



Economic Complex Index and International Trade

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Abstract

The economic complex index is a recent development analysis in the world. This is calculated with the index of three indexes. They are an economic complex index of trade, the economic complex index of technology, and the economic complex index of research. All three indexes are collectively used in calculating the economic complex of the country. The European Union's countries had higher economic complex indexes are higher. Their Export quantity is very high and their import quantity is also higher. The higher quantity of exports as well as the huge quantity of imports represent the development of the economy. Their people's standard of living is higher. The developing countries' economic complex indexes are very low.

It has negative effects on people's working conditions, and savings and investments are very low. If developing countries develop their economic complex index these countries will be capable of competing in international trade. Finally, these countries can able to make use the international trade as an engine of growth. They become developed.

Keywords: Economic Complex index, economic complex index of trade, economic complex index of technology, economic complex index of research, and international trade and development.

Introduction:

International trade is more competitive nowadays. No country can sustain itself without the international trade. The main reason is, that no country is self-sufficient in all requirements. All countries of the world depend upon other countries. Even the most advanced countries like the United States, Japan, Germany, Switzerland, and Belgium are also depending upon their international trade. Countries of world need the international trade either export or import for their requirements. This is an attempt to assess the relationship between international trade and the economic complexity index of world countries.

Objectives:

1. To assess the importance of international trade in economic development.
2. To examine the relationship between international trade and economic development
3. To identify the challenges faced in the economic complex index.

Methodology; This study makes use of secondary data for this analysis. This is a partial analysis. It applies to the selected country's economic complex index for 2021.

India exports approximately 7500 commodities to about 190 countries, and imports around 6000 commodities from 140 countries. India's foreign exchange reserves for Dec-18 were \$ 393287Mn, Dec-19, \$454948mn, Dec-20, \$ 581131mn, Dec-21, \$635080mn, Dec-22, \$562808mn, and for Dec-23, \$ 620441mn.

The Economic Complexity Index (ECI)

The **Economic Complexity Index (ECI)** is a holistic measure of the productive capabilities of large economic systems, usually regions, or countries. In particular, the ECI looks to explain the knowledge accumulated in a population and that is expressed in the economic activities present in regions, a country. To achieve this goal, the ECI defines the knowledge available in a location, as the average knowledge of the activities present in it, and the knowledge of an activity as the average knowledge of the places where that economic activity is conducted. The product equivalent of the Economic Complexity Index is the Product Complexity Index or PCI.

Higher economic complexity as compared to a country's income level drives economic development. Many low-income countries, including Bangladesh, Venezuela, and Angola have failed to diversify their know-how and face low growth prospects. Others like India, Turkey, and Malaysia have successfully added productive capabilities to enter new sectors and will drive growth over the coming years.

The **Economic Complexity Index (ECI)** is a comprehensive measure of the productive capabilities of large economic systems, such as cities, regions, or countries. Specifically, the ECI aims to explain the knowledge accumulated within a population, which is then expressed through the economic activities present in a country or region. Here's how it works:

- The ECI assesses the **current state** of a country's productive knowledge.
- Countries can improve their ECI by increasing the number and complexity of the products they successfully export.
- In essence, the ECI provides insights into an economy's capacity based on the interplay of knowledge and economic activities.
- It's a valuable tool for understanding economic development and identifying areas for growth and diversification.

2021 Economic Complex Index of Trade of Selected Countries

1	Japan	2.06
2	Switzerland	1.94
3	Chines Taipei	1.93
4	South Korea	1.82
5	Germany	1.81
6	Singapore	1.74
7	Czechia	1.56
8	Sweden	1.54
10	India	0.61

The above table shows the economic complex index of trade in 2021 of the selected countries of the world. Japan's economic complex index of trade was 2.06 and it stood at first place among 131 listed countries. Switzerland has second position with an index was 1.94 points. Chinese Tai Pie at third and Germany was in fourth place with an economic complex index of trade was 1.93 and 1.82points. Germany had 1.81 points, Singapore had 1.74 points, Czechia had 1.56 points, and Sweden had 1.54 points. In 2021 India's economic complex index of trade was only 0.61. It has indicated that backward and low-income country has a lower economic complex index of trade and advanced countries have a higher economic complex index of trade.

2021 Economic Complex Index of Technology of Selected Countries

1	Sweden	1.56
2	Germany	1.56
3	Austria	1.50
4	Finland	1.38
5	Italy	1.34
6	Norway	1.33
7	France	1.24
8	Turkey	1.23
9	Spain	1.23
10	India	1.00

The above table clearly shows that Sweden's economic complex index of technology was 1.56 and it stood at first place among 131 listed countries. Germany has second position with an index was 1.56 points. Austria was third and Finland was in fourth place with an economic complex index of technology points 1.50 and 1.38 respectively. Italy had 1.34 points Norway had 1.33 points, France had 1.24 points and Turkey had 1.23 points. Spain had 1.23 points and it stands in ninth place. India's economic complex index of technology was only 1.00. It has indicated that backward and low-income country has a lower economic complex index of technology and advanced countries have a higher economic complex index of technology.

2021 Economic Complex Index of Research of Selected Countries

1	United States	2.41
2	United Kingdom	2.31
3	Canada	2.14
4	Australia	2.08
5	Netherlands	2.07
6	Switzerland	1.93
7	Sweden	1.92
8	Germany	1.87
9	Belgium	1.80
10	India	-0.093

The above table shows that United States' economic complex index of research was 2.41 points, and it stood at first place among 131 listed countries. The United Kingdom has second position with an index was 2.31 points. Canada at third and Australia was in fourth place with 2.14 and 2.08 points respectively. The Netherlands had 2.07 points, Switzerland had 1.93 points, Sweden had 1.92 points and Germany had 1.87 points. Belgium had an index point of 1.80 and it stands in ninth place. India's economic complex index of research was only - 0.093. It has indicated that backward and developing country like India has a lower economic complex index of research and advanced countries have a higher economic complex index of research.

Comparisons of the economic Complex index of India and Selected European Countries

Country	ECI of Trade	ECI of Technol,	ECI of Research,	Value of Export	Value of Import	Per capita Export	Per capita Import
Belgium	1.28	1.08	1.8	\$ 403bn	\$ 449bn	\$ 34.8 K	\$38.7K
Rank	18 /131	15 / 96	9 / 140	15 / 226	14 / 226	6 / 219	47 / 219
France	1.35	1.24	1.73	\$569bn	\$696bn	\$ 8.42k	\$ 10.3k
Rank	15 /131	7/96	12/140	8/226	5/226	52/219	34/219
Germany	1.81	1.55	1.87	\$1.67Tn	\$1.34Tn	\$18.8k	\$16.1k
Rank	5/131	2/96	8/140	3/226	3/226	21/219	20/219
Italy	1.27	1.34	1.74	\$597bn	\$570bn	\$10.1k	\$9.65k
Rank	19/131	5/96	11/140	7/226	10/226	35/219	38/219
Netherlands	1.09	1.08	2.07	\$642bn	\$670bn	\$ 36.6k	\$38.2k
Rank	22/131	16/96	5/140	6/226	8/226	4/219	6/219
Spain	0.78	1.23	1.68	\$372bn	\$409bn	\$7.87k	\$8.65
Rank	35/131	9/96	13/140	16/226	15/226	53/219	36/219
India	0.61	1	-0.093	\$ 403bn	\$563bn	\$289	\$ 404
Rank	41/131	22/96	68/140	14/226	11/226	179/219	187/219

Source: wits. Org

The above table clearly shows that India's Economic complexity index of trade was 0.61 and ranked 41th out of 131 nations of the world. India's Economic complexity index of technology was only 1 point and it ranked 22nd out of 96 countries of the world. India's Economic complexity index of research was -0.093 and ranked 68 out of 140 countries in the world. Hence India's Economic Complexity Index was lower and India's share in international trade was much lower when compared to trading partners of European countries. It has been clear that India's exports were only \$ 403 billion, and her imports were \$ 563 billion it stood at 14th place in exports and 11th place in imports. It is also clear from the table that India's per capita export was only \$289 and per capita imports were only \$ 404.

Conclusion: It is also clear from the above table that major countries of the European Union have a higher quantity of exports as well as a huge quantity of imports. So, we may conclude that those countries having a higher economic complex index of trade, technology, and research represent their development of economy and they are more capable of competition in the international market.

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