives in the 1990s, its economy experienced substantial growth, leading to increased trade volumes and diversification of export commodities. This economic transformation enhanced India's attractiveness as a trading partner for Saudi Arabia, leading to a surge in bilateral trade and investment activities. India's burgeoning middle class and expanding consumer market presented lucrative opportunities for Saudi Arabian exporters, particularly in sectors such as energy, petrochemicals, and infrastructure development. Conversely, India's growing economy fueled its demand for energy resources, making it one of the largest importers of Saudi Arabian oil. This symbiotic relationship between the two countries, driven by complementary economic needs and strengths, has deepened over time, contributing to the overall growth and stability of bilateral trade. Furthermore, India's emergence as a global economic powerhouse has positioned it as an attractive destination for Saudi Arabian investments across various sectors, including technology, healthcare, and renewable energy. This mutual economic cooperation has fostered closer ties between the two nations, paving the way for collaborative ventures and joint initiatives aimed at promoting sustainable growth and development.

The trade intensity between India and Saudi Arabia underscores the strength and depth of their economic relationship. India's trade with Saudi Arabia is notably more intense compared to its trading patterns with the rest of the world. This heightened intensity reflects the substantial volume and frequency of trade exchanges between the two countries across various sectors. Despite the intensity of trade, India's trade balance with Saudi Arabia remains in deficit, indicating that India imports more from Saudi Arabia than it exports. However, this deficit is mitigated by the strategic importance of Saudi Arabia as a key supplier of crude oil to India, fulfilling a significant portion of India's energy needs. Moreover, India possesses a comparative advantage in multiple goods when trading with Saudi Arabia. This advantage suggests that India specializes in the production and export of certain goods that are in demand in the Saudi Arabian market. By capitalizing on these strengths, India can further enhance its export potential and trade competitiveness with Saudi Arabia. The trade intensity and comparative advantage between India and Saudi Arabia underscore the mutual economic benefits derived from their bilateral trade relations.

Despite trade imbalances, the strategic partnership between the two countries continues to foster robust trade exchanges and collaborative endeavors aimed at driving economic growth and prosperity for both nations. The examination of revealed comparative advantage (RCA) highlights significant trade opportunities for the growth of trade between India and Saudi Arabia. By identifying sectors where both countries have a comparative advantage on a global scale, the RCA analysis identifies potential areas of export interest that can drive bilateral trade growth. One notable observation is that India and Saudi Arabia benefit from having distinct trade structures. This divergence in trade structure creates complementary dynamics between the two countries, leading to heightened trade potential. While India may specialize in certain sectors where it has a comparative advantage, Saudi Arabia may excel in other sectors, creating opportunities for mutually beneficial trade exchanges. By leveraging their respective comparative advantages and capitalizing on the differences in their trade structures, India and Saudi Arabia can further enhance their trade relations and capitalize on untapped trade potential.

This strategic approach can foster deeper economic integration and contribute to the sustained growth and development of both economies. In conclusion, the RCA analysis underscores the importance of identifying and exploiting areas of comparative advantage to stimulate trade growth between India and Saudi Arabia. By focusing on sectors with high export potential and aligning their trade strategies accordingly, both countries can unlock new opportunities for trade expansion and mutual prosperity.

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