

On the Investigation of the Impact of Cultural Diversity on the Complexity of Exports in MENA Countries

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ABSTRACT

Exports play an important role in the global economy. The broad variety of factors affects exports, including cultural diversity, growth, and experience, type of company and export behavior. Among these factors, the factor of cultural diversity was unique and little research was done in this field. The purpose of this study is to investigate the impact of cultural diversity on export complexity. To do so, data of 17 MENA countries including Iran, Bahrain, Egypt, Algeria, Qatar, Saudi Arabia, Syria, Jordan, Yemen, Oman, Morocco, Kuwait, Tunisia, United Arab Emirates, Lebanon, Djibouti, and Sudan were used in Eviews Software during 1985-2015 by applying panel data regression. These countries are almost homogeneous in terms of political and social conditions, culture and customs. The data were extracted from World Health Organization and World Bank. Findings show that cultural diversity in the MENA countries has a positive and significant effect on export complexity and also on export growth. The results suggest that cultural diversity can contribute to increasing economic growth by increasing export complexity. In other words, policies that promote cultural diversity in a country cannot harm its economy, and therefore extreme worries in some countries, due to the cultural differences, are at least economically discredited.

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ملخص

تلعب الصادرات دورا مهما في الاقتصاد العالمي. وتؤثر مجموعة متنوعة من العوامل على الصادرات، بما في ذلك التنوع الثقافي، ومستوى النمو والخبرة، ونوع الشركات والسلوك التصديري. ومن بين هذه العوامل، كان عامل التنوع الثقافي فريدا من نوعه ولم يتم إجراء سوى القليل من الأبحاث بخصوصه. ويتمثل الغرض من هذه الدراسة في التحقيق في تأثير التنوع الثقافي على تعقيد عملية التصدير. وللقيام بذلك، تم استخدام بيانات 17 دولة من منطقة الشرق الأوسط وشمال أفريقيا بما في ذلك إيران والبحرين ومصر والجزائر وقطر والمملكة العربية السعودية وسوريا والأردن واليمن وعمان والمغرب والكويت وتونس والإمارات العربية المتحدة ولبنان وجيبوتي والسودان في برنامج Eviews خلال فترة 1985-2015 من خلال تطبيق انحدار بيانات اللوحة. وتبدو هذه البلدان متجانسة تقريبا من حيث الظروف السياسية والاجتماعية والثقافية والعادات. وقد تم استسقاء البيانات من منظمة الصحة العالمية والبنك الدولي. وتظهر النتائج أن لدى التنوع الثقافي في بلدان الشرق الأوسط وشمال أفريقيا تأثير إيجابي وهام على تعقيد عملية التصدير وكذلك على نمو الصادرات. كما تشير إلى أن التنوع الثقافي من شأنه أن يساهم في زيادة النمو الاقتصادي من خلال زيادة تعقيد عملية التصدير. وبعبارة أخرى، لا يمكن للسياسات التي تعزز التنوع الثقافي في بلد معين أن تضر باقتصادها، وبالتالي فإن المخاوف الشديدة في بعض البلدان، بسبب الاختلافات الثقافية، تفقدها على الأقل مصداقيتها الاقتصادية.

ABSTRAITE

Les exportations jouent un rôle important dans l'économie mondiale. Une grande variété de facteurs affecte les exportations, notamment la diversité culturelle, la croissance et l'expérience, le type d'entreprise et le comportement envers l'exportation. Parmi ces facteurs, le facteur de la diversité culturelle est unique et peu de recherches ont été faites dans ce domaine. L'objectif de cette étude est d'examiner l'impact de la diversité culturelle sur la complexité des exportations. Pour ce faire, les données de 17 pays de la région MENA, dont l'Iran, le Bahreïn, l'Égypte, l'Algérie, le Qatar, l'Arabie saoudite, la Syrie, la Jordanie, le Yémen, Oman, le Maroc, le Koweït, la Tunisie, les Émirats arabes unis, le Liban, Djibouti et le Soudan, ont été utilisées dans le logiciel Eviews au cours de la période 1985-2015 en appliquant la régression des données de panel. Ces pays sont presque homogènes en termes de conditions politiques et sociales, de culture et de coutumes. Les données ont été extraites de l'Organisation mondiale de la santé et de la Banque mondiale. Les résultats montrent que la diversité culturelle dans les pays de la région MENA a un effet positif et significatif sur la complexité des exportations et également sur la croissance des exportations. Les résultats suggèrent que la diversité culturelle peut contribuer à augmenter la croissance économique en augmentant la complexité des exportations. En d'autres termes, les politiques qui favorisent la diversité culturelle dans un pays

ne peuvent pas faire de mal à son économie, et donc les inquiétudes extrêmes de certains pays, dues aux différences culturelles, sont au moins discréditées économiquement.

Keywords: cultural diversity, export complexity, economic growth.

JEL Classification: Z1, G1, G15.

1- Introduction

At present, exports play an important role in the global economy. The broad variety of factors affects exports, including cultural diversity, growth, and experience, type of company and export behavior. Among these factors, the factor of cultural diversity was unique and little research was done in this field. Since culture is one of the most important components of development in any country, it is important to know that, until a decade ago, most scholars believed that development had an economic meaning. In other words, development was just an economic aspect, and countries were trying to boost their economy in order to achieve development. But this situation changed with the failure of countries that only put economic criteria into their planning for development and lost the one-dimensional concept of development. It has now become clear that the basis of any development is cultural development; therefore, to achieve comprehensive development, governments must strive to change their perception of man as a cultural being; since, true and sustainable growth is the basis of cultural development and, like the root that feeds on a tree, other sides of development (political, economic and social) also feed on this important dimension. Therefore, it is necessary to attempt to raise the level of the community culture and supply extra effort. (Salehnia et al., 2016).

One of the important aspects of cultural factors is cultural diversity, which is often a concept of cultural diversity and nearly the cultural diversity of different human societies in different regions of the earth. When we talk about cultural diversity, it is not just around cultural differences between countries, and should not be ignored the numerous cultural diversity that exists within countries (Band & Smith, 2015). Cultural diversity can have a positive or negative impact on economic growth. The positive impact can be provided by enhancing the range of skills that can produce a variety of goods and services and the negative impact of the possibility of increasing social discord that leads to increased economic or political instability (Ager & Bruckner, 2013).

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Export complexity is one of the most important affecting factors on the economic growth and development of any country. Export complexity shows the overall efficiency of an export basket of a country by its specialized patterns. Given that each product is identified with a certain level of efficiency, a country is considered a more complicated exporter if the export basket contains higher efficiency products. In formal models, the complexity of a country's export is determined by its economic principles (such as physical capital and human resources, natural resources, and market size). However, Hoosman et al., (2014) found that economic fundamentals are a minor proportion of changes in export complexity. Using a cost discovery model, they believe that the complexity of exports may also be influenced by some unique factors that encourage companies to participate and stimulate cost discovery in an economy. They believe that government policies can play a positive role in forming the structure of economic production (Hoosman Et al.,2014).

A growing number of reports indicate cultural diversity enables a community to be stronger and compete on a larger scale in the global economy in which we live in. People from diverse backgrounds bring language skills, new ways of thinking, innovative ideas and creative solutions to difficult problems.

This study examines the relationship between cultural diversity and export complexity in Mena countries and argues that the degree of cultural heterogeneity and diversity in society can affect the degree of export complexity in the economy. In particular, by stimulating exogenous technology, cultural diversity can encourage more entrepreneurs to examine the underlying cost structure of the economy, which may help to increase the complexity of exports. Also, cultural diversity can increase export growth and improve the country's ability to approach technology (Rivière, 2009).

2- Theoretical Foundations

2-1- Cultural diversity

In each period, a generation is born of individuals who include a continuum of measurement. Each person lives for only two periods and has one father, one mother, and one child. In the first period of life, people are raised by their parents. In the second period of life, people join the workforce. According to the theory of Ashraf and Galore (2011), we assume that people in economics do not have a similar attitude toward dominant cultural diversity norms. Based on the

characteristics of cultural diversity, people can be divided into two groups: compatible or incompatible. Traits of cultural diversity can be transmitted from parents to children. The compatible group is considered to be the most important in the economy and, so the increasing proportion of incompatibles reflects a higher degree of cultural diversity. There are two types of cultural diversity (cultural diversity assimilation and expanding cultural diversity) that have an opposite consequence on the proportion of incompleteness in the economy. The integration of cultural diversity, which represents the internal forces, reduces the incompatibility and, leads to the harmonization of cultural diversity feature. On the other hand, the expanding of cultural diversity, which reflects external forces, increases the incompatibility and thus results in heterogeneity in cultural diversity feature (Thomas, 2014). The culture is vague, multifaceted, dark and indefinable. Many scholars also believe that culture is an ambiguous phenomenon that follows fuzzy logic, not zero and one logic, and therefore the definition of culture has become an easy task, for which there are more than 450 narratives. But today's world requires providing a definition of culture that can make it measurable. Awareness of the existence of culture is a phenomenon shaped by the emergence of the need for an objective human perspective on culture. Previously, culture was an internal phenomenon that one could not isolate and see from a distance (Sirto, 2013).

2-2. Cultural diversity view

There are different perspectives to define culture, three of which are more important than others (Mainela et al., 2015):

Existentialism view

In this view, culture is a combination of structural experiences that is recognizable by living within a particular cultural diversity. In this opinion, culture cannot be defined except through the self-experience that comes from living in that culture. For this reason, any cultural diversity is not understandable to strangers.

Structuralism view

This view emphasizes the constitutive elements in defining culture and believes that culture is the product of dynamic human interaction through the environment to meet the needs that arise at every stage of human social movement in the material and spiritual realms, and manifests as material and

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spiritual values. Material values include human achievements in the material realm such as tools, objects and other achievements that have been discovered or produced. Whereas spiritual values include achievements that are not material, such as values, patterns, standards, theories and ideas, concepts and models. Some cultural diversity phenomena, including the creative arts, fall into both sets of values. In the same sense, we can say that part of human social heritage has a material basis is material culture and that part which has no material basis is spiritual culture (Rastegar & Shaabani, 2016).

Shirvanloo (2011) defines culture as a set of experiences, feelings, and ideas that are contingent on history and are embedded in material and spiritual values, reflecting both the past and the future. In defining culture from a structural view, he defines culture as a system that consists of a core system and four peripheral subsystems. At the core of this system is a dark and unknown field of ontology and cosmology, which seeks to find the correct answer to fundamental human questions such as, who am I, where I come from and where am I going, and to interpret human existence. Myths play an essential role in this field. Human understanding of this field is very defective (Edgar Moren, 2013). In Morin's model, the first peripheral subsystem consists of being that encompasses existential experiences. Art, literature, and philosophy fall into this subsystem. Patterns are another subsystem that encompasses standards, values, traditions, and customs. These are templates that shape human feeling, thought and behavior and provide templates for expressing emotion and thought and behavior. Language is the most important element of culture that shapes thought. And the fourth subsystem is perception and cognition that encompasses all kinds of knowledge (Taghavi et al., 2016).

Functionalism view

This view defines culture based on its functions. Among them, he says, culture is the context in which patterns of thought and behavior are shaped and given to the community and individuals of the community: an identity that is very unique, coherent and distinct, for example, can be distinguished Iranian man from non-Iranian man. Its purpose is to guide human beings to the comprehensiveness, Integrity and existential unity that human beings need that in their interaction with the environment. Above all, culture must be able to help the individual to achieve a dynamic and constructive balance between the inner world and the outer reality in a dynamic and complex environment, in the current complex and crisis-ridden environment. For our purpose, one of these views can be selected

from the definition of culture. In discussing the culture trade and the analysis of the global culture market, it is necessary to adopt a composite, holistic, and systematic view. There is no doubt that in such a discussion, the definition of culture will have a deep effect on its content, discussion direction, and conclusion. The debate on trade and the cultural market has become a heated debate on the issues of cultural economics and the politics of cultural diversity because they deal with the concepts based on our definition of culture. There are four main concepts among these concepts: cultural diversity industries, creative industries, cultural diversity goods and cultural diversity services. There is so disagreement about the definition of these concepts, especially the beginning two concepts that mentioned, and these divergences that are sometimes confusing, and they cast a shadow over the policy and planning of cultural diversity and the quality and evaluation of cultural diversity goods and services and industries (Flow, 2015).

2-3- Cultural Diversity Products and Services

The products of the cultural diversity industries are divided into two groups of cultural diversity goods and services. Cultural diversity goods are consumer goods that carry ideas, symbols, or lifestyles. They are used for educational or entertainment purposes, helping to create collective identities and are the product of individual or collective creativity, subject to intellectual property, and are continually produced and improved through industrial processes and global distribution. Books, movies, magazines, multimedia products, software, music, video, fashion and crafts are examples of these products. Diversity services designed to meet the needs or interests of cultural diversity and they do not represent material goods themselves. They include a set of actions that support cultural diversity provided by the government and private or semi-state institutions or corporations make available to the community (Mainela et al., 2015). Cultural diversity events, art programs, cultural diversity information services, and services such as news agencies, publications, libraries, document centers and museums are of this type. These services offer free or commercial basis. It is so easier to identify and investigate the status of international trade than the world market for cultural diversity goods. Because goods are more tangible, they can set tariffs and customs duties upon entering the country. But culturally diverse services are provided in each country or organization in a specific way, and their international currency cannot be registered, moreover, they cannot be defined by unique rules. However, at the World Trade

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Organization, Gates has attempted to partially cover this diversity and regulate international trade services. In general, cultural diversity services can include program services (performing theatre and circus programs, etc.), publishing services, news services, communication services, architectural services, media services (dubbing and distribution of films and radio programs, television and home media), and all support services for the production of cultural diversity goods, such as print, copy, film, cable, satellite, radio and television broadcasting services (Rahimnia, 2014).

2-4- Economic Complexity and Export Complexity

Based on this thought, the amount of knowledge formed in a country is the most important factor that determines the extent of the development of that country. Knowledge means the information that is the result of the experience that is, how things are done in practice and experience that is fundamentally different from theoretical and scientific information. Knowledge transfer is not easy and based on long term experience. This group's approach is very significant in quantifying the whole concept of countries' knowledge. According to the analysis of this group, the country's knowledge is directly related to the types of products manufactured there. The best available data from the countries of production is the export statistics of the countries, obtained from the United Nations Commodity Trade Statistics Database⁴. The definition of product variety as the number of exported goods per country is very simplistic and does not provide useful information. The beauty technique is used to define goods variety. The index of economic complexity can be considered as a specific definition for the goods variety that is defined based on the type of valuation for each commodity (Rastgar & Shaabani, 2016).

In a simple definition, the index of economic complexity of any country is a value average of its export goods. The value of each commodity is calculated based on two simple factors: 1_ by the number or variety of countries that produce and export that commodity (We call it the goods production scattering), 2_ by the value of other commodities export. The value that can be put into the equation by the number of skills and knowledge required to manufacture products. The value that is represented the complexity of the production of

⁴ This information has been collected by various organizations such as the World Health Organization (WHO), the International Labor Organization (ILO), the UNICEF and the FAO.

goods. To determine the fair value of certain mineral commodities such as diamonds and gold, which are exported by a few countries but do not require much knowledge in calculating the value of each commodity, In addition to the number of countries exporting this product, the variety of export commodities and the value of other commodities are also taken into account, and so it is calculated the value of other commodities, the distribution of their production, and the export diversification of the countries that export that commodity and the value of other commodities produced. This calculation is done mathematically and continues until it reaches to a converging number (Ranjbar, 2013).

2-5- Cultural diversity and economic complexity and export complexity

Studies show that export complexity is important for economic growth. In the context of cost discovery theory, cultural diversity can also affect the degree of export complexity. Cultural diversity helps increase the number of entrepreneurs involved in the cost discovery process and enhancing the prospects for innovation, thereby driving economic technology forward and increasing export complexity. Besides, cultural diversity can boost export growth by improving the economic ability to approach its technology frontier.

3-Research Background

Table 1- Overview of Overseas Research Background

The writer	Print year	Topic	Description
Fan et al.,	2018	Cultural diversity and export complexity	The results show that the impact of cultural diversity on the growth rate of export complexity is statistically unstable, and the annual impact of cultural diversity on the complexity of exports is not very important too.
Pappas	2017	Export Complexity and Formulation of the consumer experience in a Sharing Economy	Three configurations are capable of affecting the overall experience: (I) the status of the quality relationship, (II) the risk perspective, and (III) the social interaction.
Waldme	2016	The Impact of Economic Complexity and Culture on the Gross Income of Chinese Cities	From the method of Hassmann (2007) for each of the Chinese cities, a complexity index was calculated and estimated using a model of econometric hybrid data, a model

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			with 200 cities (as cross-sectional data). Their results showed that cities with more complex manufacturing structures experienced higher growth rates.
Erkan	2015	Economic complexity and export competitiveness in Turkey	Exports consist of the most advanced products in developed countries. This means that countries have high export competitiveness. Given its export share of high-tech exports, it seemed that Turkey is probably well below its level. This makes it almost an indicator of low economic complexity and low export competitiveness.
Yang	2015	Cultural Diversity and Its Role in Export Complexity and Business Process Improvement	Organizational and management dimensions should be taken into account to achieve cultural synergy in export complexity, and the results also show that cultural diversity affects export complexity and business process improvement.

Reference: Literature Review

Table 2- Overview of Inland Research Background

The writer	Print year	Topic	Description
Norozi & Hassanpour	2018	A Case Study on the Impact of Productive Capabilities on the Complexity of Non-Oil Exports, Case Study of Developing Countries	1. Capacity building components are not the same in the export complexity of developing countries in terms of income levels, average and high and low. 2. Foreign direct capital inventory variable was the only factor that had a significant impact on export complexity in all three countries.
Ahmadian et al.,	2018	Economic complexity, a new approach to measuring the commercialization of scientific and technological products	Understanding the economic complexity approach and its application can help to assess the knowledge, skills and trends of the economies of countries. The results show that the use of economic complexity index can be a valuable way to measure the success of theoretical and technical knowledge in applied

			and scientific fields for the attention of policymakers and authorities.
Mottaghi	2017	Factors of Economic Complexity Affecting Immigration in Iran; Emphasis on Income and Unemployment Indicators	The Gross domestic product indices (GDP), unemployment and good governance index are the main factors affecting the rate of emigration from Iran. Meanwhile, reducing unemployment, increasing GDP, and improving the index of good governance are led to a reduction in the rate of immigration from Iran, which confirms the theories of functionalists, developmental and structuralisms for Iran.
Taghavi and Salari	2016	The complexity of Non-Oil Exports and Foreign Direct Investment (FDI) (Case Study of Developing Countries with Emphasis on Iran)	Foreign Direct Investment (FDI) has a significant relationship with the index of non-oil exporting complexity in developing countries. This finding has important lessons for Iran, Including increasing the complexity of non-oil exports through foreign investment attraction policies.
Salehi et al.,	2016	Investigating the factors affecting the export of cultural goods and presenting management strategies	Exports of cultural goods to countries with negative economic growth are higher.
Kalantari et al.,	2015	Cultural diversity and national cohesion in Iran	The continuity and sustainability of a society's social, political and cultural life depend on the coherence and solidarity between the constituent elements. Iran is a multi-ethnic society and although Iranian ethnicities have different histories and characteristics, their Iranian identities have always been based on ethnic affiliations and form national cohesion in the country.
Salimifar	2015	The Impact of Economic Complexity Index on Economic Growth in the Top 42	The results show that the use of panel data in estimating the study model is not appropriate and has a significant positive effect on

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		Countries in Science Production	economic growth in the model estimation based on cross-sectional data of the countries under study.
Manafi et al.,	2014	Globalization, Cultural Diversity and the need for Global Citizenship Education	Certainly, the world will not prosper unless it is through cooperation, participation, a sense of moral responsibility for each other and having a sense of tolerance towards each other, acquire scientific skills and technological development of group skill which cannot be achieved except to Global Citizenship Education
Rezghi & Omrani	2013	Strategies for Expanding the Export of Cultural Diversity Products in the Age of Globalization	Laws and regulations and business liberalization are positive about the components of recognizing global markets and common marketing tools, which, calculated based on trade liberalization In the first place, recognizing world markets in second place, laws and regulations in Third Place and finally, the common marketing tools is in fourth place.

Reference: Literature Review

4- Research methodology

This research methodology is based on the goals of the applied type and the basis of archiving data collection and is a descriptive correlational research field in terms of research design. The statistical population of the study is the MENA countries as panel data (1985–2015) for 17 countries in the Middle East and North Africa, MENA (Iran, Bahrain, Egypt, Algeria, Qatar, Saudi Arabia, Syria, Jordan, Yemen, Oman, Morocco, Kuwait, Tunisia, United Arab Emirates, Lebanon, Djibouti, Sudan). These countries are almost homogeneous in terms of political, social, cultural and customs conditions. This data was extracted from the World Health Organization (WHO) and World Bank databases. It is a panel study of MENA countries that had long term series (31 years) and long sections (17 countries). In this study, panel data regression was used in Eviews 9.0 software to test research questions.

5- Results and Discussion

5-1- Data description

Table (3) is about the descriptive statistics of all the information collected that including of average, median, the maximum and minimum values, standard deviation, the skewness and elongation of each variable for 17 countries selected during the period 1985-2015.

Table 3- Descriptive statistics of data for each of the research variables

Statistical features	Export complexity	Cultural diversity	Growth	Level of economic development	Innovation	Human Capital	The country size	Foreign Direct Investment (FDI)
average	0.74	1.914	3.89	49.06	6.15	0.95	1.18e	76.81
median	0.75	2.03	3.92	38.23	5.69	0.45	33628571	79.8
maximum	1.26	3.05	14.16	196.21	9.65	9.32	1.34e	88.2
minimum	0.054	1.02	-14.74	23.02	0.066	0.009	436300	13.2
standard deviation	0.207	0.69	4.21	35.25	1.79	1.23	2.79e	12.02
skewness	-0.295	0.22	-0.67	1.63	0.14	2.4	3.57	-2.3
elongation	2.55	1.22	5.49	4.74	2.61	9.78	14.46	9.5

References: Author's Calculation

Descriptive statistics and correlation coefficients are shown in Table (3). The maximum and minimum values of cultural diversity index are 3.05 and 1.02, respectively. The standard deviation is 0.69, indicating that cultural diversity in the 17 countries in our sample is not significantly different. Also, the average and median values are 2.03 and 1.92, respectively. This means there are no significant exemptions. In the case of export complexity, the range of maximum and minimum values (the gap between maximum and minimum values) is also not very large. For example, the variable of cultural diversity, the standard deviation of the export complexity variable in our sample is also low, indicating that there are no large differences between countries. Besides, the values are intermediate and close to each other, it means that the drop will eliminate them.

5-2- Stability Test

In this study, The Levin, Lin, and Chu's tests (LLC) were used. The results showed that in the combined data, the use of the unit root test for these data has more power of test than the use of the single root test for each cross-section. The results of the Levine, Line, and Chu (LLC) stability are presented in Table 4. The results show that all of the variables are not stable except for the level of economic development, human capital, and size of the country which is stable

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at the level. The other variables in question zero of this test are not verified for having a single root and instability and are stable.

Table 4- LLC Unit Root Test Results for Model Variables

Variable	Statistics value	P-Value	Result
EXPY	-2.063	0.0196	I(0)
GR	-9.073	0.0000	I(0)
FDI	-3.297	0.0005	I(0)
PCGDP	-7.656	0.0000	I(1)
CDI	-4.652	0.0000	I(0)
KEI	-4.538	0.0000	I(0)
POP	-21.576	0.0000	I(1)
HC	-18.569	0.0000	I(1)

References: Author's Calculation

5-3- Correlation Test

Before estimating the model, the correlation test was performed to ensure no collinearity between explanatory variables. The results are presented in Table (5).

Table 5- Results of correlation test

Variable	EXPY	GR	PCGDP	KEI	POP	HC	CDI	FDI
EXPY	1.000	0.283	0.320	-0.852	-0.172	0.499	0.199	0.1415
GR	0.283	1.000	-0.407	-0.146	-0.177	0.515	0.282	0.2421
PCGDP	0.320	-0.407	1.000	-0.296	0.293	0.591	0.424	0.1994
KEI	-0.852	-0.146	-0.296	1.000	0.003	-0.371	0.215	0.2131
POP	-0.172	-0.177	0.293	0.003	1.000	-0.344	0.005	0.1475
HC	0.499	0.515	0.591	-0.371	-0.244	1.000	0.09	0.3527
CDI	0.199	0.282	0.424	0.215	0.005	0.09	1.000	0.4632
FDI	0.1415	0.2421	0.1994	0.2131	0.1475	0.3527	0.4632	1.000

References: Author's Calculation

According to Table (5), as respects the coefficients are less than R2 radicals, the collinearity between the explanatory variables used in the research model is incomplete and insignificant.

5-4- Pattern estimation results

In the present study, to test the questions, the general model is presented as follows:

$$EXPY_{i,t} = \alpha + \beta_1 * GR_{i,t} + \beta_2 * PCGDP_{i,t} + \beta_3 * KEI_{i,t} + \beta_4 * POP_{i,t} + \beta_5 * HC_{i,t} + \beta_6 * FDI_{i,t} + \beta_7 * CDI_{i,t} + \varepsilon_{i,t} \quad (1)$$

The above static econometric model can be written dynamically:

$$EXPY_{i,t} = \alpha + \beta_0 * EXPY_{i,t-1} + \beta_1 * GR_{i,t} + \beta_2 * PCGDP_{i,t} + \beta_3 * KEI_{i,t} + \beta_4 * POP_{i,t} + \beta_5 * HC_{i,t} + \beta_6 * FDI_{i,t} + \beta_7 * CDI_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where $EXPY_{i,t}$ is the export complexity of country i in year t , which is used to measure its efficiency index, $EXPY_{i,t-1}$ is also the export complexity of country i in year $t-1$, $GR_{i,t}$ is i 's export growth at time t , which used as a percentage of GDP changes, $HC_{i,t}$ is the human capital of the country i at year t , $KEI_{i,t}$ represents the innovation of the country i in year t , $POP_{i,t}$ is the size of the country i in year t which calculated based on population size., $PCGDP_{i,t}$ is the level of economic development of the country i in year t , which is expressed as a percentage of GDP for each country, FDI denotes foreign direct investment and CDI denotes cultural diversity, respectively.

In estimating this model, as regards variables data are provided at annual intervals, we also used estimates annually.

Table 6- Results of pattern estimation

Variable	Coefficient	t-Statistics	P-Value
EXPY	682619.0	75731.16	0000.0
GR	224507.0	13040.3	0019.0
PCGDP	767785.0	894215.4	0000.0
KEI	573572.0	703661.2	0072.0
POP	504554.0	37060.11	0000.0
HC	651741.0	841846.5	0400.0
CDI	352641.0	325429.6	0051.0
FDI	562213.0	67785.12	0200.0
J-Statistics		14.5174	
J-Statistics Possibility		0.752734	
Instrumental variable rank			18

References: Author's Calculation

According to Table 6, it was concluded in the period under review that interruption of export complexity at the 99% confidence interval had a significant effect and could be either positive on the Current value of exports. Also, cultural diversity with a 99% confidence interval had a positive and

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significant effect on export complexity in the selected countries in the period 1985–2015, which increased 1 unit of cultural diversity and 0.325 units of export complexity. Therefore, the question of this study based on the positive effect of cultural diversity on export complexity cannot be ruled out.

Economic growth at the 99% confidence interval also had a positive and significant effect on the degree of export complexity in the spatial and temporal periods, which increased 1 unit of cultural diversity and 0.224507 units of export growth. Therefore, the question of the study based on the positive effect of cultural diversity on export rates growth cannot be ruled out.

On the other hand, human capital at the 99% confidence interval had a positive and significant effect on the degree of export complexity in the selected countries during the period 1985- 2015, which increased 1 unit of human capital and about 0.652 units of export complexity.

Also, according to the probability and t-statistic of the coefficients of innovation and size of the country of direct foreign investment, the 99% confidence interval had a significant positive effect on export complexity in the selected countries during the period 1985–2015.

Wald test: This test is calculated to evaluate the validity of the coefficients. Based on the test, the questions zero of the coefficients are rejected. Therefore, the entered variables have enough validity. The results of the Wald test are shown in Table 7.

Table 7- Results of the Wald test

Test statistics	value	Possibility
F-statistic	8943.134	0000.0
The statistic of χ^2	3659.809	0000.0

References: Author's Calculation

Sargan test: The Sargan test has χ^2 distribution and is defined by the following relation:

$$J\text{-statistic} = \chi^2(r - k) \quad (3)$$

In the above relation, r is the instrumental variable rank, k is the number of estimated variables, J-statistic is the same as statistic J, and χ^2 is a statistic of Chi-square test related to the Sargan test. According to the above equation, the Sargan test statistic value is 0.764, and the J-statistic probability is about 0.753.

Therefore, the zero question of whether the matrix tool is valid is not rejected. In other words, there is no strong correlation between the defined instrument variable (second interruption of export complexity variable) and the dissolution sentence.

6- Conclusions and Suggestions

Cultural diversity has good and bad aspects for each country. It can be good, in case of compatibility and it can be bad, in case of incompatibility. This potential can be beneficial to each country, if policy makers try to make it compatible and control it toward country's interests. One of the main usages of compatible cultural diversity is its effects on economic growth and economic complexity. Cultural diversity can lead to various goods and services which can complex the export format of countries. Complex exports mean higher competitive advantage and also higher GDPs. Due to the importance of the issue discussed in previous sentences, the following research tried to investigate the effect of cultural diversity on economic and export complexity. The sample of the study includes 17 MENA region countries with homogeneous economic structures. To do so, panel data regression was used in Eviews software.

Using random regression plotting and considering its effects, there is a significant statistical relationship between cultural diversity and exportability. The index of economic complexity of each country is an average of the values of its export goods. The value of each commodity is simply determined by the following: 1- The number or variety of countries that produce and export that commodity (which we call the distribution of commodity production). 2- Based on the value of other exported commodity in those countries. The value used for the number of abilities and knowledge required to produce the goods in the equation, and the value represents the amount of commodity production complexity. It is argued that commodities produced by few countries have more complex commodities. And, against of commodities produced by many countries, they require less and simpler capabilities and knowledge. To determine the fair value of certain mineral commodities such as diamonds and gold which are exported by a few countries, but whose production does not require much knowledge, in calculating the value of each commodity, in addition to the number of countries exporting that commodity, the variety and value of export commodities of those countries are also taken into account. And so is recalculated recursively the value of other commodities, the distribution of their production, and the variety of export cultures of the countries which export that commodity and the value of the other commodities they produce. Economic

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complexity is a measure of the computation of knowledge and skill in society that is achieved through the commodity in which society is produced, because its associated ideology is based on the assumption that if a product requires a particular type of knowledge and skill, then it can be the result that the producing countries need the knowledge and skill needed to produce that product. Since economic complexity is used to express countries' ability to produce advanced goods by providing appropriate structures for human interaction to gather productive knowledge and its practical application, it can pave the way for identifying how successful the commercialization of science and technology products is in countries' economies. The results indicate that the impact of cultural diversity on the complexity of exports on a year-to-year basis is significantly different, but this effect increases over long periods. In other words, with increasing cultural diversity, export complexity is enhanced. The coefficient of variation of cultural diversity has a positive and significant effect which shows this variable has a direct effect on export complexity. The research results of Norozi & Hassanpour (2015), Taghavi & Salari (2016), Salimifar(2015), Rezghi & Omrani (2013), Fan et al., (2018) and Yang (2015) are in a line and are aligned.

It is necessary to know that until a few decades ago, most experts believed that development had an economic meaning in the growth rate of exports; in other words, development was only an economic aspect, and countries had to strengthen their economies to achieve development. But that was changed by the breakdown of countries that included only export growth rate measures in their planning to achieve growth and lost the one-dimensional concept of development. It is now clear that the basis of all development is the development of cultural diversity; therefore, governments should be ready to change their attitude towards human beings as an element of cultural diversity to achieve comprehensive development. Because it is the basis for sustainable development of cultural development, and as the root that nourishes the tree, the other aspects of development (political, economic and social) are also nurtured from this important dimension. Therefore, it is necessary to strive to increase the level of the cultural diversity of the community and to put in the double effort. Also, cultural diversity can help accelerate export growth. In other words, policies that promote cultural diversity in one country cannot harm the economy, so worries in some countries, due to the cultural differences, are at least in terms of the rate of export growth is discredited. The research results of Ahmadian et al., (2018),

Salehi et al., (2016), Manafi et al (2014), Pappas (2017) and Waldme (2016) are in a line and are aligned.

The economy based on cultural diversity is an economic axis based on production, and distribution and application of knowledge and information to realize export growth and increase productivity. The development of this economy requires the simultaneous optimization of a set of industrial policies, basic science development policies, and technology development policies, which of course require appropriate institutions. Therefore, the emphasis on cultural diversity is not only the production and distribution of knowledge and information, Instead, but they are also important to apply, meaning the effective use and application of different types of culture in all economic activities. It is clear that applying cultural diversity in production can increase the share of export growth in production. Undoubtedly, the leadership, organization, planning and implementation of science and technology development programs are recognized as the main export complexity of any country in today's world which known as science and technology policymaking, accordingly, the effective use of science and technology will drive economic growth and social development. Accepting the above principle, It turns out that the country's major development policies should be designed to make science and technology policy as their first and foremost issue. Studies show that cultural diversity is a valuable treasure for individuals and communities. Protection, promoting and preserving cultural diversity is a guarantee of sustainable development that benefits for current and future generations, as well as, exports complexity is important for economic growth. In this study, the theoretical framework shows that cultural diversity can also affect the degree of export complexity. Cultural diversity helps to increase the number of entrepreneurs involved in the cost discovery process, which enhances the vision of innovation and thus drives technology economics forward, and it also can increase export complexity. Besides the above, cultural diversity can also boost export growth by improving the economic ability to reach its technological frontier.

Since cultural diversity has a positive impact on the degree of export complexity, it is suggested:

- ✓ Let's move on to developing export by expanding areas of cultural diversity. Providing the contextual factors that influence on cultural diversity, such as the development of the communication space and the spread of information technologies in society.

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- ✓ First, organizing the theory of the relationship between cultural diversity and export complexity, and then, by contributing to the degree of heterogeneity in society, cultural diversity can influence on the degree of export complexity in the economy.
- ✓ In particular, by stimulating foreign technology, cultural diversity can encourage more entrepreneurs to examine the basic cost structure of the economy, which may help increase the complexity of exports.

Since cultural diversity has a positive impact on export growth, it is suggested:

- ✓ The impact of cultural diversity on export growth depends on the stages of economic development. The early stages of economic growth include the growth of the agricultural sector; Countries with lower cultural diversity have tended to have relatively high levels of human capital to enable them to work effectively across their production frontiers.
- ✓ For this reason, export managers are advised to pay particular attention to cultural diversity and improve the ability of nations to reach the technological frontier.

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