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**EFFECTS OF INTERNATIONAL TRADE AND CLIMATE CHANGE ON
ECONOMIC TRANSFORMATION OF THE ARCTIC: AN EVALUATION OF
REGIONAL ECONOMIC POLICIES OF THE UNITED KINGDOM**

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Abstract

In the last century, climate change has been more influential in the Arctic compared to the rest of the world. Access to the region becomes easier due to global warming, leading to longer seasonal opportunity for shipping and transportation. Consequently, search for new resources and their extraction has become easier. All these developments have allowed globalization movements to accelerate in the region. Due to its geographical location, the United Kingdom has the opportunity to interact with the region by means of a variety of routes. The country has been searching for petrol and natural gas in the coasts of the Arctic since 1960. Moreover, strategically important companies offering goods and services to a large variety of industrial areas based on the Arctic have substantially increased in areas such as insurance and risk management, shipping and mining. Thus, the United Kingdom focuses on increasing its economic profit by widening its activities. Therefore, it spends great effort to strengthen bilateral relations with the countries of the region. To sum up, the aim of this study is to investigate the reasons why the Arctic has been playing a primary role in international trade along with the impact of climate change on regional economic activities as well as economic policies of the United Kingdom in this region.

Keywords: International trade, climate change, globalization, the Arctic, the United Kingdom

437

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POLİTİKALARININ DEĞERLENDİRİLMESİ****Özet**

İklim değişikliği özellikle son yüz yıldır Arktika'da etkisini dünyanın geri kalanına göre iki kat daha fazla hissettirmektedir. Isınma neticesinde bölge erişilebilirliği artmakta, ulaşım ve denizcilik için uzun sezon fırsatları ortaya çıkmaktadır. Bunun sonucunda yeni kaynak arama ve çıkarma faaliyetleri kolaylaşmaktadır. Tüm bu gelişmeler küreselleşme hareketlerinin bölgede hız kazanmasına olanak sağlamaktadır. Birleşik Krallık, coğrafi konumu sayesinde bölgeyle farklı rotalar yoluyla etkileşime girebilme olanağına sahiptir. Ülke, 1960'lerden bu yana Arktika kıyılarında petrol ve doğal gaz arama faaliyetlerinde bulunmaktadır. Ayrıca büyüyen birçok sanayiye ürün ve hizmet sunmak için stratejik pozisyonda bulunan şirketler; sigorta ve risk yönetimi, denizcilik ve mineral çıkarma da dâhil olmak üzere Arktika'da faaliyet gösteren çeşitli sektörlerde geniş deneyim sahibidirler. Birleşik Krallık bölgede faaliyet alanını genişleterek ekonomik kazanımlarını artırmak istemektedir. Bu amaçla bölge ülkeleriyle ikili ilişkilerini sağlamlaştırmaya gayret göstermektedir. Sonuç olarak bu çalışmada Arktika'nın uluslararası ticarete gün geçtikçe yükselen bir değere sahip olmasının nedenlerinin araştırılarak iklim değişikliğinin bölge ekonomik faaliyetlerinde yarattığı dönüşümlerin ve Birleşik Krallık'ın bölgede yürüttüğü ekonomik politikaların incelenmesi amaçlanmaktadır.

Anahtar kelimeler: Uluslararası ticaret, iklim değişikliği, küreselleşme, Arktika, Birleşik Krallık

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1. INTRODUCTION

The subject of climate change has grown in importance especially in the 21st century in the global conjuncture. The seasonal and temperature changes occur as a result of climate change, affecting all the creatures living on our planet. Consequently, studies about the causes and effects of climate change increase gradually. Recently, especially effects of polar region on climate change and effects of climate change on the polar region have been among the mostly researched subjects.

The Arctic is generally defined as the region above the latitude of 66° 32' and the average temperature of July not exceeding 10°C (HM Government, 2013: 1; Le Miere and Mazo, 2013: 41). It covers around 27 million square kilometers. The Arctic is one of the regions that are mostly exposed to effects of climate change. Although there have been international efforts in order to reduce the temperature to the level before the industrial era (2°C degree or less), the Arctic gets twice warm as compared to other areas. (HM Government, 2013: 3).

There are vast amounts of natural gas sources, petrol, and valuable minerals in the Arctic. With the effects of technological innovations and climate changes, the access to the area is becoming much easier. Especially in the last century, the activity of searching and mining natural sources has been accelerated. According to Anderson (2009: 149); “the Arctic is undergoing a transformation on a great scale, larger than anything that has been seen on this planet in human history”. Nowadays, the region attracts the attention of many actors. In order to have an active role in the Arctic’s economy, countries try to build bilateral relations with the countries in the region and search for attaining an observer status in the Arctic Council.

The United Kingdom, which has the status of permanent observer in the Arctic Council, has a long history of exploration and scientific researches in the area. The country, which is geographically close to the Arctic, has an interaction with the region since the sixth century. Systematically, the UK has an interaction with the region for the last five hundred years. Therefore, the country has a long history of economic activity in a range of sectors in the region. The effects of climate changes on the Arctic economy have led the United Kingdom to attribute more importance to economy politics in the region. As a consequence of technological progress and warming, transportation to the Arctic and exploration-exploitation of natural resources (drilling) activities become easier. On the other hand, The United Kingdom has a comprehensive experience in numerous sectors from banking to search-rescue. The country aims to build close trade relations with the region countries, create new employment areas and provide accretion value to its economy by using the advantage of its geographical location.

In the study, initially, the effects of climate change on the Arctic will be researched. Secondly, the economic transformations taking place in the region affected by climate change will be examined and its effects on the international trade will be examined. Thirdly, the history of the United Kingdom in the Arctic will be investigated. In the last part, the effects of economic transformations on the economic policy of the Arctic of the UK will be examined.

2. CLIMATE CHANGE AND THE ARCTIC

Climate change is defined as an obvious change in weather conditions, which may be anthropogenic or naturally occurring in a given region or around the world and covers a long period of time (Anderson, 2009: 84; Australian Academy of Science, 2015: 1). In the last century, climate change has been more influential in the Polar region (the Arctic and Antarctic)

when compared with the rest of the world (IPCC/Intergovernmental Panel on Climate Change, 2014: 10; ISAB, 2016: 2). Depending on climate change, decrease in the ice-covered ocean areas in the region continues throughout the year, with visible reductions in seasonal snow cover, mountainous glaciers, continental glaciers and permafrost (IPCC, 2013: 20; HM Government, 2013: 3; Brigham, 2015: 359; Stone, 2015: 234-235; Lindblad and Warner, 2016: 6). According to Le Miere and Mazo (2013: 25), since the second half of the 19th century, the global average surface temperature has increased by 0, 78 ° C. As a result of this, from 1953 to 2006 the annual minimum sea ice width has decreased by an average of 7.8% (Le Miere and Mazo, 2013: 25). According to Le Miere and Mazo (2013: 26); in the last 2000 years the average temperature in the region has been higher than usual, while the amount of ice and volume are at a record low.

Global concern for the effects of climate change over the region is frequently refreshed by the hope of natural resources extraction in the region provides. Changes that occur due to anthropogenic warming at regional and global scale; making the Arctic more accessible, create long-term opportunities for transportation and maritime activities and accelerating new resource exploration and extraction efforts (Le Miere and Mazo, 2013: 9; Brigham, 2012: 208; Brigham, 2015: 359). Climate change and the progress of the technology has opened the way for drilling activities, especially in the deep seas, and the region has become the focus of more actors (Ebinger and Zambetakis, 2009: 1222). As a result of climate change, there have been new changes and transformations in the region's economy and the global capital expands gradually. Moreover, melting in the region has the potential of changing the trade routes. This situation may probable create potentials to generate new economic relations based on new economic opportunities.

3. INTERNATIONAL TRADE AND THE ARCTIC ECONOMIC TRANSFORMATION

The Arctic has a large resource reservoir containing valuable mines (including petroleum, natural gas and other precious minerals), forests and fisheries. Commercial activities and use of natural resources in the region includes; hunting for centuries, mining since the 19th century and oil and gas exploration activities since 1920s (House of Lords, 2015: 31). During the 1920s and 1930s, exploratory and research movements gained momentum to connect Polar Regions to the global world. In this period, exploitation of large mineral and energy resources on a large scale began (Nord, 2016: 10). The end of the Cold War, global climate change and advancing technology were the major factors of globalization and economic transformation of the Arctic (Humpert and Respotnik, 2012: 281). Especially, in the last 50 years, the Northern shores of the Alaska, Barents Sea, and the North of Russia have witnessed the growing movement of mineral extraction activities, state development and global markets interests (Dodds and Nuttall, 2016: 37-38). Moreover, the usage of the Arctic air routes for the flights between North America and Far-East decreased fuel cost substantially via shortening the flight hours.

Arctic economic industries are based on ores, precious minerals, petroleum, natural gas, fisheries, lumbering and tourism (Ebinger and Zambetakis, 2009: 1220; Anderson, 2009: 215; Le Miere and Mazo, 2013: 31; Nord, 2016: 10). Oil and gas exploration and growing hydrocarbon activities constitute the largest portion of existing economic activities and investments (Le Miere and Mazo, 2013: 48). 10% of global petroleum supply and 25% of gas supply are provided from this region, mostly from Russia (House of Lords, 2013: 73-74; Le Miere and Mazo, 2013: 31). Approximately 5% of the global fish market is provided from the region. (Le Miere and Mazo, 2013: 60). According to the US Geological Survey (USGS) report (Stauffer, 2008: 8), it is estimated that the total of undiscovered oil and gas reserves in the

Arctic is about 90 billion barrels of oil, 1,669 trillion cubic meters of natural gas and 44 billion barrels of liquefied natural gas. On the other hand apart from petrol and natural gas there are rare minerals and elements in the region.

Effects of globalization and the importance of international trade in the world scale have been increasing gradually. Similarly, it is possible to observe this in the Arctic, which has become the focus of many nations due to their national interests. At the beginning of the 21st century, about 4 million people, 10% of whom are native people, live in the region and this number is increasing day by day (HM Government, 2013: 1; Le Miere and Mazo, 2013: 29; Melia et al., 2017: 18). Employment rate has risen four times in the region in the last ten years in these areas (ISAB, 2016: 1).

At the beginning of 21st century, the main factor which forms the driving force in the maritime operations in the Arctic and the rise of the migration to the region is the development of natural sources taking place in the region and increasing integration of the Arctic into the global economy. (Heininen, 2011: 40-41; Brigham, 2015: 360). Economic resources in the Arctic region are very important for the investors and the economies of the countries. On the other hand, tourism activities in the region accelerated due to global climate change. The possible effects of recent and future climate change make the region attract more geopolitical, commercial, scientific, and environmental attention from all over the world. As a result, the tendency of handling the region with an economic perspective has accelerated. Economic transformations affect the vision of the Arctic countries and other interest groups in terms of management of the region. Trade activities in the region gradually increase as a result of climate change, with technological innovations and global capital expanding its area to the Arctic.

4. THE UNITED KONGDOM AND THE ARCTIC

440

The Arctic has been an area which attracting the attention of the great powers for centuries. “Competing land and maritime territorial claims among European powers for parts of the Arctic are as old as the Westphalian system itself” (Le Miere and Mazo, 2013: 33). Especially after the geographical discoveries, European powers focused on the Arctic waters in order to reach their colonies in Asia via a shorter way. Arctic interest of Europe increased with deeper researches after the discovery of the New World and Cape of Good Hope in the 16th century in order to find alternative trade ways to China and East India. (Depledge, 2012: 131; Le Miere and Mazo, 2013: 20).

Interaction of the United Kingdom with the region is much earlier than its European competitors. The United Kingdom is defined as a ‘sub-Arctic’ country. Shetland Out Stack/Scotland at 60 degrees north is only 320 nautical miles south of the Arctic Circle (House of Lords, 2015: 12). The first travel of the United Kingdom to north, the closest neighbor of Arctic, is known to be made in the sixth century (De Costa, 1880: 161). On the Anglo-Saxon maps of the tenth century, there had been demonstrated the activities of seafarers and British geographers in the North Sea (De Costa, 1880: 164).

Systematic discovery and research movements of the country have grown up as a result of whale hunting and initiatives to find a sea route from north to Asia, which began in the 16th century (Depledge, 2012: 131). British and Dutch navigators who were mostly financed by commercial interests were encouraged to search the Northwest Passage and as a result, discovery movements accelerated (HM Government, 2013: 4; Le Miere and Mazo, 2013: 21). In the 17th century, there were attempts to search for the Northeast Passage by the British and

Dutch. After the Napoleonic Wars of 1815, John Barrow (1764-1848) initiated an organized search for Arctic through geographical and hydrographic studies, especially using unemployed officers and spare warships under the British Admiralty program (Craciun, 2009: 104; Le Miere and Mazo, 2013: 21; Millar, 2013: 77-78). Having a history of about 500 years of exploration and research, the country has a vast knowledge about region. “These efforts produced a legacy of British interest in Arctic exploration and science: the United Kingdom currently produces more Arctic research than any other non-Arctic state, both in absolute terms as a percentage of its overall research effort” (Le Miere and Mazo, 2013: 21).

The Arctic Council was founded in the region in Canada in 1996 by eight arctic countries (Canada, Denmark, Finland, Ireland, Russia, Norway, Sweden and USA). “The Arctic Council is the leading intergovernmental forum promoting cooperation, coordination and interaction among the Arctic States, Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, in particular, on issues of sustainable development and environmental protection in the Arctic” (Arctic Council, 2018). Protection of native population, protection of marine-environment and bio-diversity, struggling against unreliable air conditions because of climate change, and especially maintaining safety in the region as the air navigation and increased maritime traffic are the main topics of the Council. (Nilsson, 2012: 184; ISAB, 2016: 5). Although it hasn’t got the authority to legislate and/or enact a law, the Council publishes reports to help steering the politics and defining the priorities of Arctic countries (Anderson, 2009: 105). The UK is a permanent observer status in the Arctic Council since the 1998 Iqaluit Declaration (Exner-Pirot, 2012: 48). According to House of Lords (2015: 107), The United Kingdom has got powerful bilateral-relations with most of the eight Arctic countries in the fields including history, trade, defence, alliance and science.

5. REGIONAL ECONOMIC POLICIES OF THE UNITED KINGDOM

441

Due to global warming, transportation to the region is easier than before. Also, search for new resources and their extraction have become easier. This situation enables to a longer seasonal opportunity for shipping and commerce. According to Duyck (2015: 27), rapidly developing economic transformations in the Arctic are creating great pressure on the areas that the Arctic states have cooperated on to this date. The Arctic Ocean is perceived as a strategic area due to both the opening of sea routes and the mineral resources under the sea (Brigham, 2012: 308). Climate change has the potential to change global trade routes and thus create new business relationships based on new economic opportunities.

Diversity in the interests and connections of the United Kingdom in the Arctic contributes to strengthening of its position in the region. The UK strives to increase bilateral ties with the Arctic states, including history, trade, defence alliances and science. Due to its geographical position, the UK could become the main trade partner of the Arctic states. The United Kingdom’s economy provides professional, high value and specialized products and services covering a range of industries and supply chains to the Arctic (HM Government, 2013: 8). Strategically important companies in the UK have extensive experience in various sectors operating in the Arctic (HM Government, 2013: 28; House of Lords, 2015: 73). These sectors mainly include; maritime shipping, maritime financial services, insurance, risk management, mining hydrocarbons, petroleum and natural gas, tourism (Nilsson, 2012: 180; Depledge and Dodds, 2014: 25; Melia et al., 2017: 4). The country has got a strategic position to offer products and services to many industries, growing in the region. This situation increases the employment opportunities for the companies of the country in the region.

Since 1960, the country has been involved in onshore oil and gas exploration activities in the Arctic (HM Government, 2013: 1). For example: British Petroleum (BP) in the USA, Canada, Greenland and Norway, Shell in Canada, Greenland and Alaska (Shell, 2012; Infield, 2012). In addition, Shell and BP have significant interests in onshore and offshore areas in Russian Arctic (Depledge and Dodds, 2014: 28; Byers, 2013: 200). Cairn Energy, which is a smaller company, drilled a series of exploratory wells, which are estimated to cost over 1 billion dollars, but it couldn't find considerable amount of petrol in terms of trade. (Depledge and Dodds, 2011: 75). In addition, the United Kingdom provides its %46 of petrol and %55 of gas importation from Norway (Depledge and Dodds, 2014: 28). For this reason, the UK intends to take an active role in supporting new natural gas discoveries in the country by investing in new infrastructural investments linked to the existing North Sea pipeline (Melia et al., 2017: 17).

A large number of British companies operate in the mining sector, either as major mining operators or small project partners (Depledge, 2013: 1448; House of Lords, 2013: 78). For example, Beowulf Mining, which is among smaller English companies making business in the Arctic, and works for developing sources of iron ore in north of Sweden (House of Lords, 2013: 78). In addition to this, since 2004, base studies have been carried out under the Anglo-American Mining Sakatti Exploration Project to search for elements of copper, nickel and platinum group in the Sakatti city of Finland, 150 km north of the Arctic Polar Circle (HM Government, 2013: 23).

While the United Kingdom has conducted its interaction with the region through a series of forums, the issues addressed in order to coordinate its regional interests more effectively have been shared among different government actors (Depledge, 2012: 133; House of Lords, 2015: 6). For example; The Department for Transport, Maritime and Coastguard Agency is responsible on transport matters, Department of Energy and Climate is responsible on climate change, energy exploration and extraction etc. (Depledge, 2012: 133). The creation of various institutions for different interests on the territory is an indication of the diversification of the Arctic governance of the United Kingdom.

Climate changes in the Arctic demonstrate its effects in the United Kingdom because of its geographical location. In particular, climate change experienced on a global scale over the last decade has been handled transparently and systematically by the United Kingdom. Because there has been little basic information about many aspects of the region and how it reacts to the changes, it causes intensification of researches over the region about the climate change. Besides, it is necessary to understand the eco-systems and climate change in order to decide upon full information, which should be pursued by commercial interests (Depledge, 2013: 1454; House of Lords, 2013: 61). As a consequence of climate change, industrialization of the region and the increasing demand for resources has increased the need for current and reliable scientific research in the region. The United Kingdom's research and technology powers can be used to develop new techniques and approaches in order to search the developments in delicate climates.

With the acceleration of globalization in the region and the dramatic developments in the climate change, especially in summer months, ships in particular ice-breakers, come to the Arctic Ocean basin to make scientific and continental shelves' researches (Brigham, 2015: 360). In addition with the effects of warming new sea routes and shipping routes will emerge in the Northeast and Northwest passages and thus trade routes will change at a large scale, which will further enhance the accessibility to the region. The seasonal decline of sea ice will result in significant savings in terms of cost, distance and time and thus increasing the possibility of

making large-scale maritime trade through the Arctic routes (Nilsson, 2012: 180; Rainwater, 2012: 119; Le Miere and Mazo, 2013: 47). For example: Commerce from East Asia to the United Kingdom may be shorten 10-12 days with using Arctic routes instead of Suez Canal routes (Melia et al., 2017: 4). Moreover, new shipping routes and seaways in Northeast and Northwest passages will change the trade ways to a great extent and this situation will increase the accessibility to the region. For this reason the UK tends to cooperate with other countries with common interests to take a more active role in maritime activities in the region (Melia et al., 2017: 25).

Every year more than five million tourists come to the Arctic (Le Miere and Mazo, 2013: 61). It is expected that the increase in the temperature in the region will increase this number and diversify the activities of ecotourism (Le Miere and Mazo, 2013: 61). The UK has a well-known expertise in search and rescue. Therefore, it can play an active role in developing strategies alongside the region's countries. Encouraging safe and sustainable tourism in the Arctic is the basic policy of the United Kingdom in tourism activities (HM Government, 2013: 26). The ports of the country and the maritime industry will benefit from the expanding trade routes, which will provide opportunities for the tourism industry and business development.

5. CONCLUSION

Effects of global climate change are felt in the Arctic much more than the other regions. The temperature in the area is rising due to climate change, causing a decrease in the ice-covered places. Due to the climate change transportation to the region has been getting easier day-by-day and this, has increased access to regional resources. As a result of melting, alternative sea routes are coming to existence, potential global trade ways are changing and alternative economic opportunities have been created. The Arctic has got a large scale of petrol and natural gas resources and valuable minerals. On the other hand, fishing and lumbering contributes to the economy of the countries' economies. There has been activities for searching natural resources and mining for about 100 years. Global capital has been enlarging its scope to the areas including the Arctic region since the 21st century. The region is getting through a transformation and increasing its share in international trade with the influence of acceleration of globalization movements, climate change and technological innovations.

The United Kingdom, which is in the closest location to the Arctic, has got historical, commercial, and scientific interactions with the region for centuries. That is the reason why the country has a variety of connections and interests in the region. One of the chief policies of the country, which has the permanent observer status in the Arctic Council, is to have a word on the economy of the region through following the events taking place. Moreover, the increase in the information resources of the country about the region and its position in the Council may contribute while taking effective and profitable decisions. The UK aims at increasing its economic profit by widening its activities and therefore, spends great effort to strengthen economic relations with the countries of the region. Widening and strengthening economic relations with Arctic states will provide new job opportunities and employment area for British citizens. Thanks to the export of goods and services, the UK could increase its GDP per capita.

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