Challenges to Economic Upgrading of Iranian Economy

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SUMMARY

The main purpose of the paper is to summarize the challenges that the Iranian economy will face in the economic upgrading process and to provide possible solutions for the Iranian economy to move up in the global value chain. To achieve these goals, the data related to the global competitiveness index were studied to gain insight into the current situation of the Iranian economy. Findings reveal that despite the immense revenue source of Iran from exporting gas and oil, the Iranian economy is not competitive globally, and Iran is confronted with serious shortcomings in the globalization path. Data show that the performance of Iran in different factors of competitiveness (institutions, macroeconomic environment, labor market efficiency, goods market efficiency, financial market efficiency and innovation) is poor. Since Iran has many benefits from potential capabilities such as a young workforce and plentiful natural resources, it is recommended that Iranian government consider a functional and process upgrading strategy to improve the performance of Iran in global competitiveness. It is also important to focus on research and development processes for moving along the global value chain curve, in order to move towards the higher value creating activities. These internal development processes are very important for the country to maintain the upgrading process even under the unfavorable international political circumstances.

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INTRODUCTION

The position of a country in the global value chain can explain its economic growth and its position in the developing process (Gereffi and Fernandez-Stark 2016). The amount of the created value in each stage of the value chain is different. More value-adding process will generate higher revenues and better customer satisfaction. Therefore, economists are seeking solutions to improve the processes of the global value chain (GVC) so as to make a dynamic proactive economy rather than an economy in which the lowest value is created. The transition to a more value created economy stimulates governments to dedicate a great deal of money to criteria assisting them in moving up the GVC.

On the other hand, the global value chain is a concept which has resulted from globalization. The advancement in technology and improved communication networks have facilitated the exchange of goods and services, resources, and ideas irrespective of geographical location; therefore, advanced technologies have led economics toward globalization. Globalization is defined as a process by which businesses or other organizations develop international influence or start operating on an international scale. The globalization of markets, products, production and institutions has resulted in the growth of world trade and foreign direct investment. It also increased imports as the perceived distances were reduced due to advances in transportation and telecommunications technology (Hill 2007). Yip (1988) stated that competition, economic development, market, and environment are the main driving factors of globalization.

Globalization is a complicated issue. On one hand, its proponents say globalization represents free trade, which promotes global economic growth, creates jobs, makes companies more competitive, and reduces prices for consumers. On the other hand, its opponents say globalization is destroying the culture and heritage of countries and their ethnic groups, the Western world dominates the entire world and destroys national characteristics under the shadow of globalization. Writers on global strategy, including Porter (1990), Prahalad and

Doz (1986), Yip (1989), and Stonehouse et al. (2004) have argued that in international business there are significant advantages to be gained from the global scope. Measuring globalization – because of its many faces and fields – is another important challenge for economists. There are different indices and methods introduced by different authors, e.g. Fischer (2003), Dreher (2006), Dreher et al. (2008), and Chang and Lee (2010). In addition, there are commonly used suggestions for measuring by the OECD or the World Economic Forum. Based on the OECD's suggestion, globalization is measured in different fields: 1) globalization of trade and investment (trade of goods and services, Foreign Direct Investment, portfolio investment), 2) globalization of technology and knowledge (internationalization of science and technology, internationalization of highly skilled human capital), 3) Multinational Enterprises (MNEs) and globalization (importance and characteristics of MNEs, MNEs and R&D activities), and 4) Global Value Chains (OECD 2010).

According to the Iran 2025 vison, the government's attempts are directed towards achieving the first position in the areas of economy, science, and technology in the Western South Asia region (which includes Central Asia, Kyrgyz regions, the Middle East, and neighboring countries), with an emphasis on high-tech knowledge production, fast and continuous economic growth, relative growth of per capita income level, and achievement of full employment (Iran Data Portal 2018).

Entering the global market may bring advantages for national economy in different fields:

- Foreign Direct Investment (FDI) (Mah 2002), which in turn, could reinforce technology transfer and assist the global companies to growth,
- Technological Innovation (Archibugi and Iammarino 2002), which may result in growth in FDI and help to improve economic output,
- Economies of Scale (Levitt 1993), which may reduce costs and prices.

Nevertheless, the Iranian economy is isolated at present, against its will, due to different economic sanctions imposed by world political and economic bodies. Despite the sanctions, there is an immense tendency in the Iranian economy to be present at the international (global) market. However, for Iran, entering this globalization movement and taking advantage of its benefits will require much preparation, strong intentions, and many measures and changes in the external environmental factors (mostly political, economic and social). There are two aspects to becoming an internationalized/globalized economy: the first aspect shows how the economy can be successful in competition with other economies while the second aspect shows how the economy is ready to cope with the consequences of opening its doors to other economies.

The ability of a country to move toward higher value activities in the global value chain (GVC) and capture more value is called economic upgrading (Gereffi 2005). For this upgrading, various methods are recommended in the international literature. Ye et al. (2015) argue that depending on government policies, corporate strategies, technologies, institutions and human skills, a country can select the most appropriate approach for economic upgrading based on its own strengths and weaknesses.

Our study was conducted to examine the current position of the Iranian economy in the global value chain and to outline some possible approaches to economic upgrading. In other words, the main objective of the current study is to provide proposals for improving the competitiveness of Iran in the smile curve of the global value chain. The "smile curve" depicts the value chain by a graph with a Y-axis for value-added and an X-axis for the value chain itself. The two ends of the curve represent high added value and the activities at both ends are intensive in knowledge and creativity, i.e. basic and applied R&D, design, commercialization are at the beginning, while marketing, advertising & brand management, specialized logistics, after-sales services are at the end of the chain. The middle part of the value chain represents production (manufacturing and standardized services) with low value-added. Therefore, the curve appears like a smile (Mudambi 2008). The curve also represents the relationship between developed and developing countries in the creation and distribution of value-added in GVC. Developing countries are generally locked into the low end of GVC and development policies are needed which might help them to move up from the low end to high end of the smile curve (Ye et al. 2015).

The current situation of the Iranian economy was analyzed using the Global Competitiveness Index (GCI) of the World Economic Forum, by which is able to assess the competitiveness of the economy regarding globalization issues. Based on the research results some proposals are put forth for upgrading the Iranian economy along the GVC.

RESEARCH BACKGROUND

In the context of internationalization and globalization, the value chain elaborates all activities carried out globally in inter-firm networks to turn out a product, from a conception to end use and beyond (Gereffi and Fernandez-Stark 2016). GVC consists of activities such as research and development (R&D), design, production, marketing, distribution and support to the final consumer. GVC provides a holistic view of global industries because it concentrates on both tangible and intangible value-adding activities, from conception and production to end use.

Value chain activities are categorized into three categories: the upstream (input), the middle-stream, and the downstream (output or market) activities (Mudambi 2007, 2008). Upstream activities include design, basic and applied R&D. Middle-stream activities include manufacturing, assembly and other repetitive processes in which commercialized prototypes are implemented on a mass scale. Finally, marketing activities, distribution, brand management and after-sales services are called

downstream activities (Shin et al. 2012). Higher value can be created by both upstream and downstream firms.

Ye et al. (2015) argue that rich countries tend to focus on high-end activities such as R&D, design, and brand building in the pre-fabrication stages and on after-sales services or marketing activities in the post-fabrication stages. They also argued that the manufacturing jobs are offshored to low-technology, low-wage nations and the poor nations are more engaged in low-end activities such as manufacturing and assembly. Many of the highest value activities are in pre- and post-production manufacturing services, which may form challenges for the host countries in developing appropriate workforce development strategies to supply these services at the local level (Gereffi and Fernandez-Stark 2016). If a value chain includes steps like the idea creation step (R&D), design, purchase, production, logistics, marketing, and after-sale services, then the steps adding the most value are in R&D and after-sale services. In these steps, there is high knowledge and expertise and high salary which makes the curve smile more. On the other hand, the lowest value adding step is production, where there are just labor and low wages (see Figure 1).

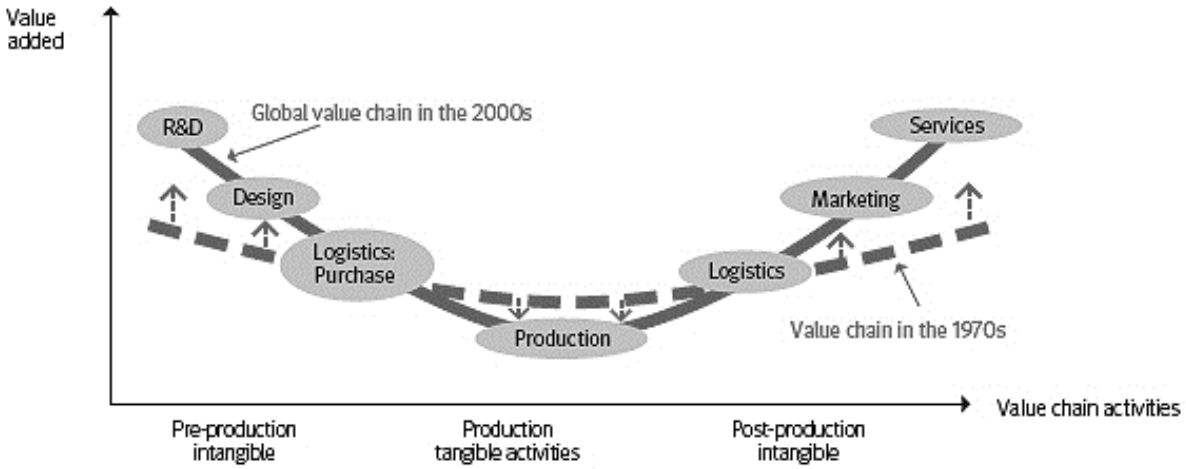
METHODOLOGY

This paper is based on a wide literature review and collecting secondary data from the Iranian Data Portal and Iranian Center of Statistics. The researchers also used the secondary data of the Global Competitiveness Index (GCI). The GCI is composed of three sub-index groups: basic requirements, efficiency enhancers, and innovation and sophistication of an economy. The GCI contributes to an understanding of the key factors that determine economic growth, helps to explain why some countries are more successful than others, and offers policymakers and business leaders a tool in the formulation of improved economic policies and institutional reforms (Sekliuckienė 2014).

Global Competitiveness Index

The World Economic Forum (WEF) is a Swiss nonprofit foundation, based in Cologny, Geneva, Switzerland. Its mission is cited as "committed to improving the state of the world by engaging business, political, academic, and other leaders of society to shape global, regional, and industry agendas" (WEF 2012, p. 1.). This foundation annually releases the "Global Competitiveness Index (GCI)" report (Schwab 2016, 2017). GCI clarifies how powerful the world economies (countries) are in global competitions. The Global Competitiveness Report, published since 1979, serves as a neutral and objective tool for governments, the private sector, and also for the civil society. To evaluate the GCI, the WEF has considered three main criteria which are basic requirements, efficiency enhancers, and innovation and sophistication factors. In order to assess the criteria of an economy, WEF has considered sub-indices for each criterion. The main indicators and their sub-indices (pillars) are the following (Schwab 2017):

- Basic requirements:
  - Pillar 1: institutions,
  - Pillar 2: infrastructure,
  - Pillar 3: macroeconomic environment,
  - Pillar 4: health and primary education.



Source: http://oecdobserver.org/news/fullstory.php/aid/4227/Who_92s_smiling_now_.html

Figure 1. Value distribution along the Global Value Chain

- Efficiency enhancers:
  - Pillar 5: higher education and training,
  - Pillar 6: goods market efficiency,
  - Pillar 7: labor market efficiency,
  - Pillar 8: financial market development,
  - Pillar 9: technology readiness,
  - Pillar 10: market size.
- Innovation and sophistication of an economy:
  - Pillar 11: business sophistication,
  - Pillar12: innovation.

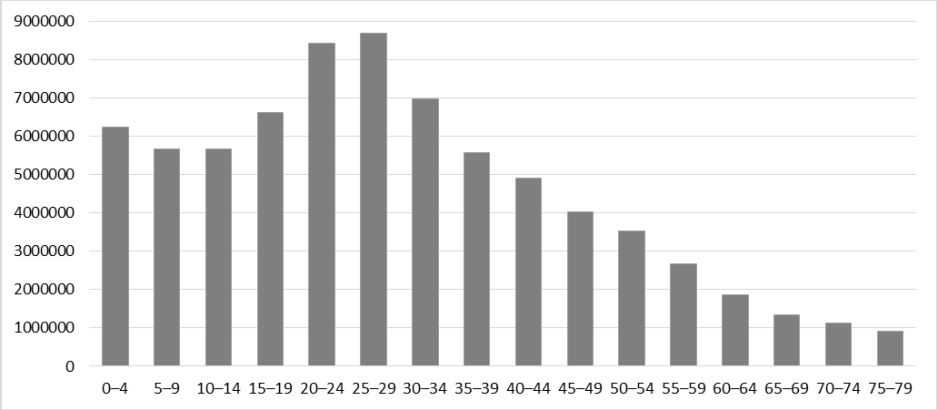
The WEF uses numbers to show the status of each economy in each 12 pillars. The value that an economy can acquire in each these pillars is between 1 to 7, where 1 represents the lowest performance and 7 is the highest value that can be gained for an economy. It is worth mentioning that the WEF evaluated 140 countries in 2015, 138 countries in 2016, and 137 countries in the last report (in 2017). Although this index has turned into an index that many governments also use (Xia et al. 2012), it has its critics. Lall (2001), for instance, criticized the analyses, methodology, and the quantitative approach GCI uses. On the other hand, Xia et al. (2012) believe this index is not stable, as the ranks of some countries have not been stable over years and there is a remarkable change in the rank of some countries after one year. In addition, Van Stel et al. (2005) argue that GCI is not able to predict economic growth and it uses past growth as the dependent variable.

IRANIAN ECONOMY: INTRODUCTION

Iran is the second largest country in the Middle East, with a population of 81 million people (The World Factbook 2018), its GDP (PPP) per capita was estimated at USD 19,050 in 2017 (The World Factbook 2018). Iran's economy is characterized by the hydrocarbon sector, agriculture and service sectors, and there is a noticeable state presence in manufacturing and financial services. Iran ranks second in the world in natural gas reserves and fourth in proven crude oil reserves. Economic activities and government revenues still depend largely on oil revenues and therefore remain volatile (Financial Tribune, 2018); meanwhile, tax income does not play a determining role in government income (Nili and Amid 1999). The export of crude oil and gas condensate were nearly 1 billion barrels in 2017 (Financial Tribune, 2018). Despite the fact that Iran is the fourth biggest oil producer, the produced oil in Iran is ranked 14th in terms of quality and the market share of Iran for high quality oil is only 2% (Assareh et al. 2010).

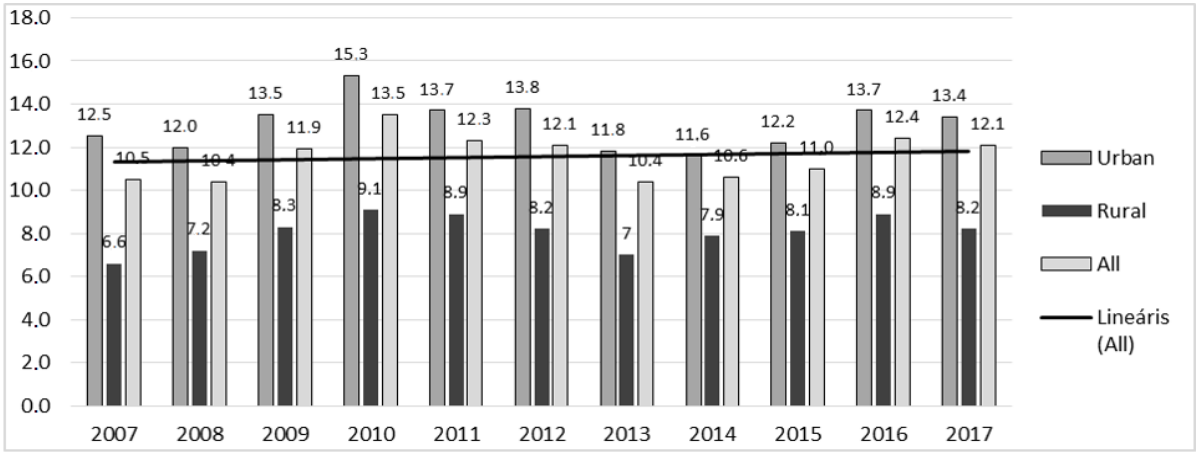
As was mentioned above, the population of Iran is 81 million and as depicted in Figure 2, it is a young population (Iranian Center of Statistics, 2018). Figure 2 looks like a shoe, which implies that Iran's human resources can work and be productive. As the Figure 2 illustrates, the population of Iran is quite young, and almost half of the population are under 30 years old with decades of work ahead of them. Hence, the government policies should be formulated in order to take advantage of such competencies.

The unemployment rate in 2017 was 12.1%, and this rate is higher among the urban residents (13.4%). The black line in Figure 3 represents the trend of the unemployment rate in Iran. As can be seen, the unemployment rate showed a slight increase in the past 10 years (Iranian Center of Statistics 2018).



Source: own compilation based on Iranian Center of Statistics (2018) data.

Figure 2. Distribution of Iran's population by age groups



Source: own compilation based on Iranian Center of Statistics (2018) data

Figure 3. Unemployment rate in Iran, 2007–2017

According to the Iranian Center of Statistics (2018), 56,727,738 Iranian citizens are literate and 1,927,721 of them have a master's and PhD degrees. In comparison, the number of illiterate Iranians (older than 10 years) is 8,657,675 (Table 1). The number of males and females older than 10 years is almost equal (32,616,864 males and 32,768,549 females). The number of Iranian males and females with high school diplomas and bachelor's degrees is also almost similar (see Table 1). The number of males with a master's degree is 0.37% higher than females, and the number of men with a PhD degree is 60% higher than of women (Iranian Center of Statistics, 2018). These numbers imply that there is a stable literate population who are open to further education, employment and – if political and economic circumstances allow – they can use their knowledge and experience for further development.

On the other hand, taking a close look at the discrepancy between genders and employment, in Table 1, reveals that there is a remarkable difference between genders and employment among the population in Iran, especially among those without higher education. The number of employed men with a high school diploma is almost eight times higher than the women with a high school diploma. The number of employed men with a bachelor's degree is twice higher than the women's. Since if the advantages of women workers are harnessed, this could greatly aid in development.

Table 1
Cross-tabulation of the status of education and employment in Iran based on gender

Explanation	Literate					Illiterate	All
	High School Diploma	Bachelor	Master	Ph.D.	Sum of literate		
Male (more than 10 yrs old)	6 642 928	3 708 487	1 026 385	92 849	29 735 106	2 881 757	32 616 864
Female (more than 10 yrs old)	6 369 228	3 885 387	750 132	58 355	26 992 631	5 775 917	32 768 549
All (more than 10 yrs old)	*13 012 156*	*7 593 875*	*1 776 517*	*151 204*	*56 727 738*	*8 657 675*	*65 385 413*
Male - Employed	4 439 966	2 082 139	694 118	71 124	17 309 306	1 397 941	18 707 247
Female - Employed	598 472	1 041 824	313 834	29 580	3 345 445	535 359	3 880 804
All employed	*5 038 439*	*3 123 963*	*1 007 952*	*100 704*	*20 654 752*	*1 933 300*	*22 588 052*
Male - Unemployed	594 208	387 282	88 396	1 945	2 108 412	83 155	2 191 568
Female - Unemployed	179 647	527 019	115 652	2 903	1 002 525	9 304	1 011 830
All unemployed	*773 855*	*914 301*	*204 049*	*4 848*	*3 110 938*	*92 460*	*3 203 398*

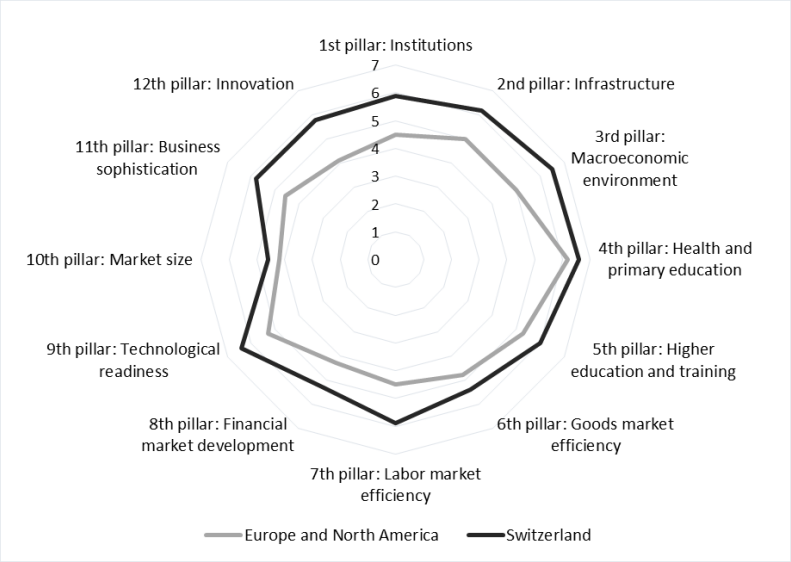
Source: own compilation based on Iranian Center of Statistics (2018) data

THE GLOBAL COMPETITIVENESS INDEX (GCI) OF IRAN

Competitiveness is defined as the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the sustainable level of prosperity that can be earned by an economy (WEF 2013). Switzerland, Singapore and the United States are top-ranked economies in the GCI.

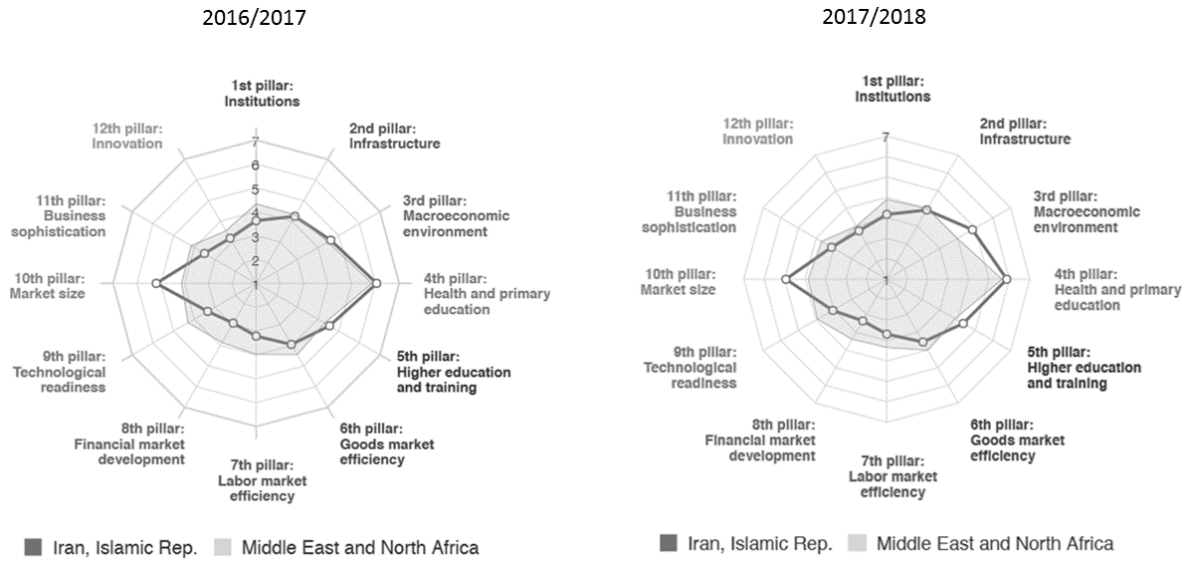
The first place is for Switzerland, meaning that Switzerland had the most global competitiveness power among the 138 countries measured in 2016 (Figure 4). The average score of Switzerland in basic requirements is 6.3, in efficiency enhancers is 5.6 and in innovation and sophistication is 5.8 (Schwab 2016). The graph of the Swiss economy shows a nearly circular shaped picture, which implies the equal performance of the country in all aspects (cf. Fig. 5).

When analyzing Iran, it is clear that despite the huge income of Iran from exporting oil and gas, the economy of Iran was ranked 76th among 138 countries in 2016 and 69th among 137 countries in 2017 based on its global competitiveness, according to the WEF. The GCI score of Iran was 4.1 in 2016 and 4.3 in 2017 (Schwab 2016, 2017) and no meaningful changes have occurred in the past 2 years. Deeper study on the details of GCI score of Iran reveals that the score of Iran in basic requirements was 4.6 (2016) and 4.8 (2017), in efficiency enhancers 3.9 (2016) and 4.0 (2017), and in innovation and sophistication factors 3.3 (2016) and 3.5 (2017) (Schwab 2016, 2017). It is clear that although Iran possesses the basic requirements to be competitiveness, it suffers from the lack of effective enablers and the innovation necessities to improve its competitiveness. The details of the 12 pillars of GCI are summarized in Fig. 5.



Source: Schwab (2016)

Figure 4. The details of GCI score of Switzerland (2016/2017)



Source: own compilation based on Schwab 2016 p. 206 and 2017 p. 150.

Figure 5. The Global Competitiveness Index of Economy of Iran 2016/2017 and 2017/2018

Table 2
GCI and index components for Iran in 2016/2017 and 2017/2018

Index components	2016-2017		2017-2018	
	Rank/138	Score (1-7)	Rank/137	Score (1-7)
Global Competitiveness Index	**76**	**4.1**	**69**	**4.3**
Basic requirements	***61***	***4.6***	***55***	***4.8***
Institutions	90	3.6	85	3.7
Infrastructure	59	4.2	57	4.4
Macroeconomic environment	72	4.6	44	5.2
Health and primary education	49	6.1	50	6.0
Efficiency enhancers	***89***	***3.9***	***83***	***4.0***
Higher education and training	60	4.6	51	4.7
Goods market efficiency	111	4.0	100	4.0
Labor market efficiency	134	3.2	130	3.3
Financial market development	131	2.9	128	3.0
Technological readiness	97	3.3	91	3.6
Market size	19	5.2	19	5.2
Innovation and sophistication factors	***101***	***3.3***	***81***	***3.5***
Business sophistication	109	3.5	97	3.7
Innovation	89	3.2	66	3.3

Source: Schwab (2016 and 2017)

The improvements in the third pillar (Macroeconomic environment) are visible, but the other index components show stability or a very small decline (See Table 2).

In the basic requirements, as shown in Table 2, the performance of Iran in primary education and health issues is satisfactory (6.1 and 6.0 out of 7 in 2016 and 2017, respectively) compared to the average of all the Middle East and North Africa countries (Fig. 5). When compared to other MENA countries (Middle East and Northern Africa), it is visible that the size of Iran's market is much more favorable then in the neighboring countries.

An important problem for Iran is that the country has not received a good score in the institutions pillar, which refers to governance problems. Table 3 shows the details related to the elements measured in the institutions pillar.

Table 3
Details related to performance of economy of Iran in institutions

Index components of 1st Pillar	2016-2017		2017-2018	
	Rank/138	Value	Rank/137	Value
1st pillar: Institutions (average)	***90***	***3.6***	***85***	***3.7***
Property rights	104	3.9	100	3.8
Intellectual property protection	126	3.2	107	3.5
Diversion of public funds	83	3.3	68	3.5
Public trust in politicians	52	3.4	49	3.4
Irregular payments and bribes	92	3.5	83	3.6
Judicial independence	91	3.5	81	3.6
Favoritism in decisions of government officials	49	3.4	46	3.6
Efficiency of government spending	81	2.9	45	3.7
Burden of government regulation	97	3.1	83	3.3
Efficiency of legal framework in settling disputes	76	3.5	76	3.5
Efficiency of legal framework in challenging regs	96	3.0	81	3.1
Transparency of government policymaking	116	3.5	105	3.5
Business costs of terrorism	105	4.5	96	4.7
Business costs of crime and violence	79	4.4	74	4.4
Organized crime	90	4.3	91	4.3
Reliability of police services	73	4.3	71	4.4
Ethical behavior of firms	85	3.6	78	3.7
Strength of auditing and reporting standards	116	3.8	118	3.7
Efficacy of corporate boards	128	4.0	125	4.0
Protection of minority shareholders' interests	117	3.5	110	3.6
Strength of investor protection 0-10 (best)	117	4.0	126	3.5

Source: Schwab (2016 and 2017)

As shown in Table 3, the performance of Iran in almost all components of the institutions pillar were poor in 2016-2017, especially in "Efficiency of government spending" (2.9 out of 7), "Burden of government regulation" (3.1), "Efficiency of legal framework in challenging of regulations" (3.0), "Intellectual property protection" (3.2), and "Diversion of public funds" (3.3) – highlighted by grey boxes in the table. However, in the next year's report an increasing trend may be detected, especially in the former poorest score "Efficiency of government spending" (Schwab 2016 and 2017). The component "Efficiency of government spending" was called in the 2016 Report as "Wastefulness of government spending" with the same calculation method, i.e. "In your country, how efficient is the government in spending public revenue? [1 = extremely inefficient; 7 = extremely efficient]" (Schwab 2016, p. 371 and 2017, p. 342).

The score of Iran in "Efficiency enhancers" is 3.9 (2016) and 4.0 (2017). This criterion reveals that although Iran has a relatively good performance in the pillar of higher education and training (4.6 in 2016 and 4.7 in 2017), the efficiency of the financial market (2.9 in 2016 and 3.0 in 2017), labor market (3.2 in 2016 and 3.3 in 2017) and goods market (4.0 in both years) is very poor. On the other hand, Fig. 5 shows how poor the technological readiness in Iran is when compared to other MENA countries (3.3 in 2016 and 3.6 in 2017).

Finally, the weakest part of the economy in Iran is in the innovation and sophistication pillar, where the score was 3.3 in 2016 and 3.5 in 2017. This criterion is measured by two pillars of business sophistication and innovation. As shown in Table 2, the scores of Iran in the business sophistication pillar were 3.5 (2016) and 3.7 (2017) and in the innovation pillar 3.2 (2016) and 3.3 (2017), while innovation is one of the most important factors of any economy.

IRAN IN THE GLOBAL VALUE CHAIN

As mentioned above, the most value-adding stages of global value chain are in R&D and after-sale services stages, while the least value-adding stage is in production. With a simple analysis of the activities in the economy of Iran, it may be seen that Iran is in the production stage of the global value chain curve, and there are many foreign companies in Iran producing their products in Iran. Iran spends USD 0.7 billion on R&D, which is only 0.12% of the GDP, and it is ranked as 50th in world based on the amount of expenditures on R&D. (In comparison, the USA spends USD 473.4 billion on R&D and it equals 2.742% of GDP.)

The Global Innovation Index (GII) published by INSEAD (World Intellectual Property Organization) is an index showing how innovative an economy is (Dutta et al. 2017). According to latest reports in 2017, the GII of Iran reached the score of 32.9 out of 100 and its rank was the 75th among 127 economies. Both the expenditure of Iran

on R&D and the country's GII confirm the present rank of Iran in the Innovation and Sophistication pillar of the global competitiveness (Dutta et al. 2017).

Iran is a country that buys licenses for products, produces them in the country, and in many cases exports them. It is worth mentioning that the production is not done fully in Iran and the companies in Iran only assemble the products. This means that in addition to importing the ideas of the developed countries, Iranian companies buy and import mostly all the parts of the products and just assemble them and export them. This process includes importing the knowledge and ideas and the primary materials and also exporting the final products. Samsung, LG, KIA, Benz and Tata Motors are examples of companies which produce their products in Iran.

Even in the oil and gas industry, in which Iran has a great position in the world, the primary knowledge of this industry has been imported from the other countries. Therefore, it can be claimed that Iran is placed in the lowest part of the global value chain.

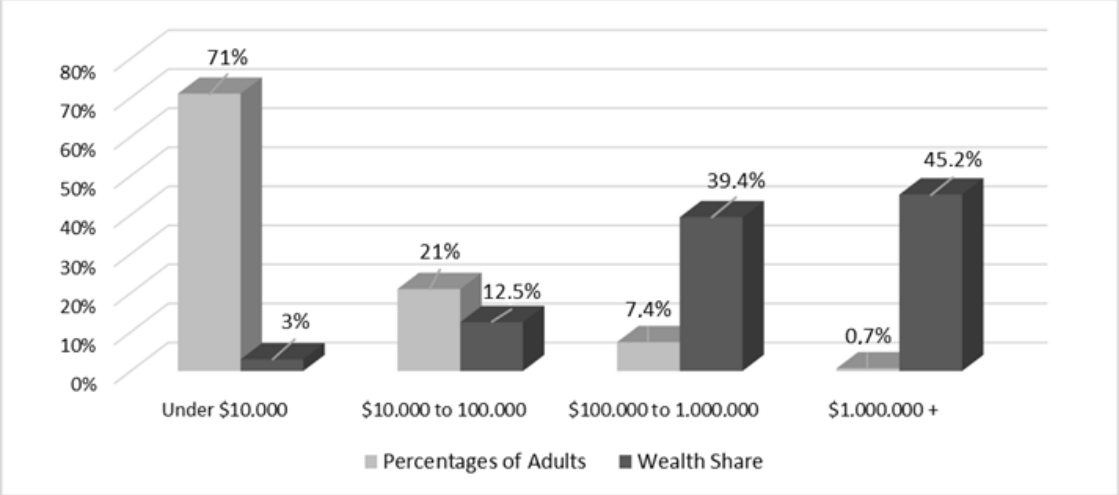
DISCUSSION AND CONCLUSION

According to the Global Wealth Report, and as it is shown in Figure 6, 45.2% of the world's wealth belongs to only 7% of the world's population and 71% of the world's population has only 3% of the world's wealth (Credit Suisse Research Institute, 2015). In our opinion, in order to obtain wealth, the improvement of an economy but primarily a willingness to change is needed. Although there are countries or international organizations which are able to help undeveloped countries to develop, the change should be done from inside the economy.

There are different approaches in the literature for economic upgrading. According to Rabellotti (2014), economic upgrading is moving up the value chain. He explains there are two ways to upgrade along the global value chain curve: 1) the efforts of companies and 2) conductive (national/regional/local) innovation and business systems. Gereffi (2005) introduced four strategies for economic upgrading to capture more value in the GVC, which are the following:

1) Process upgrading, which can be reached by introducing superior technology,
2) Product upgrading, which can be achieved when economies have the superior technological sophistication and quality to produce higher value-added products,
3) Functional upgrading, which can be achieved when the economy can provide products or services in new segments or activities of a GVC which are associated with higher skill content and value added. For the economies previously specialized in production, this means becoming competitive in upstream or downstream activities, such as R&D or marketing, and
4) Chain or inter-sectoral upgrading, which can be achieved when an economy participates in new but often related industries that produce higher value-added products or services, often leveraging the knowledge and skill acquired in the current chain.

Low (2013) perceived servitization (i.e. moving towards a service economy) as a solution for moving up the global value chain.



Source: Credit Suisse Research Institute, Global Wealth Report 2015

Figure 6. Global Adult Population and Share of Total Wealth by Wealth Group
**The umbers are in USD*

Although Iran has good potential and capabilities, such as a young workforce and plentiful natural resources, Iran's economy has been unable to reach a good position in the international economy. Some of the reasons for this are the lack of proper institutions, lack of fitting management and not applying optimal monetary and fiscal policies as a reason for such situation (Alavi et al. 2016). Of course, the non-advantageous political situation also plays an important role in this process.

Instead of focusing only on production and exporting products, the economic activities and political decisions should be focused on developing human capital and creating and exporting ideas instead of products, which represent the lowest value-adding steps. As was presented in Table 1, Iran has a very good potential of highly educated people, but, as presented by Ijim-Agbor (2009), according to the International Monetary Fund in 2009, Iran was ranked as the topmost of the countries losing their academic elite, with an annual loss of 150,000 to 180,000 specialists. These numbers show that brain-drain is a huge problem in Iran, and its roots should be explored in order to solve this problem. Based on the GCI, the score of Iran in "innovation" is 3.2 out of 7, while based on GII the score of Iran in "innovation" is 30.5 out of 100. Hence, it is recommended that Iran spend more on higher education and training to empower reliable human capital who are empowered by cutting-edge knowledge and are able to generate ideas and solve problems independently.

After that, attempts should be directed to providing an environment in which the educated people prefer to stay in Iran to help the economy so that it is able to use its investment in human capital. The score of Iran on higher education and training was 4.6 and its rank was 60th among 138 countries in 2016, while in 2017, the score was 4.7 and the rank was 50th. This indicates that Iran needs to spend more on its human capital, but the main problem in Iran is that the country spends on higher education, but it is not able to use the educated people. There are two main reasons behind this. The first reason is the poor performance of Iran in creating an appropriate economic environment in which the educated people would like to work. The unfavorable political and economic conflicts that Iran faces is the second reason; namely, developed countries can provide an appropriate environment and good opportunities for the educated people, which leads towards the high level of brain-drain. After empowering the human capital, and improving the business environment, Iran should spend more on R&D to make new ideas and improve the situation of Iran in the global value chain.

On the other hand, Iran has achieved a very poor score in goods market efficiency, the labor market and the financial market. It is recommended that to improve the score of Iran in market efficiency Iran, first of all, should facilitate running business processes in an easier way, as it is very time and money consuming at the present. This might encourage foreign investors to share their value and benefits with Iran. It would be a long process, because at the present Iran does not have a good performance in becoming globalized (the score of the economy of Iran in "prevalence of foreign ownership" was 2.4 out of 7 (2016) and 3.0 in 2017).

It is promising – from comparing the results of the Global Competitiveness Reports of 2016 and 2017 – that in the past year a slight improvement could be detected in almost all indicators. A direct effect of upgrading is that it enhances employment: local subsidiaries hire additional employees who carry out the support activities and the new business functions they become entrusted with. New employees usually have higher educational attainment than production workers, hence upgrading improves quality employment. Furthermore, functional upgrading may facilitate product upgrading and can lead to further blue-collar employment (Alavi et al. 2016).

As a brief summary of the present research, it can be stated that Iran has the potential for becoming a more important player of the international market, as there is a well-based layer of the society with educated people, but at the present, many of them try to find their life goals abroad. The conditions of the macroenvironment are rather unfavorable. The isolation of Iran, stereotypes about Iran and the fragile political circumstances are the main constraints of the way towards development, being present in the international market and being as competitive as would be possible based on the natural resources, and social features of the county.

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