Trade and cooperation development of the Iran and D8

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Article Info	Abstract
	Convergence and collaboration among Developing Eight (D8) in economic, investment, and trade dimensions can bring about mutual economic, commercial, and non-economic interests for members, including Iran. The present study aims to use the theoretical framework of "regionalism" and convergences within regional blocs to address the following questions: How has the past performance and future outlook of intra-regional and extra-regional trade within the Group of Developing Eight (D8) been, and what is the current status of Iran among the members? Over the quarter-century of the formation, is the trade of group members within the framework of convergence literature resulting from the creation of trade, or is it a deviation from trade? The study seeks to evaluate the development of cooperation and trade within the D8 group, with a particular focus on Iran. In the methodological dimension, criteria such as "homogeneity of economic indicators", "degree of trade convergence" and a 22-industry-8-country matrix have been employed to identify the priorities for the development of cooperation and trade between Iran and the member countries of the Group of Eight (D8). These criteria are utilized to assess the areas of development for collaboration and trade. The study results indicate that over the period, the income per capita gap and dispersion for some of the poorer member countries have become more convergent, and there has been long-term homogenization of development indicators for the poorer members. Additionally, the study results show that during the period, the increase in the share of intra-regional trade within the organization and Iran has not been aligned with the development of Iran's trade. The development and deepening of intra-regional trade have not only led to the expansion of Iran's trade but have also resulted in trade divergence. The analysis of the results indicates that the lack of regional trade development is due to the underdevelopment and weak trade structure of Iran. Currently, the possibility of developing intra-regional trade and convergence with the organization is weak. However, with the development of the economic structure and the enhancement of relative advantages to Competitive Advantage, the potential for leveraging convergence benefits becomes available. Ultimately, from the study of 22 industries and 8 member countries of the group (a 22-Industry-8-Country Matrix), Turkey and Indonesia exhibit potential, diversity, and a wide range of industrial production in the fields of food, wood, paper, printing and publishing, chemicals, rubber and plastics, non-metallic minerals, fabricated metal, optics and electronics, electrical appliances, machinery and equipment, motor vehicles, and other transport equipment, furniture, and other industries. This presents opportunities for the development of cooperation and trade with Iran in terms of capacities and the breadth of industrial production.

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Extended Abstract
Introduction
Convergence and collaboration among Developing Eight (D8) in economic, investment, and trade dimensions can bring about mutual economic, commercial, and non-economic interests for members, including Iran.

Aims
The present study aims to use the theoretical framework of "regionalism" and convergences within regional blocs to address the following questions: How has the past performance and future outlook of intra-regional and extra-regional trade within the Group of Developing Eight (D8) been, and what is the current status of Iran among the members? Over the quarter-century of the formation, is the trade of group members within the framework of convergence literature resulting from the creation of trade? or is it a deviation from trade? The study seeks to evaluate the development of cooperation and trade within the D8 group, with a particular focus on Iran.

Materials and Methods
This research is based on international trade and industry statistics from two specialized international institutions, namely UNCTAD and UNIDO. The criteria of "homogeneity of economic indicators", "degree of trade convergence" and a 22-industry-8-country matrix have been utilized from these sources to assess the development potential, identify priorities, and evaluate the areas of development for cooperation and trade between Iran and the member countries of the Group of Developing Eight (D8).

Results and Discussion
The present article evaluates the economic and trade integration of D8 members from 2000 to 2021 and identifies the areas for the development of cooperation and trade in Iran's industrial sectors with the Group of Developing Eight members. The study results indicate:
1. Among the countries of the D8 group, the income per capita gap and range have significantly decreased for some countries with lower per capita income, particularly focusing on Bangladesh and Indonesia. Consequently, the D8 has been successful in terms of income homogeneity and convergence, confirming the process of equalization and harmonization of per capita income among these countries. However, the improvement in the per capita income of successful D8 countries is fundamentally influenced by the underlying factors of growth and development in those countries, with economic and trade policies of the group playing a less significant role in this regard.
2. Exports of D8 goods to the world have increased from $240 billion

in 2001 to $733 billion and $1.135 trillion in 2010 and 2021, respectively. During these two periods, the growth of D8 exports (11% and 7.7%) compared to global export growth (9.4% and 6.3%) has led to an improvement in the D8's share of global exports from 3.9% in 2001 to 4.85% and 5.13% in 2010 and 2021, respectively. In fact, the growth rate of D8 exports has been higher than the growth rate of global exports, and due to the outperformance of D8 export growth compared to global export growth, the D8's share of global exports has continuously improved during the observed period.

3. Intra-regional exports of D8 have increased from $8.5 billion in 2001 to $43.7 billion and $80.7 billion in the years 2010 and 2021, respectively. During these two periods, the growth of intra-regional exports (17.8% and 11.3%) compared to the growth of D8 exports (11% and 7.7%) has led to an increase in the intra-regional export share of D8 from 3.55% in 2001 to 6.39% and 7.4% in 2010 and 2021, respectively. This represents an increase of 1.8 and 2.1 times, respectively.

4. The trade intensity index (exports) in D8 has increased from 3.9 units in 2001 to 4.85 and 4.93 units in the years 2010 and 2021, respectively. The trade intensity index, relative to the base year 2001 (set at 100), has improved to 135.2 and 164.8 in the years 2010 and 2021, indicating an upward trend. The substantial increase in the intra-regional export share of D8 from global exports, coupled with a remarkable rise in the global export share of D8 from world exports, has led to an enhancement of the trade intensity index. This is attributed to the increased intra-regional export share of D8, contributing to the upward trajectory of the trade intensity index.

5. While the intra-regional export share of D8 is declining, and except for some countries with low trade volumes, most member exports occur with extra-regional partners, the trend has been on the rise since the formation of the D8. Consequently, the increase in the D8's share of global exports, concurrent with the rise in the intra-regional export share of the D8, indicates that, at the very least during the 2001-2021 period, improvements in the intensity of D8 trade relationships have led to the expansion of its global exports (creation of trade). Despite the relatively low intra-regional export share, ranging from a minimum of 3.55% in 2001 to a maximum of 7.4% in 2021, it has consistently remained below 10%.

6. In general, from the intra and extra-regional trade experience of D8 countries, five nations, including Bangladesh, Egypt, Indonesia, and Malaysia, have successfully increased both intra and extra-regional trade development simultaneously (referred to as the creation of trade). However, the simultaneous development of intra and extra-regional trade has not occurred for Iran, Nigeria, and

Pakistan (referred to as trade diversion).

7. During the 2001-2021 period, the reduction in Iran's global export share, coupled with a decrease in Iran's export growth, led to an increase in Iran's export intensity index with D8 due to the rise in its intra-regional export share. The simultaneous increase in Iran's intra-regional export share with the D8, along with a slow growth rate and a decline in Iran's global exports, indicates that the rise in Iran's trade intensity index did not result in an increase in Iran's global exports (occurrence of trade diversion).

8. One of the most significant reasons for the lack of intra-regional trade development is the low level of trade sophistication and the weak export structure of some D8 members, including Iran. In these circumstances, the possibility of trade development, especially dynamic intra-regional trade, will not be feasible.

9. Currently, among the spectrum of 22 Industries and members of D8, Turkey and Indonesia, in terms of capacities, capabilities, diversity, and the breadth of industrial production in 15 Sectors, possess the most significant potential for the development of cooperation and trade with Iran.

Conclusions

According to the research findings, various economic aspects, as well as industrial trade and investment, are identified as untapped potentials in Iran and D8 countries. The study delves into the development areas and outlines the matrix of Iran and D8 countries (both in terms of nations and industries). In order to enhance intra-regional trade in Iran, recommendations and final considerations are presented.

First, macroeconomic policy reforms aimed at stabilizing the overall economic environment in Iran with a focus on sustainable and comprehensive growth, risk reduction, centered around inflation rates, and controlling non-economic fluctuations, particularly those related to sanctions, should be implemented.

Second, reforms in Iran's trade policy should be carried out with the goal of removing non-tariff trade barriers, enhancing stability, and rationalizing customs tariff levels.

Third, considering the identification of natural trading partners within and beyond the region for Iran, these partners, in both stable conditions and long-term dynamics, especially those contributing to the development of sustainable and comprehensive trade, particularly the development of employment-generating manufacturing industries, should be prioritized in subsequent steps with a knowledge-based and border efficiency approach to trade development.

Fourth, structural transformations in the trade of goods and services in Iran should be pursued with the aim of improving relative advantages and achieving competitive advantages, focusing on job-creating, foreign

exchange-earning industries, and subsequently realizing knowledge-based and service development, including tourism.

Fifth, given the analysis of 22 industries and 8 group members (a matrix of 22 industries and 8 countries), Turkey and Indonesia are identified as the top priorities for cooperation and trade with Iran in terms of capacities, capabilities, diversity, and the breadth of industrial production. In 15 industries, including food, wood, paper, printing and publishing, chemicals, rubber and plastics, non-metallic minerals, fabricated metal products, optics and electronics, electrical appliances, machinery and equipment, motor vehicles, other transport equipment, furniture, and other industries, these two countries, along with Iran, have the greatest potential for Cooperation and Trade Development.

Conflict of interest
The authors declared no conflicts of interest.

Authors' contributions
All authors contributed to the original idea, study design.

Ethical considerations
The author has completely considered ethical issues, including informed consent, plagiarism, data fabrication, misconduct, and/or falsification, double publication and/or redundancy, submission, etc.

Data availability
The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

Acknowledgment
The authors consider to express their gratitude to the Institute of Business Studies and Research for their assistance in conducting this research.

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