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The Political economy of Energy in Eastern Mediterranean

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Declaration

I, Zacharou Otapidou Athina, hereby declare that the dissertation titled "The Political Economy of Energy in Eastern Mediterranean" is my own genuine work. Appropriate credit has been given in this diploma thesis regarding any information and material included in it that have been derived from other sources. I am also fully aware that any misrepresentation in connection with this declaration may at any time result in immediate revocation of the degree title.

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1. Introduction

1.1. Purpose of Research

The following research will focus on examining the Political Economy of Energy in Eastern Mediterranean. We define Eastern Mediterranean countries as Cyprus, Egypt, Greece, Israel, Jordan, Lebanon, Syria, Turkey, and Palestinian Territories (West Bank and Gaza). Eastern Mediterranean is becoming one of the most important regions for analysis in the field of International Relations. The recent discoveries of hydrocarbons in Levant Basin, are expected to change the energy equilibrium of the surrounding area and play an important role in both energy supply and energy security. Based on the principles of International Political Economy and Macroeconomic Theory, the analysis will be focused on the correlation of economic development with the energy sector, the geopolitical factors and the stability regarding the states relations. Furthermore, this research is going to examine the prospects of the upcoming energy projects in Eastern Mediterranean as well as their viability and their effects on the geopolitical image of the area.

1.2. Methodology

The current thesis is going to be elaborated under the prism of the International Political Economy of Energy as well as the International Macroeconomic Theory. The resources used for this research will be from scientific articles and literature reviews.

1.3. Contribution of Research

The primary purpose of this research is to contribute to the understanding and the expansion of the Political Economy of Energy, through the examination of the special characteristics of the states in Eastern Mediterranean and how they can be affected not only separately but also as a whole. Through the analysis of macroeconomic factors focuses on the effects of existence and exploitation of energy in the economy of the states. In addition, it highlights the geopolitical factors of the Eastern Mediterranean, which have an extreme importance in the implementation of the energy projects.

1.4. Structure of the research

The structure of this thesis is consisted of 7 chapters. In the first Chapter we analyze the aim of the research, the methodology, the contribution of research and the structure of the research. In the second Chapter we examine the basic principles and the theoretical approaches of International Political Economy and International Political Economy of Energy, focusing mainly on Realism, on which we base our analysis. In the third Chapter we present individually the macroeconomic data of Eastern Mediterranean countries and their economic correlation with the energy sector. In the fourth Chapter we refer to the economic and trade relations between countries in Eastern Mediterranean region. In the fifth Chapter there is an examination of the energy profiles of each country under study and their future potential in the energy sector. In the sixth Chapter we mention the territorial disputes over the exploration of natural gas deposits in the region and we refer, briefly, to the proposed energy infrastructure that will minimize EU's and regional energy dependence on Russian energy. To sum up, the seventh Chapter includes some suggestions and analyzes the prospects of recent energy discoveries and upcoming projects in the area.

2. Theoretical context

Introduction

In this chapter we examine the theoretical background of our analysis. Specifically, we refer to the evolution of the International Political Economy (IPE) as a relatively new field of knowledge in International Relations. The development of IPE took place in a period of structural changes in global economy in response to the new challenges that have arisen in the global economy and international security, but also as a result of the developments in the methodology and theory of International Relations. Furthermore, we present the competitive theoretical approaches of IPE, emphasizing in the theoretical principles of realism, liberalism and critical theories. The study of competing theoretical approaches attempts to show the differences in their basic principles, the way they approach the main actors, the forces shaping the global economy, and their position on the actions of cooperation and conflict. Finally, we present the theoretical approach on which we will base our analysis and the reasons for our selection.

2.1 International political economy of energy

Based on theoretical approaches of classical economists (Adam Smith, David Ricardo, John Stuart Mill etc.), sociologists (Karl Marx) and anthropologists (Karl Polanyi), International Political Economy (IPE) had been developed as an important field of study in 1970s. International Political Economy is a relatively new and growing area of social science, which studies international economic and political relations through the use of the aforementioned theoretical approaches and interdisciplinary analytical tools. Moreover, attempts a global, holistic explanation of international relations with flexible limits.

International relations combine interrelated issues such as politics, economics both in domestic and global level. The aim of IPE is to analyze the interaction of the economy with states' international affairs or, generally, to examine how economic actors affect international relations in a framework of internal and external

interaction. According to John Ravenhill, IPE is a field of study whose central focus is the interrelation between public and private power in the allocation of scarce resources (Ravenhill,2005).

Despite the importance of energy issues in society and their political, economic influence, in the past years there has been little analysis concerning energy under the prism of IPE (Keating, Kuzemko, Belyi & Goldthau, 2012; Keohane, 2009; Strange, 1988; Van de Graaf, Sovacool, Ghosh, Kern, Klare, 2016). IPE scholars in 1980s,1990s affected by the oil crisis in 1973 had been concentrated on the implications of oil in the existing energy markets and policies and not in the general meaning of energy.

Suzan Strange was the first to observe that different fuels have different mobility of factors of production (Strange, 1988, p.212; Kuzemko et al., 2019) and to highlight the important of the change from coal to oil in the world economy. Later IPE scholars, following the existing ideas, based their analysis on realist, liberal and critical theoretical approaches.

Liberal approaches concerning energy issues have been influenced by liberal economic school of thought or by neoliberal institutionalism. Liberal economics delineate mainly the hypothesis that energy is allocated to little intrinsic value by its very nature (Kuzemko et al., 2019; Von Hippel, Suzuki, Williams, Savage &Hayes, 2011). On the contrary, its stocks and flows are treated as an exchangeable product that can be traded on open markets and then sold via utilities to consumers (Littlechild & Vaidya, 1982; Kuzemko et al., 2019). The accomplishment of energy security according to liberal economics comes from the globalization of energy product pricing and competitive markets. (Kuzemko et al., 2019). Additionally, liberal economists believe that the supply of both states and markets is better accomplished by private actors. Neoliberal approaches, are based on the aforementioned ideas of liberal economics, but are focusing more on the importance of finding the most proper international institutions to provide open energy trade (Goldthau & Witte, 2009; Keohane, 2009; Keohane &Victor, 2011; Kuzemko et al., 2019). Furthermore, the alternative methods of governance are ignored or considered obsolete (Erixon, 2008) and open markets are expected to solve any problem that will arise (Stilwell, 2006). In general, liberal and *neoliberal* approaches

tend to degrade the role of political actors in international economic relations and in both international, domestic energy policy options.

Realist approaches refer to energy as a mean of power in the competition of states in an anarchic world (Klare,2008; Kuzemko et al., 2019). Also, focus primarily on states as a single unit, ignoring the even growing role of foreign actors in energy issues. Realists highlighted the importance of the existence of energy resources in a state in order to affect the distribution of power internationally (Kuzemko et al., 2019; Hancock & Vivoda, 2014, p.207) and the possibility that this fact will create conflicts between states (Bromley, 2006; Painter, 2002; Kuzemko et al., 2019). Realism explains in a better way than liberal, neoliberal approaches the 'nationalism' of the energy resources. Thus, both theories are based on simple distinctions between economics and politics and do not try to understand the importance of their cooperation in energy governance.

Critical approaches began to develop based on the belief of Suzan Strange (1988) that whoever manages to control energy resources will gain economic advantage in the global economy (Kuzemko et al.,2019). In addition, it is observed to focus mainly on oil as a mean of production and trade activities that has the ability due to its 'power' to affect political and economic decisions (Kuzemko et al., 2019; Cox, 1987; Gill, 1993; Rupert, 1995). This idea is proved by the cases of some developing countries that are 'trapped' in arrangements where international companies gain the profits from the exploitation of energy resources and they gain only a minor share (Nitzan & Bichler, 1995; Kuzemko et al.,2019).

2.2 Theoretical approaches of International Political Economy of energy

In this section we are going to present extensively the competing theoretical approaches of IPE, emphasizing to the rational interpretations provided by the approach of liberalism, realism, and the critical perspectives of Structural Marxism. The study of these approaches attempts to show the differences they have in terms of their basic principles, the way they approach the key actors in the global political economy and their position on issues of conflict and cooperation.

Realism

Realism is a school of thought that focuses mainly on the behavior of the state. The state is above any other political or social organization within its territory and exercises power through its sovereignty. The main principles of Realism according to Kenneth Waltz (1979) is that:

- The motivation for the actions of a state is the benefit is the benefit.
- The need for the establishment of policies rises from the uncontrolled competition of states.
- Success is the main goal of politics and is defined as the survival, empowerment of a state.

Realists believe that states are the main actors in the international political and economic system and should play a dominant role in any analysis. Every state behaves rationally in the political scene by taking decisions to maximize its benefit and its profits. According to realists, states are primarily interested in issues concerning their sovereignty and national security, as conflicts are a physical condition of the global political scene. Realism attempted to present a theoretical framework for the meaning of conflict and war. Its theoretical background comes from Ancient Greece and Thucydides by the description of Peloponnesian War between Athens and Sparta. Thucydides attempted to define the ideas of war and political power by analyzing the conflicts between states instead of the cooperation efforts. In general, realists believe that international political scene is based on conflict in order to serve national interests and not on values like justice, peace and international law.

Regarding the economic part, realism is called economic nationalism, claiming that economics and politics cannot be separated from each other. Economic nationalism considers that the stronger economic nations are the ones that benefit from free trade, so states should intervene to protect their particular interest. It is obvious that, the international political and economic system reflects the interests of the most powerful countries in the world economy and each state focuses on serving its national interests according to its own power (Roukanas and Diamantis, 2012).

Liberalism

Liberalism has its roots in the early 18th century and had been the dominant ideology during the 20th century. Liberal school of thought developed based on theories of significant economists, such as Immanuel Kant, Adam Smith, and David Ricardo. Adam Smith in his book *"Wealth of Nations"* (1776) and later David Ricardo in *"The principles of Political Economy and Taxation"* (1817) referred to the importance of open markets and how states will benefit from the free trade. According to them, free markets were the most efficient way to organize production and coordinate the economic activity, without any intervention from the state. Another characteristic belief of the liberals is that people act rationally. Thus, the prosperity of each economy is directly related to the behavior and interests of individuals. The main assumptions of liberalism can be précised as (Steans et al., 2010, pg. 31-32):

"1. Rationality and inherent good nature are the defining characteristics of humankind. Rationality can be used in two distinctive ways: a) in instrumental terms, as the ability to articulate and pursue one's "interests"; b) the ability to understand moral principles and live according to the rule of law.

2. While people rationally pursue their own interests, there is a potential harmony of interests between people.

3. Cooperation is possible and is in fact a central feature of all human relations, including international relations.

4. Liberalism challenges the distinction between the domestic and the international realm, claiming that multiple sets of relationships between people transcend national borders. A) Government is necessary, but the centralization of power is inherently bad. B) Individual liberty is of supreme political importance."

In accordance with liberal theoretical approach the state is not the dominant actor of the international political scene. State holds the same position with other individual structures of the system such as multinational companies, non-governmental organizations, and individuals. Every state in the complexity of the international environment is influenced by external and internal factors. Due to that

fact, security issues under the prism of liberalism are less important than in realism. Liberalists believe that cooperation conditions between states play the most important role for the regulation of the international political and economic conditions.

Critical theories

Structuralism, which belongs to critical theoretical approaches is based primarily on Marxist analysis. The central thought of structuralism is that the capitalist economy generates conflicts between social classes. The main actors under this prism are not states, but social classes inside and outside of a state. Other actors like multinational companies represent the interest of capitalists.

Marxism studies the fundamental causes of social action, considering that the developments of international political scene are directly related to the capitalist system of production. In accordance with this, the existence of a capitalist system causes huge income inequalities between workers and capital holders. The formation of income inequalities and unfair relations between capitalists and workers are principal topics in structuralism.

This level analysis is reflected on the international reality, where the class that holds the economic power creates relations of abuse with 'lower' classes through modes of production in order to maximize capital (Ravenhill, 2017). The same happens also in the case of states. In general, International economic relations are considered as conflicting in the long term.

2.3 Presentation of the chosen theoretical approach of our analysis

In this section we are going to present the theoretical background of our analysis. The examination of the energy developments in Eastern Mediterranean region from 2009-2018 will be based on the principles of realistic school of thought. According to the theoretical framework of neorealism and specifically the analysis of Kenneth Waltz, who broadened the thesis of Hobbes and Rousseau (Booth, 2011), we will

emphasize on the prevalence of anarchy in economic and political structure of Eastern Mediterranean and the role of the states inside the region. The belief of realists that, states being in an anarchic environment should be able to maintain their power in order to accomplish their targets and establish national security (Booth, 2011), is strongly met in Eastern Mediterranean.

The term “security” in Eastern Mediterranean region can have multiple meanings. The recent natural gas discoveries in the region have created new interactions both internally and externally. States being in the region, to ensure the regional and energy security is on a constant dialogue for cooperation trying to confront external threats and minimize energy dependence on ‘third countries’, like Russia. On the same time, each state acts individually aiming to preserve its economic and political stability.

Regional Security Complex Theory (RSCT), that was firstly introduced by Barry Buzan in 1983, attempted to study security at a regional level. Buzan has described ‘region’ as “a distinct and significant sub-system of security relations that exists among a set of states whose fate is that they have been locked into geographical proximity with each other” (Buzan, 1991, p.188; Stivachtis,2019). The reference to the geographical factor plays a decisive role, as the strategy of balancing power is observed more between states located in the same region and may include actors who are not considered as hegemonic powers (Tziampiris,2015).

Additionally, Buzan expressed that security is a more extensive term than power, that in a regional level includes amity and enmity among states’ relations. (Stivachtis, 2019; Buzan, 1991, p.189). “Amity refers to relations among states ranging from genuine friendship to expectations of protection or support, while enmity refers to relations set by suspicion and fear” (Stivachtis,2019).

According to the aforementioned beliefs, Eastern Mediterranean region can be defined as a regional security complex since different positions are formed and amity, enmity exist between states. (Stivachtis,2019). We can refer to examples, like Syria and Egypt, where the interdependence and be characterized as positive, but on

the other hand the relations between Greece and Turkey seem to be problematic over time.

Although there have been expressed opinions questioning the implementation of the previously mentioned theory, in Eastern Mediterranean region, we believe it is the most convenient for our analysis. It is understandable that energy discoveries have created new interests in their possible influence on existing regional disputes and complicated substantially the political structure of the region.

Conclusions

To sum up, in this chapter we analyzed the main principles of IPE, focusing on IPE of Energy as an emerging field of study that raised the interest for research during the last decades. Moreover, we explained the reasons for our preference to Realistic school of thought for our analysis by presenting its main structural thoughts and assumptions. Consequently, we evaluated the theoretical perspectives of realism and states' relations under the prism of Regional Security Complex Theory (RSCT) and its correlation with Eastern Mediterranean region. Besides Realism we described briefly, also, Liberal and Critical approaches of IPE in order to compare their ideas and assumptions and point out their different views on the definition of IPE. The separate examination of IPE's theoretical approaches and their different views the way that institutions influence the functioning of markets and domestic economies, helped us in understanding better the interrelation between political and economic science in the field of IPE.

3. Macroeconomic framework

Introduction

In the beginning of this chapter we introduce the analytical framework of Resource curse phenomenon and Rentier State Theory (RST), that are often met in countries with an abundance of natural resources and can be related to the “energy case” of Eastern Mediterranean. Furthermore, we examine extensively, from 2009 until 2018, the macroeconomic indicators in order to clarify the economic environment of Eastern Mediterranean as well as the interest for foreign investment in the region. The separate analysis of each country shows us how countries in the region were affected by political and economic changes that occurred in the period under study and their ability to adapt to this continuously reforming environment. In the end of this chapter we summarize our assumptions from the examination of macroeconomic indexes, so as to evaluate the affection of recent energy discoveries in Eastern Mediterranean region.

3.1 Rentier State Theory (RST)

Rentier State Theory has arisen as a unique analytical framework to explain the interplay of oil, economic and political structures in MENA oil exporters. The theory was proposed by Hussein Mahdavy in 1970, concerning the economic development in the Middle East and specifically in Iran. According to Hussein Mahdavy (1970) rentier states are called the countries that receive on regular basis substantial amounts of external rents, which have little to do with the production process in their domestic economies.

Based on Mahdavy’s examination, Hazem Beblawi and Giacomo Luciani in 1987 expanded Rentier State Theory to explain the Political Economy of oil producing countries internationally. Hazem Beblawi stated that four characteristics define the ‘rentier state’ (Beblawi, 1987, p.384-385).

- In a rentier economy rent situations predominate.

- The economy relies on a substantial external rent and for this reason a strong domestic productive sector is not required.
- Only a small proportion of the working population is involved in the generation of the rent, the majority of the population is only involved in the distribution or utilization of it.
- The state's government is the principal recipient of the external rent.

The basic principle of Rentier State Theory is that public revenues do not only influence the behavior of the state but also determines its identity. When external income flows directly into the public coffer, the state stops being financially dependent on internal productive groups. Therefore, it does not have to set taxes in order to preserve its economy avoiding at the same time the political cost that taxation would have caused. Taxation creates expectations of participation and strengthens demand for political representation. This is clearly attributed by the fact that the slogan of the American Revolution (1750-1783) was 'No taxation without representation'. In contrast with productive states, rentier states because of being financially independent from the society do not need to seek legitimacy through democratic representation.

From the economic perspective, is observed a paradox in rentier states. Despite their impressive resources that attract investments, they fail to grow. Economic theory has introduced a phenomenon based on this fact, known as 'Dutch Disease'. It had been firstly observed in Dutch natural gas exports from the North Sea and described a situation where natural gas exports lead to a revaluation of the currency and an increase in wages, affecting, also, the competitiveness of other sectors in the economy (Gelb et al., 1988).

As a result of the eccentric situation of rentier states, they cannot be considered as evolutionary in the long-term. Luciani (1987) suggested two scenarios for the achievement of the evolution of these states:

- At first, rentier states might diversify their domestic economic basis and gradually turn into production states.

- Secondly, rentier states might continue in their existing situation until all their natural reserves are exported and then collapse, with the most citizens having gathered enough money so they can live elsewhere.

Because their main economic source, i.e. oil, is limited, rentier states represent a passing phenomenon.

3.2 Resource curse phenomenon

The resource curse phenomenon refers to the paradox that countries with an abundance of natural resources (fossil fuels, minerals) tend to have higher rates of conflict, lower rates of economic stability and economic growth than countries with fewer natural resources (Vanables,2016; Ross,2015). Namely, the term 'resource curse' contains the critical economic, social, political challenges that face countries rich in oil, natural gas etc. The reasons that cause this phenomenon have been several times under research. Most believe that resource curse is neither absolute nor inevitable, but it affects certain countries under certain conditions.

The belief that natural resources can be a curse for a state, economically, appears in the 1950s, 1960s. The term 'resource curse' was firstly used by Richard Auty in 1993. Its purpose was to describe why countries rich in mineral resources were unable to use wealth to strengthen their economies and had smaller economic growth compared to others that have fewer natural resources (Sachs, et al., 1995).

Various economic and political studies have proposed multiple explanations concerning the reason and the case that the possession of natural resources is a blessing or a curse. Governments in order to avoid negative consequences created by oil, mining and natural gas extraction should make critical decisions about the policy that they will apply, aiming for the maximization of profit.

3.3 Macroeconomic analysis of Eastern Mediterranean countries

In this section, we are going to examine macroeconomic indexes for Cyprus, Egypt, Greece, Israel, Jordan, Lebanon, Syria, Turkey, West Bank and Gaza (Palestinian

territories). The macroeconomic indexes under examination are GDP, GDP per capita, GDP growth, central government debt, inflation, unemployment, and current account balance. The period of analysis is from 2009 to 2018, based on available literature and official data. Due to the unstable political conditions and the consequences of war, data for Syria and Palestinian territories are scarce. The detailed examination of the aforementioned macroeconomic indicators will clarify how international economic crisis of 2007 affected the Eastern Mediterranean region and particularly the progress of the economies under study.

Table 1 : GDP (Billion USD, current prices) & Annual Growth Rate (%)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cyprus	26	26	27	25	24	23	20	20	22	25
	-2,0%	2,0%	0,4%	-3,4%	-6,6%	-1,9%	3,4%	6,7%	4,4%	4,1%
Egypt	198	230	248	279	288	306	332	332	237	250
	4,7%	5,1%	1,8%	2,2%	2,2%	2,9%	4,4%	4,3%	4,2%	5,3%
Greece	331	300	288	246	240	237	197	195	203	218
	-4,3%	-5,5%	-9,1%	-7,3%	-3,2%	0,7%	-0,4%	-0,2%	1,5%	1,9%
Israel	207	234	262	257	293	310	300	319	353	371
	1,4%	5,2%	4,7%	1,9%	4,1%	3,4%	3,0%	4,1%	3,3%	3,4%
Jordan	24	26	29	31	34	36	38	39	41	42
	5,5%	2,3%	2,6%	2,7%	2,8%	3,1%	2,4%	2,0%	2,0%	1,9%
Lebanon	35	38	40	44	47	48	50	51	53	57
	10,1%	8,0%	0,9%	2,7%	2,6%	1,9%	0,4%	1,6%	0,6%	0,2%
Syria	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
Turkey	644	772	832	874	950	934	859	863	853	771
	-4,7%	8,5%	11,1%	4,8%	8,5%	5,2%	6,1%	3,2%	7,5%	2,8%
West Bank and Gaza	7	9	10	11	12	13	13	13	14	15
	8,7%	8,1%	12,4%	6,3%	2,2%	-0,2%	3,4%	4,7%	3,1%	0,9%

Source: World Bank (2018a)

According to data presented on Table 1, we are going to examine the GDP path and the Annual Growth Rate from 2009 to 2018. The GDP of Israel, Jordan and Lebanon has been following an increasing path from 2009 to 2018 related also with GDP growth rates. The GDP of Cyprus and the Annual Growth Rates from 2009 to 2015 have been decreasing dramatically. The rates imprinted the economic crisis that hit the Cypriot economy and led the government to sign a Financial Assistance and Adjustment Program with the European Commission, the International Monetary Fund and the European Central Bank. From 2016 after the completion of this

program is noticed an increase in both GDP and Annual Growth Rates. Being a developing economy, Egypt presented increased GDP and growth rates between year 2009 and 2015. The following years despite positive Annual Growth Rates, GDP of Egypt began to decline. Concerning Greece, from 2009 to 2016 the GDP and the Annual Growth Rates' decreasing route clearly represents the economic instability that created the world economic crisis, which led to public debt crisis in 2010. The same year, the Greek government, the European Commission, the European Central Bank (ECB) and the International Monetary Fund (IMF) signed the first Economic Adjustment Program for Greece a duration of 2 years. From 2012 to 2015 Greece was under the second Economic Adjustment Program and in August 2018 the third Economic Adjustment Program was completed (Galanos and Roukanas, 2019). It is observed that already from 2017, GDP and Annual Growth Rates slightly started to improve. Regarding Turkey, GDP route showed that is a developing economy that the recent years has faced multiple challenges. It is shown that from 2009 to 2013 GDP pursues an increasing route but in the following chronological period (2014-2018) decreased dramatically. Annual growth rates for all years under study except 2009 followed a positive path. Although the political and economic environment in West Bank and Gaza is unstable, it is shown that GDP rates increased during all years under study as well as Annual Growth Rates were positive except year 2014. The analysis of GDP route in the case of Syria faces some difficulties due to the lack of data that created Syrian civil war started in 2011.

Table 2 : GDP per capita (USD, current prices) & GDP per capita Annual Growth Rate (%)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cyprus	32,105	30,818	32,233	28,984	27,942	27,407	23,217	24,019	25,760	28,159
	-4,6%	-1,3%	-2,1%	-4,3%	-5,6%	-0,2%	2,5%	4,3%	3,5%	2,7%
Egypt	2,329	2,644	2,791	3,232	3,264	3,378	3,598	3,525	2,440	2,549
	2,7%	3,1%	-0,4%	0%	-0,1%	0,6%	2,1%	2,1%	2%	3,2%
Greece	29,710	26,917	25,916	22,242	21,874	21,760	18,167	18,116	18,883	20,324
	-4,6%	-5,6%	-9%	-6,8%	-2,5%	1,4%	0,2%	0,2%	1,7%	2,2%
Israel	27,715	30,693	33,669	32,511	36,309	37,678	35,776	37,321	40,541	41,715
	-1,5%	3,7%	2,9%	0,4%	2,2%	1,8%	0,3%	2%	1,5%	1,5%
Jordan	3,504	3,690	3,816	3,877	3,998	4,072	4,105	4,103	4,162	4,241
	0,3%	-2,9%	-2,8%	-2,8%	-2,4%	-1,5%	-1,4%	-1%	-0,3%	0,1%
Lebanon	7,371	7,756	7,703	7,985	7,923	7,712	7,649	7,634	7,838	8,269
	9%	5%	-4%	-3,5%	-3,9%	-3,8%	-3,7%	-1,1%	-1%	-0,3%
Syria	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
Turkey	9,038	10,672	11,335	11,707	12,519	12,095	10,948	10,82	10,513	9,370
	-5,9%	7%	9,4%	3,1%	6,7%	3,4%	4,3%	1,5%	5,8%	1,3%
West Bank and Gaza	1,970	2,354	2,695	2,834	3,060	3,046	2,967	3,074	3,254	3,198
	5,8%	5,3%	9,6%	3,7%	-0,2%	-2,5%	1,1%	2,4%	1,1%	-1,6%

Source: World Bank (2018b)

Another important macroeconomic indicator that must be examined is GDP per capita in addition to GDP per capita Annual Growth Rate. From data presented on Table 2, it is observed that GDP per capita of Israel and Jordan drew a rising path in all years under study. Also, GDP per capita Annual Growth Rate for Israel had positive values except year 2009 but Jordan for the most years under study presented negative rates. GDP per capita of Cyprus in 2009 was 32,105 USD, except 2011 it followed a decreasing route reaching its lowest value in 2015. The same route followed also GDP per capita Annual Growth Rate having negative values from 2009 to 2014. Above indexes show an improvement in Cypriot economy from 2016 to 2018, when GDP per capita reached the amount of 28,159 USD. GDP per capita of Egypt increased from 2009 to 2015 as a result of the rapid increase of GDP at the same chronological period. In 2018, GDP per capita fell almost at the level of 2009, 2,549USD. GDP per capita Annual Growth Rate except years 2011-2013 had positive values. Greece in the first year under study had GDP per capita 29,710 USD which after constant reduction reached the amount of 18,116 USD in 2016. In 2017,2018 slightly began to increase. GDP per capita Annual Growth Rates, during the first five years under analysis (2009-2014) took negative prices, contrarily with the upcoming years. It is noticed that GDP per capita of Lebanon had little fluctuation over years

under study, as in 2009 it was 7,371 USD and in 2018 it was 8,269 USD. Moreover, GDP per capita Annual Growth Rates excluding years 2009,2010 presented negative values. Turkey in year 2009 had GDP per capita 9.038 USD that rose to 12,519 USD, the highest price in years under study. From 2014, we see that had started declining and reached 9,370 USD in 2018. Despite the declining path of GDP per capita, Annual Growth Rates except year 2009 were positive. GDP per capita of West Bank and Gaza in 2009 was 1,970 USD rose to 3,198 USD in 2018. Nevertheless, GDP per capita Annual Growth Rates presented instability, as during the years under study took both negative and positive prices.

Table 3 : Unemployment rate (% of total labor force)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cyprus	5,4	6,3	7,9	11,8	15,9	16,1	14,9	13	11	8,1
Egypt	9,1	8,8	11,8	12,6	13,1	13,1	13	12,4	11,8	11,4
Greece	9,6	12,7	17,9	24,4	27,5	26,5	24,9	23,5	21,5	19,2
Israel	9,5	8,5	7,1	6,9	6,2	5,9	5,2	4,8	4,2	3,9
Jordan	12,9	12,5	12,9	12,2	12,6	11,9	13,1	15,3	14,9	15
Lebanon	6,4	6,5	6,4	6,4	6,4	6,3	6,2	6,3	6,1	6,2
Syria	8,1	8,6	-	-	-	-	-	-	-	-
Turkey	12,6	10,7	8,8	8,1	8,7	9,9	10,2	10,8	10,8	10,9
West Bank and Gaza	20,4	21,4	17,6	19,2	19,9	20,5	23,0	24,0	25,7	26,3

Source: World Bank (2018c)

Unemployment rates are highly affected by the economic conditions of the countries. As we see in Table 3, the unemployment rate of Cyprus during the years of the economic crisis of the Cypriot economy tripled its percentage, as from 5,4% in 2009 rose to 16,1% in 2014. From 2015 to 2018 rates follow a decreasing route that led to 8,1% in 2018. Unemployment in Egypt had been increasing from 2009 and reached its peak point in years 2013,2014,2015 that was 13%. The following years until 2018 had been reducing gradually. Greece along with West Bank and Gaza presented the higher rates of unemployment during years under study. Greece had 9,6% unemployment in 2009, the year before the beginning of public debt crisis. Only 4 years later the unemployment rate had tripled its value reaching 27,5%, the highest percentage of years under examination. Maintaining high levels of

unemployment, the last year under study Greece had 19,2% unemployment, meaning that from 2014 to 2018 it had been improved 7,3%. Unemployment rates of West Bank and Gaza were high during all years under study. Except 2011, that we observe a small decrease the rest years unemployment kept rising reaching 26,3% in 2018. Exactly the opposite occurred with unemployment rates of Israel. In 2009, unemployment rate was 9,5% and continued declining until 2018 that reached 3,9%. Concerning Jordan, unemployment remained almost steady through years 2009-2014. From 2015 to 2018 increased 2% and reached 15%. Unemployment rates of Lebanon remained constant around 6,3 % from 2009 to 2018, maintaining at a high-level concerning country's economy. Turkey's unemployment was 12,6% in 2009 and fell to 9,9% in 2014. Until 2018 we observe an increase of 1%.

Table 4 : Inflation, Consumer prices (annual %)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cyprus	0,33	2,43	3,29	3,39	-0,40	-1,36	-2,10	-1,43	0,53	1,44
Egypt	11,76	11,26	10,05	7,11	9,42	10,14	10,36	13,81	29,5	-
Greece	1,21	4,71	3,33	1,50	-0,92	-1,31	-1,74	-0,83	1,12	0,63
Israel	3,33	2,70	3,47	1,68	1,58	0,49	-0,63	-0,54	0,24	0,82
Jordan	-0,74	4,84	4,17	4,52	4,83	2,90	-0,88	-0,78	3,32	4,46
Lebanon	1,2	3,98	4,97	6,58	4,82	1,86	-3,75	-0,78	4,32	6,07
Syria	2,92	4,40	4,75	36,7	-	-	-	-	-	-
Turkey	6,25	8,57	6,47	8,89	7,49	8,86	7,67	7,78	11,14	16,33
West Bank and Gaza	2,75	3,75	2,88	2,78	1,72	1,73	1,43	-0,22	0,21	-

Source: World Bank (2018d)

Table 4 includes data regarding the route of inflation from 2009 to 2018. Inflation in Cyprus and Greece remained in low levels during the years under study. From 2013 to 2016 took negative prices affected by lower consuming capabilities. Generally, the establishment of the economic crisis affected inflation rates in all countries related. Egypt the whole period under examination shows high rates of inflation. Especially in 2017 inflation reached 29,5%. Rates of inflation in Israel, Jordan and Lebanon took negative values in the same chronological period (2015,2016). Before this period Jordan had also presented negative inflation in 2009. For these three countries negative rates of inflation reveal the weak points of their economies and the

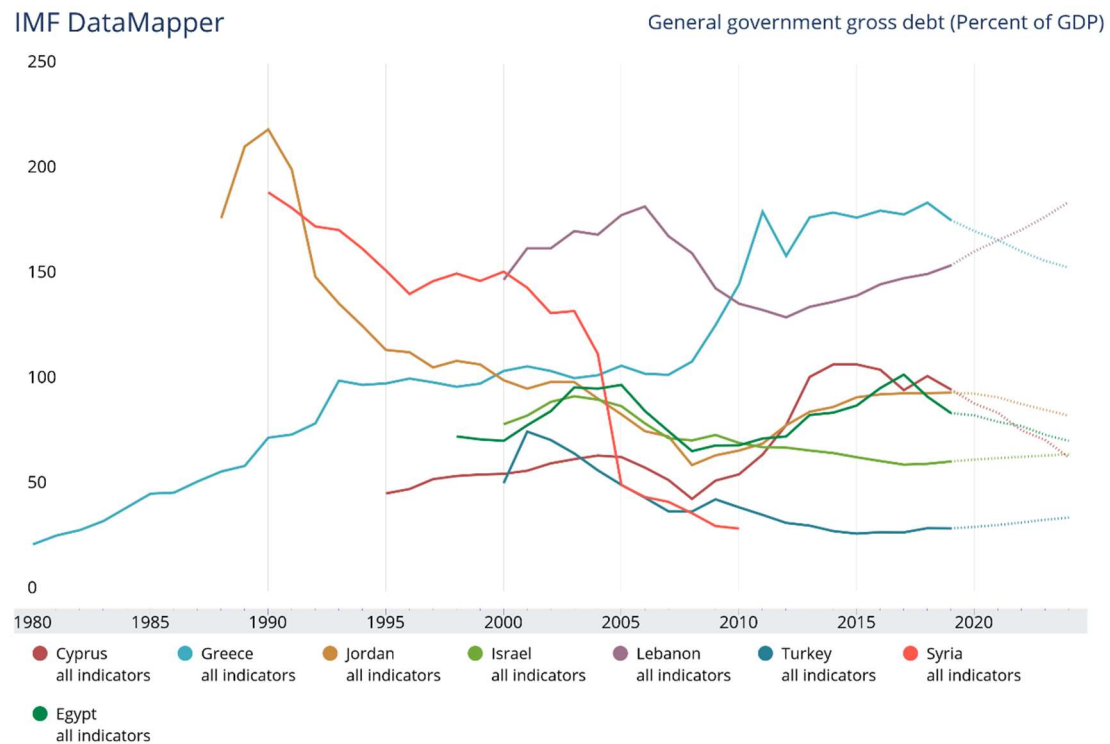
challenge to overcome them. Inflation rates in Turkey were unstable but at a high level through years under study. The last two years (2017,2018) tend to be even higher reaching 16,33% in 2018. From little data presented in Table 4, we observe that inflation in Syria in 2012 is nine times higher than that in 2009 as a result of war. West Bank and Gaza kept inflation at a low level. Nevertheless, inflation rate in 2016 took negative price.

Table 5: General government gross debt (% of GDP), Net lending (+) / net borrowing (-) (% of GDP)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cyprus	52,8	55,8	65,2	79,2	102,1	108	108	105,5	95,8	102,5
	-5,3	-4,6	-5,6	-5,5	-5,3	-9,1	-1,3	0,3	1,56	-
Egypt	69,5	69,6	72,8	73,8	84	85,1	88,5	96,8	103,2	92,7
	-6,5	-7,7	-10	-10	-12,6	-11	-10,7	-	-	-
Greece	126,7	146,2	180,6	159,6	177,9	180,2	177,8	181,1	179,3	184,9
	-15,1	-10,9	-10,5	-9,1	-13,5	-3,8	-5,9	0,1	0,3	0,6
Israel	74,5	70,7	68,7	68,5	67,1	65,9	63,9	62,1	60,4	60,8
	-6,4	-3,7	-3,1	-4,3	-3,8	-2,2	-1	-1,5	-1	-3,4
Jordan	64,8	67,1	70,4	79,1	85,5	87,8	92,4	93,8	94,3	94,4
	-8,8	-4,9	-6,6	-8,1	-5,4	-2,2	-3,4	-3,1	-2,5	-
Lebanon	144,2	136,9	133,9	130,4	135,4	137,8	140,7	146,1	149	151
	-8,1	-7,5	-6,4	-8,5	-10	-8,1	-6,9	-9,2	-7,4	-
Syria	31,2	30	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
Turkey	43,9	40,1	36,5	32,7	31,4	28,8	27,6	28,3	28,2	30,2
	-5,5	-2,9	-0,9	-0,4	0,2	0,4	0,4	-1,3	-2,3	-2,1
West Bank and Gaza	-	-	-	-	-	-	-	-	-	-

Source: World Bank (2018e)

Fig.1 General government gross debt (% of GDP)



©IMF, 2019, Source: World Economic Outlook (October 2019)

Source: IMF (2019), World Economic Outlook

Taking into consideration available data from Table 5, it is observed that in most of the countries under study general government gross debt was higher in year 2018 than this in year 2009. As we mentioned above, all indexes that describe the economy of Cyprus during years under study had been affected dramatically from Cypriot economic crisis. Economic crisis forced Cyprus to borrow increasingly and as a result general government gross debt grew significantly. It is observed that from 52,8% in 2009 doubled its percentage to 102,5% in 2018. Debt in Egypt from 2009 followed an upward path reaching its highest point in 2017 being 103,2%. The next year we observe a 10% decrease. Greece faces probably the biggest problem concerning general government gross debt. Despite signing three economic adjustment programs during years under analysis, debt rose from 126,7% to 184,9% in 2018. Furthermore, we observe the highest rates in net borrowing among all countries under study especially in years 2009, 2013. Jordan had also an increasing

general government gross debt during that decade and in 2009, 2012 the net borrowing reached high levels. Similar is the situation for Lebanon. Although we observe a small increase of 7% during the years under examination, net borrowing rates remain high. On the contrary, general government gross debt in Israel had been slowly decreasing from 74,5% in 2009 to 60,8% in 2018. Turkey's net borrowing rates remained at a low level and from 2013-2015 we observe that is a lender. Its general government gross debt reduced 13% from 2009 to 2018, fact that is promising for its economy in the future.

3.4 Foreign Investment in Eastern Mediterranean countries

Economic and trade relations in Eastern Mediterranean region show the exchange of goods and services between countries and their opportunity to expand their markets for products that otherwise may not have been available domestically. In addition to the flows of goods and services we are going to analyze the net energy imports of Eastern Mediterranean countries and the energy production in order to explain their energy needs.

Table 6 : Foreign direct investment, net inflows (% of GDP)

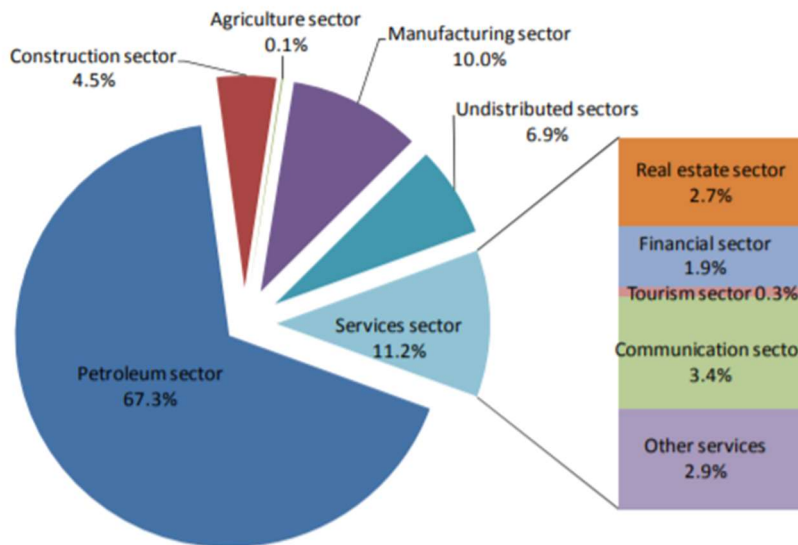
Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cyprus	10,9	52,8	-43,2	198,5	-25,2	-3,2	40,9	39,3	48,6	-1,3
Egypt	3,5	2,9	-0,2	1	1,4	1,5	2	2,4	3,1	2,7
Greece	0,8	0,1	0,3	0,6	1,2	1,1	0,6	1,3	1,7	1,9
Israel	2,2	2,9	3,3	3,5	4	1,9	3,7	3,7	5,1	5,6
Jordan	9,9	6,3	5	4,9	5,7	5,9	4,2	3,9	4,9	2,2
Lebanon	13,5	11,1	7,8	7	5,6	5,9	4,3	5	4,7	5
Syria	-	-	-	-	-	-	-	-	-	-
Turkey	1,3	1,1	1,9	1,5	1,4	1,4	2,2	1,6	1,3	1,6
West Bank and Gaza	4,1	2	2,2	0,5	1,5	1,2	0,8	2,2	1,4	1,7

Source: World Bank (2018f)

Data presented in Table 6, show the net inflows of foreign direct investment in countries under study. We notice that FDI in Cyprus followed an unsteady path from 2009 until 2018. That is caused due to the recession in Cypriot economy and it can

be shown mainly in years 2013 and 2014. After this period, the banking sector began gradually to reconstitute giving the opportunity for new foreign investments. In 2015, FDI took positive price and reached 40,9% of GDP continuing its positive path until 2018, when it took negative price. Cyprus is also promising concerning energy investments. In 2011, the US company Noble Energy was the first operator to discover natural gas resources offshore Cyprus with estimated resources of 4.5 trillion cubic feet (tcf) in the Aphrodite field. This discovery created not only chances for new energy investments, but also for the development of a new energy industry in the country in order to provide services to companies operating in the region. FDI in Egypt remained in low levels during the period under study. However, except year 2011 when FDI was -0,2 % of GDP all the other years under study prices remained positive. Before the Egyptian crisis that lasted from 2011 until 2014, Egypt due to its strategic geographic location, its low cost labor force and its important energy resources was a very appealing market especially for countries of Middle East which have liquidity coming from the Gulf States. Political environment in Egypt remains unstable and in addition to the lack of regional security, investors have doubts about investing in new projects. As we see above in Fig.2, from the total FDI inflows for 2017 and 2018 petroleum sector had the biggest share 67,3%. Services sector, manufacturing sector, undistributed sectors, construction sector and agriculture sector shared the remaining 32,7% of FDI.

Fig.2 Total FDI in Egypt by Economic Sector for year 2017/2018



Source: Central Bank of Egypt, External Position Document Volume 62., 2017-2018

FDI in Greece was highly affected by the consequences of the public debt crisis that Greek economy had been facing the last decade. Because of the high public debt and the liquidity issues in markets, economic perspectives had been reduced. FDI remained low during all years under examination. Table 6 shows that in years 2009, 2010, 2011, 2012, 2015 FDI was below 1% of GDP. From 2016 to 2018 we observe a slight increase, as in 2018 FDI reached its highest price 1,9% of GDP. Being member of European Union, Greece's investors through the period under analysis are primarily EU countries (Fig.3). Germany and France are the top countries of investment. In addition, there had been significant investments from USA, Canada, Switzerland and China-Hong Kong that reached almost 6 billion euro. Table 7 presents the percentage of FDI in Greece by economic activity in 2017 and 2018. We observe that the seven main invested sectors in both years are: 1)information and communication, 2)trade and repairs, 3)refined petroleum, chemical products, pharmaceutical and plastic, 4)transport and storage, 5) electricity, gas and water supply, 6) real estate activities and 7) food products. Besides the economic uncertainty, Greece due to its geographic location has the potential to be an

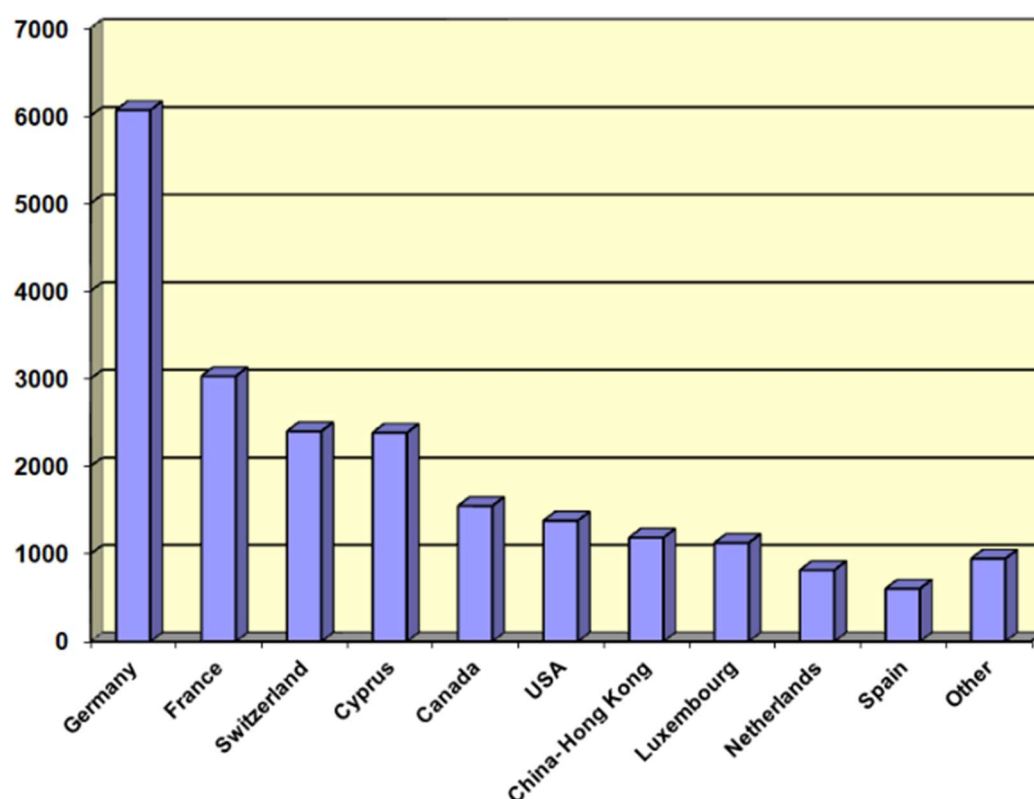
economic hub connecting Balkans, Black Sea, Eastern Europe and Eastern Mediterranean regions.

Table 7: Foreign direct investment in Greece by sector of economic activity (2017-2018) (million €)

	2017	2018	Percentage 2017	Percentage 2018
Agriculture, Mining	1.443,0	1.449,7	5,18%	4,76%
Textiles, Wood	110,2	108,4	0,40%	0,36%
Food Products	1.748,6	1.815,5	6,28%	5,96%
Refined petroleum, chemical products, pharmaceutical and plastic	3.618,1	3.730,1	12,99%	12,25%
Metal and mechanical products	674,6	945,9	2,42%	3,11%
Computer and optical products	32,5	71,6	0,12%	0,24%
Vehicles and other transport equipment	9,4	0,3	0,03%	0,00%
Other Manufacturing	1.371,3	1.318,9	4,92%	4,33%
Electricity, gas and water supply	2.617,0	2.588,9	9,40%	8,51%
Construction	281,2	334,9	1,01%	1,10%
Trade and repairs	4.821,3	4.789,2	17,31%	15,73%
Hotels and restaurants	866,4	900,1	3,11%	2,96%
Transport and Storage	2.962,1	3.506,9	10,64%	11,52%
Information and communication	4.941,1	5.193,4	17,74%	17,06%
Financial and insurance activities	-3.955,4	-2.979,0	-14,20%	-9,79%
Real estate activities and private purchases and sales of real estate	1.931,1	1.851,1	6,93%	6,08%
Professional, scientific and technical activities	278,2	290,3	1,00%	0,95%
Administrative and support service activities	875,5	857,4	3,14%	2,82%
Education	0,9	0,8	0,00%	0,00%
Health and social work activities	249,2	180,2	0,89%	0,59%
Recreational, cultural and sporting activities	1.344,1	1.074,1	4,83%	3,53%
Other Services	10,2	10,5	0,04%	0,03%
Non Allocated Economic Activity	88,1	150,3	0,32%	0,49%
Priv. purchase & sales of real estate	1.533,5	2.249,9	5,51%	7,39%
Total	27.852,3	30.439,2	100%	100%

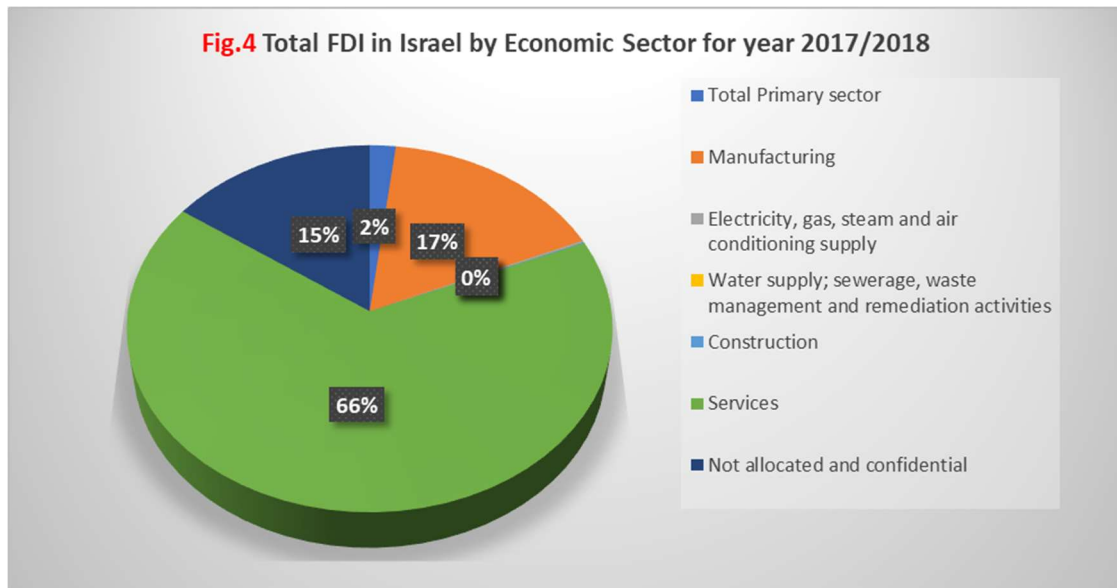
Source: Bank of Greece (2018)

Fig.3 Net FDI inflows in Greece by country of origin of capital during the period 2009-2018 (in million €)



Source: Bank of Greece (2018)

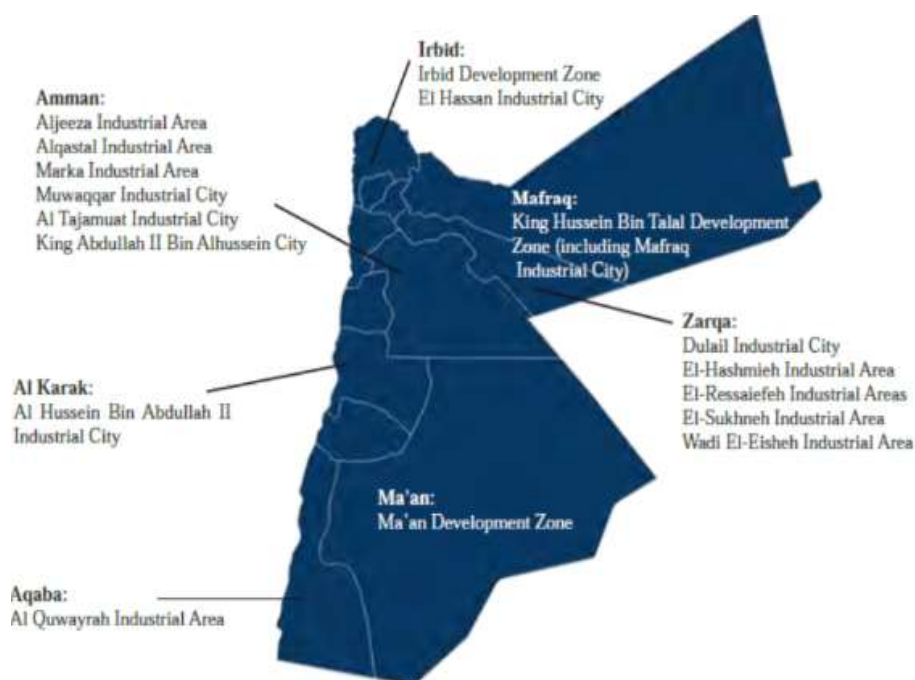
Israel is probably the most attractive country for FDI in Eastern Mediterranean due to its constantly increasing and resilient economy. Israel has strong R&D sector and highly qualified workforce that is very appealing to foreign investors. Moreover, offshore reserves that were discovered in 2009 (Tamar gas field) and 2013 (Leviathan gas field) helped in reducing energy dependence and created opportunities for new investments. FDI relating to GDP, through all years under analysis followed a positive and rising route (Table 6). In 2017 and 2018 is observed a sudden rise reaching 5,1% and 5,6% of GDP. Fig 4. shows that services was the main investing sector for year 2017/2018 as it held 66% of total FDI in Israel. Foreign Investment is supported by the government of Israel, as The Ministry of Economy offers programs and services designed to make the process of investment more appealing and boost the investor's profits.



Source: OECD, Extract from the Statistics (2018)

Net inflows of FDI in Jordan, despite remaining at high levels comparing to other countries under study, had also been affected by the consequences of world economic crisis and the following political instability. This affection is shown by the decline in prices from 2009 until 2018. In 2009 FDI in Jordan was 9,9% of GDP and continued decreasing until 2018, that reached 2,2% of GDP. The government of Jordan in order to support investment activities created a package of incentives and exemptions in taxation, free zones and industrial estates , such as The Free Zone Corporation which manages two fully operational industrial parks in Aqaba and Zarqa, and two more under construction in Amman at the Sahab Industrial Estate and the Queen Alia International Airport (Map 1). Moreover, is scheduling large infrastructure projects (transportation, nuclear energy) targeting on the cooperation of foreign and private funds. Finally, the government has created the Jordan Investment Commission to make easier the investment procedure to foreign companies.

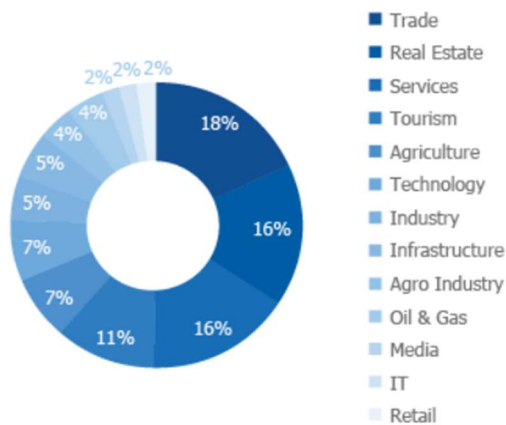
Map 1. Free zones and Industrial Estates in Jordan



Source: American Chamber of Commerce in Jordan

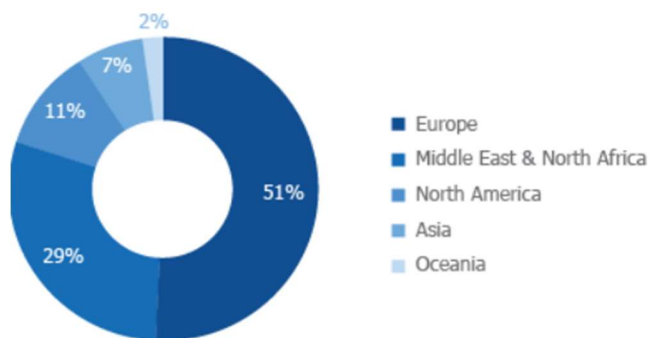
FDI net inflows to Lebanon had positive values all years under study because Lebanon has a diversified economy that kept investors continuously interested. Data introduced in Table 6 show that after Cyprus, Lebanon was the second most attractive destination for foreign investments and is expected to attract even more in the future. In 2009 FDI net inflows were 13,5 % of GDP. In the following years, despite losing almost half of their value due to their affection by the political instability caused by the growing tensions inside the country and the consequences of the Syrian Civil War in the whole region, remained at a satisfying level compared to the majority of the countries under study. High unemployment rates, brain drain, energy supply shortages and regulatory obstacles (UNCTAD Investment Policy Review, 2018) also contributed to the decrease of FDI. To boost FDI Lebanon announced 55 new foreign projects and partnerships in 2018 with growing interest in the Information and Communication Technology sector and in servicing the country's developing oil and gas industry. Fig. 5 shows that in 2018 the Trade sector attracted the most foreign projects. In the same year, Fig.6 shows that 51% of the distribution of foreign companies in Lebanon had European origin.

Fig.5 Distribution of foreign companies in Lebanon by sector (% share/2018)



Source: Investment Development Authority of Lebanon (IDAL)

Fig.6 Distribution of foreign companies in Lebanon by country of origin (% share/2018)



Source: Investment Development Authority of Lebanon (IDAL)

Plenty of countries such as UAE, Russia, United States, Kuwait are known to be interested in investing in Syria primarily in the energy sector, but data for FDI are unavailable for the period under examination. Despite being in low levels, FDI in Turkey had been following a steady positive route according to data from Table 6.

Turkey wants to encourage foreign investments with the existence of Free Zones that offer a more flexible business climate. Also, for the support and information of foreign investors had created Investment Support and Promotion Agency of Turkey (ISPAT), that was renamed in 2018 under the presidential governance system to Investment Office of the Presidency of the Republic of Turkey. Despite government efforts for the increase of FDI, Turkish currency and debt crisis in 2018 that brought Turkish lira to record low value created high uncertainty in investing in new projects. The main foreign investment inflows for 2018 as it can be shown in Table 8 came from EU countries with Netherlands investing 33.494 million USD. Moreover, during the last years Azerbaijan is shown to have high interest in investing mainly in the energy sector by the state-owned oil firm Socar.

Table 8 : Main Foreign direct investment inflows in Turkey (million USD) - for 2018

Country	Foreign direct investment (million USD)
Netherlands	33494
Russia	16022
Germany	10929
Spain	6521
Azerbaijan	5901
Switzerland	5676
United Kingdom	5631

Source: Central Bank of Turkey, Statistics (2018)

West Bank and Gaza area had been facing for many years internal and external political tensions that rose the problem of security in the whole area. Because of this continuous situation, interest for FDI is limited beyond the geographical potential of this area. Table 7 presents that in 2009 FDI in West Bank and Gaza was 4,1% of GDP and had been declining reaching 1,7% of GDP in 2018. Government wanting to overcome internal 'obstacles' and aiming in the promotion of investment and business activities decided to establish legal, regulatory and tax measures that benefited the monitoring of investment, the easier access to the markets and the limitation of foreign investment restrictions.

Conclusions

The extensive macroeconomic analysis in this chapter from 2009 to 2018 showed us the macroeconomic potential of Eastern Mediterranean region. The existence of different levels of economic development between countries under examination affect importantly the size of the challenges that they deal with. Nevertheless, the global financial crisis that occurred in 2007 affected economically all countries under examination. Macroeconomic indexes although help us in understanding the economic structure of a country and a region, sometimes do not present as a “real” picture for their economy. This is proved by the fact that although Cyprus and Greece have GDP per capita over 20.000USD, their economies can be characterized as “fragile” due to the deep affection of financial crisis and the absence of the proper tools to reestablish their economic structure. On the opposite, other countries like Israel were less affected and showed a relative economic stability. Concerning the FDI, we noticed that there is declining interest for investment in most Eastern Mediterranean countries. The political instability and the constant rising tensions between countries in the region and MENA countries played a negative role in the will for investment.

4. Economic and trade relations in Eastern Mediterranean

Introduction

In this part we will analyze economic and trade relations among countries under study. Internal and external trade plays a very important role in Eastern Mediterranean countries' economies as most of them depend highly on goods and services exports. Moreover, trade activities can be a measurement of interdependence among countries in the whole region and can highlight the importance of the geographical factor. Our analysis will be based mainly in the way that imports and exports affect the current account balance of each country as well as in trade relations that are developed in the region during the period under analysis.

Trade relations in Eastern Mediterranean

Each country has a different potential concerning the development of trade that depends on its economic state, the type of the market and its ability to contribute with international markets. The type of existing market in a state plays crucial role in the spread of trade activities because, referring to countries under examination, more developed economies like Cyprus, Greece, Israel and Turkey tend to have open economies and can expand their activities to more countries. In contrast, countries like Egypt, Jordan, Lebanon, Syria and West Bank and Gaza are presented to have lower participation in trade in the region.

To encourage and liberalize trade activities, EU signed with individual MED11 countries (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, West Bank and Gaza, Syria, Tunisia, and Turkey) the Barcelona Process and bilateral association and free trade agreements, which are mainly focused on tariff reduction and achieved little progress in the area of non-tariff barriers (NTB) and other obstacles of free trade. The progress in import tariffs reduction, since 1995 when these agreements have been conducted, is different in each country. For example, Israel, Turkey, and Lebanon have made serious progress concerning tariffs against EU imports in contrast with Syria, Jordan, and Egypt. Despite Barcelona Process and the continuous collaboration efforts for almost 25 years there are some factors that contributed to the low levels of trade incorporation of Mediterranean countries. The Global

financial crisis in 2009 and the Arab Spring in 2010 created instability in markets and affected negatively the willingness of cross-border traders and investors, as we analyzed above. In addition, the rise in protectionism with the adaptation of anti-dumping measures, extra taxation etc. disturbed the efforts that have been made with the establishment of free trade agreements. The aforementioned factors prevent countries under study from adjusting to the continuously changing environment and as a result, they tend to lack in productivity and competitiveness.

Table 9 : Current account balance (% of GDP)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cyprus	-6,7	-10,9	-2,2	-4	-1,5	-4,1	-0,4	-4,1	-5	-4,3
Egypt	-1,8	-2	-2,3	-2,5	-1,2	-1,9	-5,2	-6,1	-3,4	-2,5
Greece	-10,9	-10,1	-9,9	-2,5	-2	-1,6	-0,8	-1,7	-1,8	-2,9
Israel	3,5	3,4	1,6	0,4	2,8	4	5,1	3,5	2,3	2,5
Jordan	-5,1	-7	-10,1	-15	-10,3	-7,2	-8,9	-9,4	-10,5	-6,7
Lebanon	-19	-19,6	-13,8	-23,3	-25,5	-26,1	-17,1	-20,4	-22,7	-22
Syria	-	-	-	-	-	-	-	-	-	-
Turkey	-1,7	-5,8	-8,9	-5,5	-6,7	-4,7	-3,7	-3,8	-5,5	-3,5
West Bank and Gaza	-15,7	-14,6	-19,8	-16,1	-19,1	-16,9	-16,3	-14,4	-10,8	-11,3

Source: World Bank (2018g)

Table 10 : Imports and exports of goods and services (current billion US\$)

Country	2009		2010		2011		2012		2013		2014		2015		2016		2017		2018	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Cyprus	12,641	14,028	12,963	15,110	14,746	15,801	13,816	14,294	14,665	14,287	15,289	15,072	13,909	13,390	14,780	14,425	16,529	16,614	18,238	18,042
Egypt	47,163	59,712	46,731	58,196	48,539	58,264	45,808	67,928	49,111	67,399	43,52	69,282	43,862	72,069	34,442	66,256	37,231	68,982	47,449	73,678
Greece	62,641	94,913	66,165	91,984	73,49	92,985	70,468	81,399	72,806	79,551	76,733	82,430	62,031	61,929	58,691	60,083	66,998	69,069	78,773	79,342
Israel	68,854	63,682	81,250	76,863	92,365	92,884	92,461	92,618	98,534	93,299	99,559	94,730	93,564	84,481	94,71	89,667	101,33	97,220	109,12	107,539
Jordan	11,061	16,458	12,751	18,241	13,743	21,301	14,307	22,975	14,227	24,172	15,524	24,985	14,102	22,694	13,584	21,713	14,297	22,940	15,050	23,040
Lebanon	11,955	20,294	13,751	23,142	14,804	25,722	15,248	26,623	14,914	26,922	13,45	26,112	13,651	23,388	12,945	23,952	12,734	25,972	13,219	22,434
Syria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turkey	145,518	150,580	157,844	196,452	185,339	253,091	206,848	249,766	211,715	266,904	222,003	258,300	200,727	223,151	189,717	214,639	211,240	249,702	227,780	236,243
West Bank and Gaza	1,133	4,943	1,367	5,264	1,799	5,723	1,871	6,300	2,072	6,804	2,172	7,209	2,338	7,538	2,381	7,627	2,693	8,067	2,904	8,731

Source: UN Comtrade (2018)

Data shown in Table 9 are highly connected with those from Table 10 because the current account balance of a country, among other factors is also connected highly with the amount of imports and exports. Except Israel, that had positive current account balance during all years under analysis, the rest of the countries have more imports than exports and a negative percentage of current account balance. From this fact it is understandable that these countries lack competitiveness and need a lot of effort to change their position. Among all countries, Lebanon and West Bank and Gaza present the higher percentages of deficit being constantly higher than 10%. In Table 10 we observe that Egypt, Jordan, Lebanon, Turkey and West Bank and Gaza developed a negative balance of trade or trade deficit through the whole period under analysis, meaning that they imported more goods and services than they exported. Greece also presented a negative balance of trade with an exception of 2015 that the value of exports was 62,031 billion USD, slightly higher than the cost of imports. On the other hand, Israel and Cyprus are the two countries that recorded mainly a trade surplus during this decade. Trade deficit is not in every situation bad for a country's economy. In the short term, trade deficit can raise a country's standard of living because it gives access to a wider variety of goods and services in a more competitive price, can boost foreign investment and decrease the risk of inflation. Despite these temporary beneficial outcomes, trade deficit especially for smaller countries the long term can create several problems such as the decline of domestic production and the rise of unemployment.

Table 11 : Trade relations of Eastern Mediterranean countries in the case of goods, 2018

Country	Top-2 import countries	Imports (million USD)	Top-2 export countries	Exports (million USD)
Cyprus				
	Greece	1,9 bn	Greece	332
	Israel	610	Egypt	193
Egypt				
	Turkey	3,3 bn	Turkey	2 bn
	Greece	1 bn	Jordan	638
Greece				
	Turkey	2,1 bn	Turkey	2,4 bn
	Egypt	750	Cyprus	2 bn
Israel				
	Turkey	6,2 bn	Turkey	1,9 bn
	Egypt	553	Cyprus	762
Jordan				
	Turkey	771	West Bank and Gaza	194
	Egypt	558	Egypt	143
Lebanon				
	Greece	1,7 bn	Syria	205
	Turkey	948	Turkey	127
Syria				
	-	-	-	-
	-	-	-	-
Turkey				
	Egypt	2,1 bn	Israel	3,9 bn
	Greece	2,1 bn	Egypt	3 bn
West Bank and Gaza				
	Israel	3,6 bn	Israel	967
	Turkey	657	Jordan	73

Source: World Bank (2018h)

Table 11 describes the top-2 import and export partners in case of goods between countries under study in 2018. For Cyprus, the main import and export partner in case of goods is Greece. We notice that imports are 1,9 billion USD and exports are almost six times lower. This fact creates a negative balance of trade for Cyprus in case of Greece. The second import partner for Cyprus is Israel with imports around 610 million USD and export partner is Egypt with exports around 193 million USD. Concerning Egypt, Turkey is the main trade partner in terms of goods as imports are 3,3 billion USD and exports are 2 billion USD, also revealing a negative balance of trade between the two countries. Greece is also an important import partner for Egypt with 1 billion USD imports in goods. Furthermore, presents a trade surplus with Turkey as in 2018 imports were 2,1 billion USD and exports were 2,4 billion USD. For Israel, data also present a trade deficit with Turkey, as imports were almost

three times higher than exports. As we can see, crucial role for Israeli trade activities plays also the Egyptian and the Cypriot market. Jordan in 2018 imported goods that reached the amount of 771 and 558 million USD from Turkey and Egypt, respectively. Its exports are shown to be mainly towards West Bank and Gaza and Egypt. Lebanon imported goods from Greece and Turkey that valued 1,7 billion USD and 948 million USD, respectively and exported goods primarily to Syria and Turkey that reached the amount of 332 million USD. Imports of Turkey, from Egypt and Greece equally, reached the amount of 4,2 billion USD. Moreover, the same year Turkey exported goods mainly to Israel and Egypt whose value was 6,9 billion USD. West Bank and Gaza has as main import and export partner Israel with an important distance from Turkey, as in 2018 imports and exports of goods from Israel reached 3,6 billion and 967 million USD. Also, the same year it exported goods to Jordan whose value reached 73 million USD. From the data above, we can confirm that countries with smaller economies like Jordan, West Bank and Gaza and Lebanon face difficulties in developing trade activities with countries in Eastern Mediterranean region.

Tables 12, 13 and 14 describe, according to the latest available data for 2017,2018 the energy mix of each country under study, their total energy production, and their dependence on energy imports from other countries. Cyprus was the least productive country in terms of energy, as in 2017 produced only 105 ktoe from wind, solar sources and 27 ktoe from biofuels and waste and in 2018 only 110 ktoe from wind, solar resources and 41 ktoe from biofuels and waste. Therefore, for both 2017, 2018 Cyprus had no energy exports and imported mainly oil products followed by biofuels and coal. In contrast, Egypt is the most productive country in terms of energy, with 78.270 ktoe (2017) and 86.833 ktoe (2018), producing mainly natural gas and crude oil. Although Egypt showed high productivity, we notice that could not fulfill its energy needs and was dependent on imports (28.560, 24.077 ktoe). Greece produced 7.201, 7.211 ktoe in 2017 and 2018 relatively. Its main energy production came from coal (4.567, 4.275 ktoe). Greece revealed high imports, importing primarily crude oil (natural gas and oil products. We see that during the two-year period exports were almost half of the imports (19.457,20.558 ktoe), mainly coming from oil products. Israel produced 8.958 ktoe in 2017 and 8.089 ktoe in 2018, coming

basically from natural gas resources. Like the aforementioned countries, Israel was also dependent on imports, especially on crude

Table 12 : Total energy production for 2017,2018 (ktoe)

Country	Year	Coal	Crude oil	Oil products	Natural gas	Nuclear	Hydro	Wind, solar, etc.	Biofuels and waste	Electricity	Heat	Total
Cyprus	2017	-	-	-	-	-	-	105	27	-	-	132
	2018	-	-	-	-	-	-	110	41	-	-	151
Egypt	2017	-	32.153	-	42.876	-	1.152	239	1.850	-	-	78.270
	2018	-	31.860	-	51.229	-	1.109	250	2.385	-	-	86.833
Greece	2017	4.567	129	-	9	-	341	1.100	1.055	-	-	7.201
	2018	4.275	201	-	13	-	494	1.154	1.075	-	-	7.211
Israel	2017	43	78	-	8.280	-	-	531	27	-	-	8.958
	2018	39	89	-	7.423	-	-	512	25	-	-	8.089
Jordan	2017	-	-	-	83	-	3	284	25	-	-	395
	2018	-	1	-	78	-	2	400	82	-	-	562
Lebanon	2017	-	-	-	-	-	30	57	118	-	-	205
	2018	-	-	-	-	-	30	68	118	-	-	216
Syria	2017	-	1.041	-	2.998	-	65	-	6	-	-	4.110
	2018	-	984	-	2.982	-	65	-	5	-	-	4.037
Turkey	2017	15.682	2.699	-	292	-	5.006	10.170	3.032	-	-	36.881
	2018	16.547	3.010	-	351	-	5.154	12.067	3.239	-	-	40.368
West Bank and Gaza	2017	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-

Source: IEA (2018a)

Table 13 : Energy imports for 2017, 2018 (ktoe)

Country	Year	Coal	Crude oil	Oil products	Natural gas	Nuclear	Hydro	Wind, solar, etc.	Biofuels and waste	Electricity	Heat	Total
Cyprus	2017	10	-	2.614	-	-	-	-	54	-	-	2.678
	2018	13	-	2.580	-	-	-	-	64	-	-	2.657
Egypt	2017	467	6.384	15.256	6.445	-	-	-	1	6	-	28.560
	2018	3.404	5.965	12.199	2.500	-	-	-	2	7	-	24.077
Greece	2017	229	28.891	4.131	4.225	-	-	-	144	748	-	38.368
	2018	234	30.032	3.663	4.145	-	-	-	142	735	-	38.952
Israel	2017	5.068	14.875	2.081	416	-	-	-	16	-	-	22.456
	2018	4.590	14.377	2.159	475	-	-	-	16	-	-	21.617
Jordan	2017	165	2.850	2.819	4.343	-	-	-	17	4	-	10.198
	2018	205	2.413	2.829	3.609	-	-	-	18	16	-	9.089
Lebanon	2017	171	-	8.932	-	-	-	-	15	-	-	9.118
	2018	170	-	8.426	-	-	-	-	37	1	-	8.634
Syria	2017	1	4.933	677	-	-	-	-	-	-	-	5.611
	2018	1	6.481	1.071	-	-	-	-	-	-	-	7.553
Turkey	2017	24.912	27.348	26.016	45.487	-	-	-	-	235	-	123.998
	2018	24.480	22.288	26.937	41.401	-	-	-	-	213	-	115.319
West Bank and Gaza	2017	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-

Source: IEA (2018b)

Table 14 : Energy exports for 2017, 2018 (ktoe)

Country	Year	Coal	Crude oil	Oil products	Natural gas	Nuclear	Hydro	Wind, solar, etc.	Biofuels and waste	Electricity	Heat	Total
Cyprus	2017	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-
Egypt	2017	100	9.747	1.542	1.950	-	-	-	28	30	-	13.397
	2018	111	10.432	2.070	1.716	-	-	-	-55	-38	-	14.423
Greece	2017	-	175	19.058	-	-	-	-	13	211	-	19.457
	2018	-	-215	20.130	-	-	-	-	-18	-195	-	20.558
Israel	2017	-	-	5.833	61	-	-	-	-	486	-	6.380
	2018	-	-	6.069	-	-	-	-	-	504	-	6.573
Jordan	2017	-	-	-	915	-	-	-	-	5	-	920
	2018	-	-	-	249	-	-	-	-	8	-	257
Lebanon	2017	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-
Syria	2017	-	-	633	-	-	-	-	-	47	-	680
	2018	-	-	792	-	-	-	-	-	47	-	839
Turkey	2017	173	535	6.268	519	-	-	-	-	284	-	7.780
	2018	148	364	4.636	554	-	-	-	-	268	-	5.970
West Bank and Gaza	2017	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-

Source: IEA (2018c)

oil and coal. Israeli energy exports were based primarily on oil products (5.833, 6.069 ktoe). Jordan had low productivity concerning energy through these two years, as it produced 395, 562 ktoe, relatively in 2017 and 2018, coming mainly from wind and solar sources. To manage its energy needs it imported in total 7.952 ktoe of natural gas), 5.263 ktoe of crude oil, 5.648 ktoe of oil products), 370 ktoe of coal, 35 ktoe of biofuels and 20 ktoe of electricity. Jordan had very few energy exports in both years, coming mainly from natural gas and electricity, especially in 2018 exported only 257 ktoe. Lebanon is also a country with low productivity in energy sector, producing 205 ktoe in 2017 and 216 ktoe in 2018. The energy generation of Lebanon came from biofuels and waste (118 ktoe), wind, solar sources (57, 68 ktoe) and hydro (30 ktoe). Lebanon presents no exports in the duration of 2017,2018 and was based on oil product and oil imports. Syria produced in total 8.147 ktoe, coming primarily from natural gas and crude oil. Syria is also in need of imports, as in 2017 and 2018 imported crude oil (11.414 ktoe), oil products (1.748 ktoe) and coal (2ktoe). On the other hand, exported oil products (1425 ktoe) and electricity (94 ktoe). Turkey was the second energy producer after Egypt in Eastern Mediterranean area for 2017,2018 with an energy production of 77.249 ktoe. The energy generation came mainly from coal (32.229 ktoe), wind, solar resources (22.237 ktoe), hydro (10.160 ktoe) and biofuels, waste (6.271 ktoe). Despite its energy production Turkey has

rising energy needs that needed to be covered by imports. We notice that in 2017 and 2018, Turkey imported natural gas (86.888 ktoe), crude oil (49.636 ktoe), oil products (52.953 ktoe), coal (49.392 ktoe) and electricity (448 ktoe). Finally, Turkish energy exports comparing to imports were at a very lower level (13.750 ktoe) and based on oil products (10.904 ktoe).

Table 15 : Total primary energy supply for 2017, 2018 (ktoe)

Country	Year	Coal	Crude oil	Oil products	Natural gas	Nuclear	Hydro	Wind, solar, etc.	Biofuels and waste	Electricity	Heat	Total
Cyprus	2017	3	-	2.027	-	-	-	105	83	-	-	2.218
	2018	14	-	2.012	-	-	-	110	105	-	-	2.241
Egypt	2017	367	28.790	13.046	47.372	-	1.152	239	1.823	-24	-	92.764
	2018	3.294	27.392	9.260	52.013	-	1.109	250	2.332	-31	-	95.619
Greece	2017	4.817	29.241	-18.139	4.204	-	341	1.100	1.185	536	-	23.283
	2018	4.705	30.000	-19.642	4.117	-	494	1.154	1.199	540	-	22.566
Israel	2017	4.969	14.494	-5.164	8.635	-	-	531	44	-486	-	23.023
	2018	4.783	14.876	-5.300	7.899	-	-	512	42	-504	-	22.307
Jordan	2017	165	2.867	2.399	3.510	-	3	284	41	-	-	9.269
	2018	205	2.403	2.553	3.438	-	2	400	99	8	-	9.107
Lebanon	2017	171	-	8.644	-	-	30	57	133	-	-	9.035
	2018	170	-	8.145	-	-	30	68	155	1	-	8.568
Syria	2017	1	5.974	-100	2.998	-	65	-	6	-47	-	8.897
	2018	1	7.466	-94	2.982	-	65	-	5	-47	-	10.378
Turkey	2017	40.089	29.208	15.110	44.232	-	5.006	10.170	3.032	-49	-	146.797
	2018	40.833	24.911	17.034	41.018	-	5.154	12.067	3.239	-55	-	144.201
West Bank and Gaza	2017	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-

Source: IEA (2018d)

Table 16 : Total final consumption for 2017, 2018 (ktoe)

Country	Year	Coal	Crude oil	Oil product	Natural gas	Nuclear	Hydro	Wind, solar, etc.	Biofuels and waste	Electricity	Heat	Total
Cyprus	2017	3	-	1.026	-	-	-	72	73	391	1	1.566
	2018	14	-	981	-	-	-	74	96	401	1	1.567
Egypt	2017	191	-	31.662	13.481	-	-	-	1.823	13.701	-	60.858
	2018	3.114	-	28.818	1402.4	-	-	-	1.450	13.953	-	61.359
Greece	2017	196	-	8.792	1.536	-	-	280	1.093	4.641	51	16.588
	2018	282	-	8.493	1.297	-	-	286	1.072	4.254	52	15.735
Israel	2017	-	-	9.221	1.130	-	-	385	21	4.840	-	15.598
	2018	-	-	8.880	1.343	-	-	361	21	4.942	-	15.547
Jordan	2017	165	-	4.694	-	-	-	168	62	1.501	-	6.590
	2018	205	-	4.271	-	-	-	214	72	1.500	-	6.262
Lebanon	2017	171	-	3.675	-	-	-	25	127	1.470	-	5.468
	2018	170	-	3.279	-	-	-	61	151	1.630	-	5.291
Syria	2017	-	-	3.682	501	-	-	-	5	1.137	-	5.325
	2018	-	-	4.576	498	-	-	-	5	1.135	-	6.215
Turkey	2017	12.661	-	39.880	25.151	-	-	2.703	2.475	21.143	1034	105.048
	2018	10.571	-	39.154	24.950	-	-	2.831	2.540	21.920	994	102.960
West Bank and Gaza	2017	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-

Source: IEA (2018e)

Table 15 and table 16 present data the total primary energy supply and the total final consumption of each one of the countries under analysis for 2017 and 2018. These data can give us important information concerning the exploitation of energy resources in a regional level as well as the affection of each country's energy mix in the regional supply and consumption. As it is presented above, Cyprus hadn't faced yet the prospect of differentiating the exploitation of its energy reserves, as in 2017, 2018 its Total Primary Energy Supply (TPES) consisted of oil products (4.039 ktoe), wind, solar etc. (215 ktoe), biofuels and waste (188 ktoe) and coal (17 ktoe). In the following years Cyprus will have the potential to minimize its energy dependency in oil products and transform its energy sector, thanks to natural gas discoveries in Cyprus' Exclusive Economic Zone (EEZ). Egypt, despite being a large energy producer in the region, its energy mixture is not properly diversified as, it heavily depended on natural gas (99.385 ktoe) and oil. The constantly rise of energy consumption in combination with the decline of Egyptian oil and natural gas reserves (oil reserves have decreased from 4.5 million barrels in 2009 to 4.2 million barrels in 2013 and natural gas reserves have decreased from 78 trillion cubic feet in 2010 to 77.2 trillion cubic feet in 2014) forced Egypt, in order to meet its energy needs, to sign importing agreements in 2014. The exploitation of Zohr field and the existing reserves will define if Egypt will succeed in balancing its energy needs or will have to deal with a catastrophic energy situation within the few years to come. TPES of Greece consisted of crude oil (59.241 ktoe), coal (9.522 ktoe), natural gas (8.321 ktoe), biofuels and waste (3.184 ktoe), wind solar etc. (2.254 ktoe), electricity (1.076 ktoe) and hydro (835 ktoe). During the last years, Greece is trying, successfully, to reduce the share of coal in the energy sector and shift to Renewable Energy Sources (RES) but they have not been extensively developed so far. Israel is probably the country of Eastern Mediterranean that has exploited the most its energy resources. The discoveries and later the gas production from the Tamar field contributed to the decrease of the energy dependence on oil and oil products and shifted the interest to natural gas. In the following years, through the development of the essential infrastructure and the exploitation of the discoveries found on Leviathan gas field, which is considered to be the second largest gas field in Mediterranean Sea after the discovery of the Zohr gas field on August 2015 off the coast of Egypt, Israel will achieve at some point

energy security and independence in Middle East. As far as the case of Jordan, TPES in 2017,2018 consisted mainly of natural gas (6.948 ktoe) and oil. Jordan, due to the minimized indigenous energy resources and the increasing demand, is a country that is mostly depending on imported energy sources. In the long term, to address the challenges in the energy sector, Jordan targets in maximizing the utilization of domestic resources (oil shale, natural gas etc.), expanding the development of renewable energy projects and enhancing regional interconnection of electricity, promoting itself as a regional hub. TPES of Lebanon, was based primarily on oil products (16.789 ktoe), followed by coal, biofuels and waste, wind, solar sources, and hydro. Lebanon had not managed during the past years to exploit its energy resources due to political and instability issues. To meet its needs was based on imports, including those for power generation, as it does not produce any primary energy of fossil origin. Energy sector in Lebanon is at a turning point, as the Ministry of Energy and Water in collaboration with the Lebanese Center for Energy Conservation (LCEC) set The National Renewable Energy Action Plan for the Republic of Lebanon (NREAP 2016-2020), which clarified the paths for the development of sustainable energy and will lead to the target of 12 percent coverage of its total energy needs from RES by 2020. Syrian TPES consisted principally of crude oil (13.440 ktoe) and natural gas (5.980 ktoe), while hydro and renewable sources held a following position. Its existing political condition during the past nine years with the continuous internal conflicts and attacks had not given the opportunity to Syria to establish an energy plan and a proper strategy to strengthen energy sector and preserve energy security. Finally, TPES of Turkey in 2017,2018 consisted of natural gas (85.250 ktoe), coal (80.922 ktoe), crude oil (54.119 ktoe), oil products (32.144 ktoe), wind, solar (22.237 ktoe), hydro (10.160 ktoe) and biofuels and waste (6.271 ktoe). Each year is observed a rise in energy consumption in Turkey, especially concerning natural gas and electricity, so in order to meet its energy needs turns to imported energy. In the future, Turkey wants to build a competitive energy market by identifying and utilizing domestic and renewable resource potentials, making nuclear energy a part of electricity production, and making use of new energy technologies.

Conclusions

From the examination of tables presented above, we noticed that all countries under study are net importers concerning energy, as they are highly dependent on imports of energy products in order to fulfill their domestic energy needs. This fact is mainly observed in the case of Cyprus and Lebanon as for years 2017,2018 presented no energy exports and their energy production levels were significantly low. Concerning the trade relations between states in Eastern Mediterranean we notice that, despite the efforts that had been made to promote regional and international trade activities by the establishment of agreements such as the Barcelona Process, little progress had been made overall. Some countries, like Turkey and Israel, benefited most from the settlement of NTB and managed to expand their trade activities in the region. At the same time, countries like Syria and Egypt, that had been highly affected by their political instability, had not presented any noticeable change concerning trade activities. The differentiated influence of such developments among countries under examination shows the lack of integration in Eastern Mediterranean.

5. Energy profiles of Eastern Mediterranean countries

Introduction

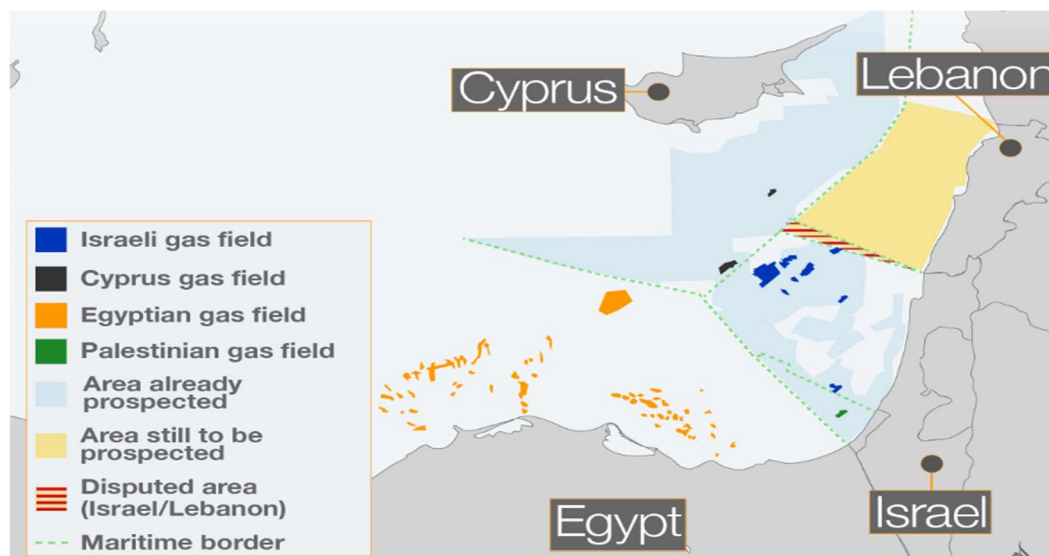
In this chapter we examine the impact of new and existing energy resources, in the energy profiles of countries in the region. To begin with, it is very important to highlight that during the period under examination (2009-2018) took place remarkable discoveries and developments that are expected to have critical impact on the energy structure of Eastern Mediterranean region. Particularly, the noticeable natural gas reserves that have been discovered offshore Israel (Tamar field, Leviathan field), Cyprus (Aphrodite field) and Egypt (Zohr field) aroused immediately the interest of international energy markets (Map 2). Due to the crucial role of the development of the aforementioned natural gas discoveries some of the biggest energy companies such as Noble Energy, Delek Drilling, Qatar Petroleum, Total, Exxon Mobil, Eni etc., invested primarily in the exploration and subsequently in the exploration procedure.

Highly affected by political and geopolitical factors, the progress of the exploration and exploitation of natural resources differs for each country under examination. Cyprus, Egypt, and Lebanon had to overcome multiple geopolitical obstacles and challenges and managed to make little progress, regarding their future potential. Israel is an actor of major importance in the region. The beginning of production in Tamar field is probably the most noticeable progress concerning the energy sector in Eastern Mediterranean. Greece, Turkey, Jordan, and Syria, due to their lack in confirmed exploitable discoveries, yet can affect the regional energy structure by their potential in being transportation hubs and energy consumers. They play also a crucial geopolitical role in energy markets, as they are participating in several cooperations, i.e. Greece-Israel-Cyprus and are involved in large-scale infrastructure projects [Trans Adriatic Pipeline (TAP), Gas Interconnector Greece-Bulgaria (IGB), EastMed Gas Pipeline, EuroAsia Interconnector].

To sum up, the natural gas discoveries in Eastern Mediterranean region have the dynamic of changing the energy structure and the interaction between countries under analysis. Eastern Mediterranean has attracted the interest of major

international actors, as it is believed to be a potential major energy source for Europe and will contribute to the limitation of the dependence on Russian and Algerian energy imports. Continuing, we will present in detail the energy profile of Israel, Cyprus, Egypt, Lebanon and West Bank and Gaza, as they are considered to be the main potential producing countries in the region.

Map 2. Natural gas in Eastern Mediterranean



Source: Al Jazeera Center for studies (2019)

5.1 Israel

During the past years Israel, although being an energy producer, to meet its energy needs was depending on energy imports. The recent discoveries of natural gas are expected to play an important role in the confrontation of the rising energy needs, to boost energy exports and, also, to promote international and regional cooperation in energy matters.

The two best known natural gas discoveries offshore Israel are Tamar and Leviathan field (Map 3). These are also considered to be two of the biggest natural gas discoveries of the last decade.

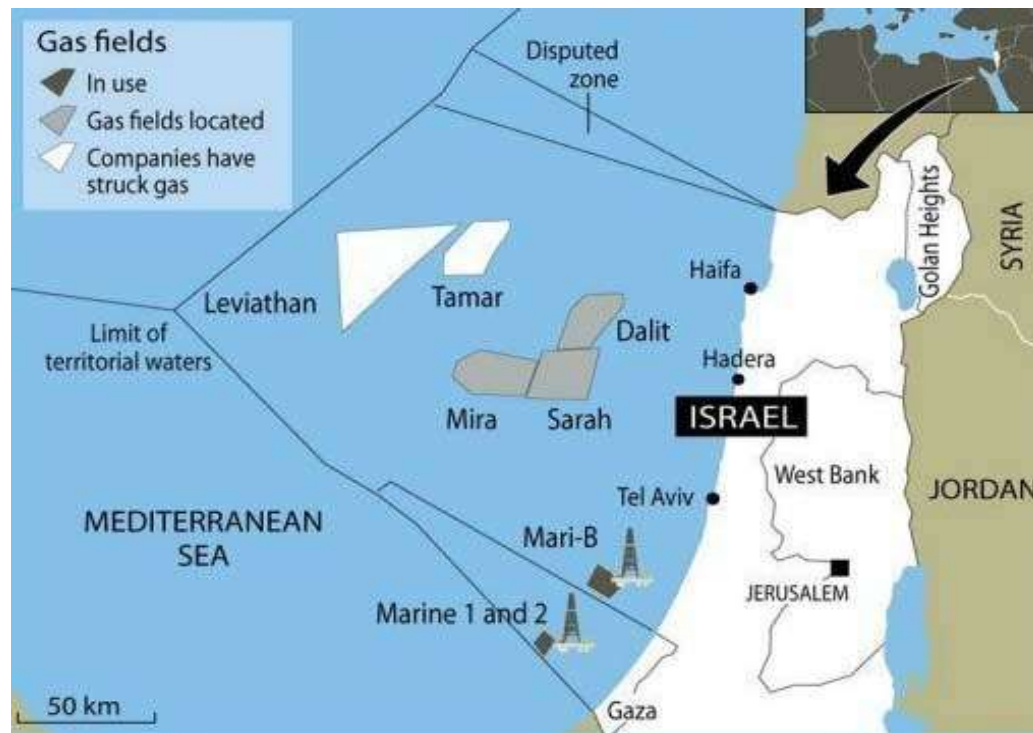
Tamar field is located 90km west of Haifa, at a depth of 5.000 meters below the sea level and in waters that are 1.700 meter deep. It is considered to contain about 281

billion cubic meters (bcm) of natural gas, and along with the discoveries of Tamar South West the total volume of natural gas is thought to be about 318 bcm of natural gas and about 14,6 million barrels of condensate. The drilling of Tamar field began in November 2008 by the cooperation of Noble Energy (25%), Delek Drilling (22%), Isramco (28,75%), Tamar Petroleum (16,75%), Dor Gas (4%) and Everest (3,5%). The discovery was announced in 2009. Natural gas produced by Tamar field since 2013 has boosted internal energy supply and contributed to the reduction of electricity generation costs, to the desalination of drinking water and to the augmentation of Israeli industry (Delek Drilling).

Leviathan gas field was discovered in 2010 offshore Israel, 47 km south-west of Tamar gas field, 130 km west of Haifa in waters 1500 meters deep. The exploration of Delek Drilling (45,34%), Noble Energy (39,66%) and Ratio (15%) has estimated that Leviathan contains 605 bcm of natural gas and almost 40 million barrels of condensate. Leviathan is considered to be the largest project in the history of the State of Israel. On 31st of December 2019 started the commercial production that supplied at first the internal market and in 2020 started exporting natural gas to Egypt and Jordan. The companies operating in Leviathan gas field are seeking also contracts for exports in Turkey, West Bank and Cyprus. The connection of Leviathan gas field to INGL (Israel Natural Gas Lines) pipeline is expected to maximize the volume of natural gas and strengthen the processing, transmission systems that transfer natural gas to Israel (Delek Drilling).

Discoveries in Leviathan and Tamar gas field seem to be crucial for the future of Israeli and regional energy market. The Ministry of Infrastructure, Energy and Water Management encourages the transition in natural gas consumption as the main product of the domestic energy mix, emphasizing in its finance and environmental benefits. Also, the existence of these discoveries will contribute to the establishment of energy security which cannot exist if the market is dependent only in the production of Tamar gas field and knowing also the need for diversification of sources in the region.

Map 3. Israeli gas fields



Source: Delek Drilling

5.2 Cyprus

The exploitation of recent natural gas discoveries offshore Cyprus is expected not only to reshape the energy structure of Eastern Mediterranean, but also to affect the energy supply of European Union. After Malta, Cyprus is the second country with the least diversified energy mix out of the 27 member states of European Union and is based mainly on oil and electricity consumption to meet its energy needs (Filis, K., Konstantakopoulos I., Malandraki, E., 2012). Cyprus' potential of becoming a major hydrocarbons player in Eastern Mediterranean has been reinforced by the participation of important oil and gas companies in the process of exploration in Cypriot Exclusive Economic Zone (EEZ).

Cyprus' EEZ has been divided in 13 Blocks for exploration, in cooperation with major international oil companies (Map 4). In November 2008, Noble Energy obtained a license for the exploration of hydrocarbons in the Aphrodite field (Block 12) after the first round of licensing in 2007. Aphrodite field is located 160 km south of Limassol and 30km northwest of Leviathan field, in an area where the sea depth is about 1700

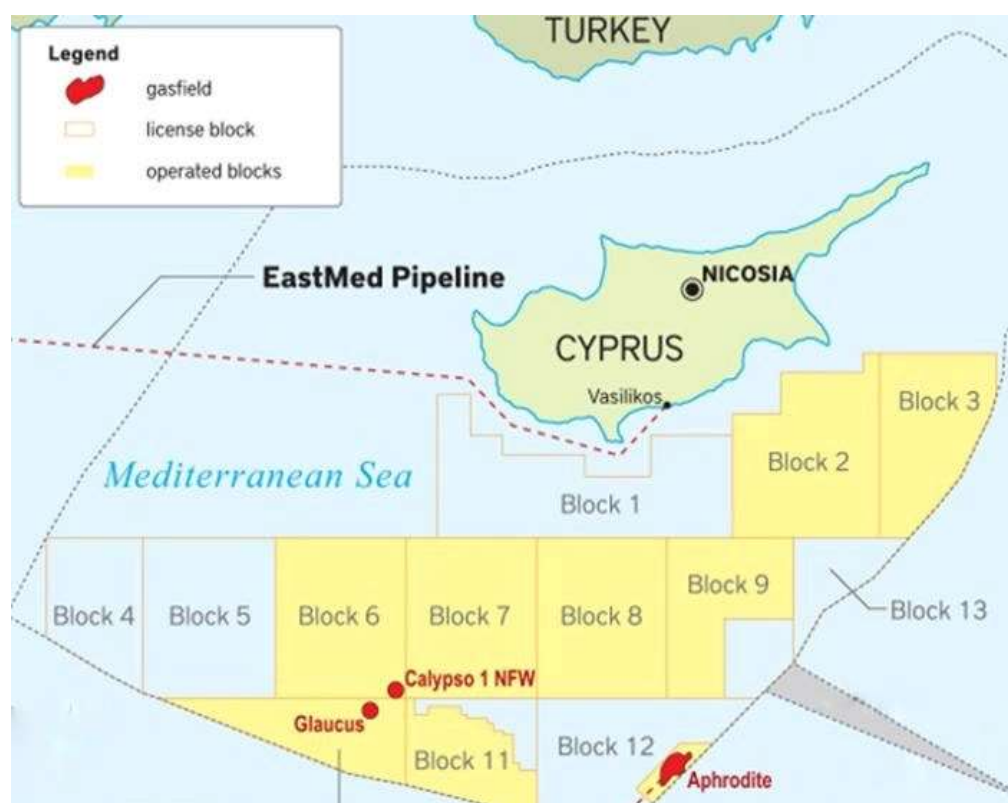
meters. At the end of 2011, was announced the first natural gas discovery by Noble Energy and Delek Drilling in Aphrodite gas field (Block 12) which was expected to contain 129 bcm of natural gas. Apart from Noble Energy that holds 35% of participation interest and Delek Drilling that holds 30%, Royal Dutch Shell (BG Group) holds the remaining 35%. After the successful appraisal drilling, in 2015 Aphrodite gas field declared commercial.

Besides the big success coming from the discovery of Aphrodite gas field, there are also other discoveries that may potentially attract the interest of the whole region. In 2018, Italian company Eni discovered Calypso gas field in Block 6, that is expected to contain remarkable natural gas deposits, similar to those of Aphrodite. These expectations will be confirmed by the results of appraisal drilling in 2020.

Cyprus aims also in participating in exploitation procedure in order to maximize its benefit. In 2018, Energy Minister of Cyprus negotiated with Shell to buy 8 bcm per year, in a ten-year period from Aphrodite gas field and after liquefaction at the Idku plant (Egypt) to export it to global energy markets. The agreement by Egypt and Cyprus, in 2019, to connect Aphrodite gas field to Egyptian liquefaction plants through a subsea pipeline, actualized these negotiations. This infrastructure is considered to be the largest for the Republic of Cyprus and the first gas is expected in 2024.

The exploitation of natural gas discoveries in Cypriot EEZ the upcoming years, along with the development of the necessary energy infrastructure is expected to upgrade the role of Cyprus in the regional energy market by making the country an energy producer and hub between Europe, Asia and Middle East.

Map 4. Natural gas discoveries in Cypriot EEZ



Source: Petroleum Economist

5. 3 Egypt

Traditionally Egypt had been a producer and exporter of natural gas both as liquefied natural gas (LNG) and through pipelines (Arab gas pipelines) mainly to Middle East countries. Internal political instability in combination with Arab Spring had a negative impact in Egyptian natural gas exports towards Israel, Syria, Lebanon, and Jordan. This political turmoil of 2011 and 2012 brought stagnation to production, approximately 62 bcm per year which created difficulties in meeting the ever-increasing domestic energy needs.

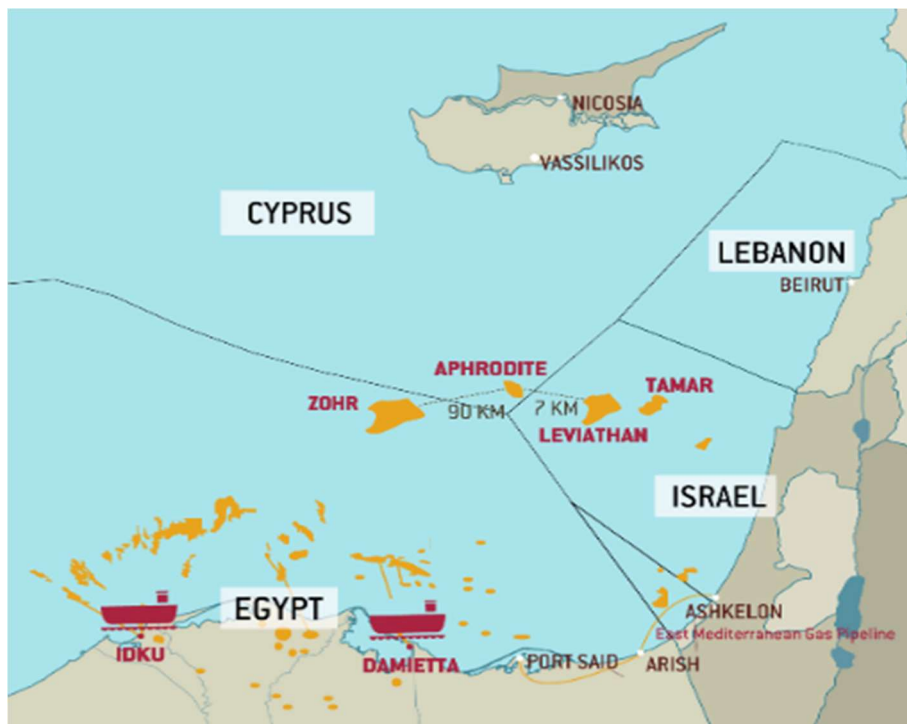
The discovery of Zohr gas field offshore Egypt in 2015 by the Italian energy company Eni was expected to confront the problematic existing energy situation (Map 5). In 2014 Eni was licensed to explore Shorouk concession. Afterwards, in 30 August 2015 Eni announced the discovery of Zohr natural gas deposit. Zohr is located 190 km north of the city of Port Said and is considered to be the largest natural gas discovery

not only in Egypt, but also in Mediterranean. The estimated natural gas contained in Zohr gas field is around 850 bcm. In comparison with Leviathan gas field that was considered to be the largest discovery of the previous decade, Zohr gas field is almost two times bigger.

The production in Zohr gas field began two years after the initial discovery, in 2017. Except Eni (50% stake) that holds the responsibility of the operations, the other stakeholders of the project are Rosneft (30%), BP (10%) and Mubadala Petroleum (10%). The process of exploitation and production has raised the interest in investments in Egyptian EEZ also for other energy companies, such as Shell and Edison.

Besides natural gas discoveries and their future potential, Egypt has a developed energy infrastructure and LNG terminals (Damietta, Idku). This fact creates additional opportunities for LNG exports, not only in a local but in a regional level in the upcoming years.

Map 5. Natural gas discoveries in Egyptian EEZ



Source: Middle East Economic Survey

5.4 Lebanon

Lebanon during the next years is expected to become a promising energy producer. Its EEZ is located in a part of the Levant Basin, and as we mentioned several times above contains remarkable natural gas resources (Map 6). The estimates expected that offshore Lebanon there will be serious hydrocarbon potential that can reach up to 850 bcm of natural gas and 660 million barrels of oil.

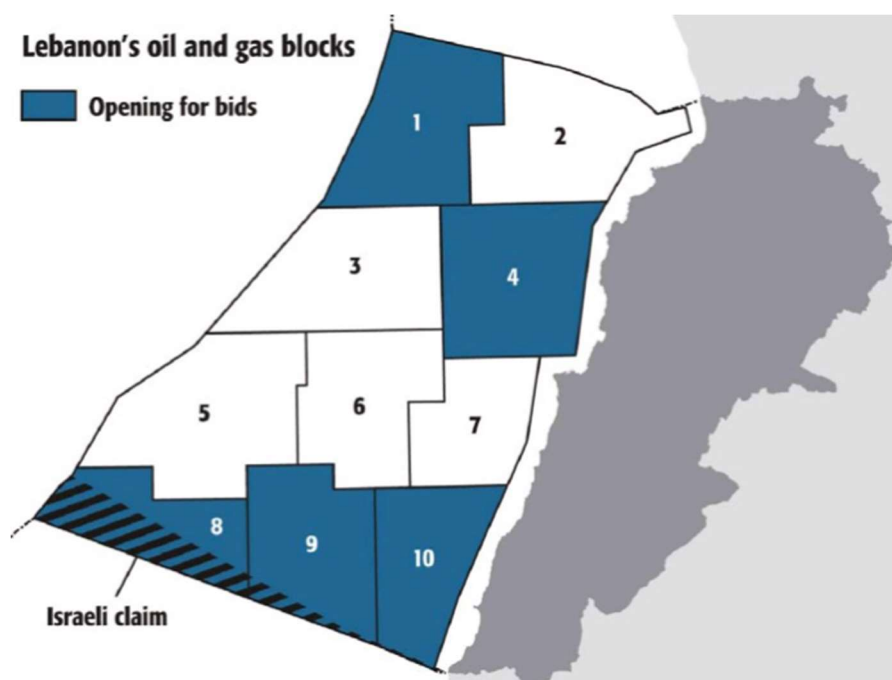
In August 2012, Norwegian company Spectrum made the first 3D seismic survey in Lebanon's seabed. The results of this survey differentiated the initial predictions about natural gas contamination from 850 to 680 bcm. The variance of predictions added further uncertainty to the process of exploration and drilling.

The development of domestic hydrocarbon reserves will be crucial for Lebanon that until nowadays is highly based on energy imports. The government aims in the diversification of Lebanon's energy mix by increasing the share of natural gas, in order to establish security of supply. Moreover, planned to minimize the use of fuel oil in power generation by replacing it with imported LNG. Despite these plans, yet there is no regasification terminal in Lebanon.

Added to the uncertainty in the energy sector, Lebanon has faced multiple internal and external challenges that affected the process of the energy projects. The unstable political environment, the lack of regulatory framework and the weak business climate delayed the development of hydrocarbon reserves. Furthermore, the disruption of the flow of Egyptian natural gas through the Arab gas pipeline due to delayed government payments, the attacks on the pipeline in Sinai, the refugee flows from Syria as well as the political conflicts with Israel considering parts of their sea borders boosted country's dependency on oil imports and minimized the use of natural gas.

Lebanon needs to overcome all these challenges we mentioned in the above paragraphs and focus on the development of the promising local oil and natural gas resources, in order to accomplish the goal of energy security and boost country's economy.

Map 6. Oil and gas blocks offshore Lebanon



Source: Energy and Water Ministry in Lebanon, Israeli mission to the United Nations

5.5 West Bank and Gaza (Palestinian Territories)

The continuous political instability between Israeli and Palestinian regime had a negative impact on the progress of development of the potential natural gas reserves in Gaza Strip during the period under examination. The Palestinian Authority had been facing various problems originated by its lack of sovereignty, its high dependence on Israel concerning all kinds of energy matters (generation, pricing, planning) and its inadequacy in developing of its own infrastructure (Sachs & Boersma, 2015).

To begin with, in September 2000 the president of the Palestinian National Authority Yasser Arafat announced the discovery on Gaza Marine natural gas field about 36 km offshore Gaza Strip at a depth of 2000 feet (Map 7). Gaza Marine gas field approximately holds 28bcm of natural gas and is considered to be the first discovery in Levant Basin. Gaza Marine comparing to Tamar or Leviathan gas field was easier to be exploited as it is located in a more accessible position, in shallow waters and closer to the shore. At first, the proposals for the exploitation of natural gas

concluded the sale to Egypt, in order to be transformed to liquified natural gas (LNG) for export, but there has been a discrepancy in the price. The same happened with the Israel Electric Corporation (IEC), that expressed its interest in buying the natural gas (Henderson, 2014).

BG Group (currently Shell) was licensed by the Palestinian Authority for the exploration in Gaza Marine gas field (60%), while the other partners are Consolidated Contractors Company CCC (30%) and Palestinian Investment Fund (10%). Until 2007, BG Group had been negotiating with the Israeli government for the sale of natural gas from the field. Despite their efforts, the two sides failed to reach an agreement and BG Group withdrew from the negotiations. In 2008, the BG Group closed its office in Israel, but it continued to hold its share in Gaza Marine (Sachs & Boersma, 2015).

In 2011, the United States undertook the procedure of peace negotiations between Israel and the Palestinian Authority, but several incidents that provoked the continuous political tension between Israel and Palestine as well as the formation of a national unity government, in 2014, between Hamas and Fatah delayed the developing process (Sachs & Boerma, 2015).

The development of Gaza Marine gas field (Map 7) was expected to contribute highly to the sovereignty of Palestinian economy and energy market. The Palestinian energy system is highly dependent on Israel, especially for power generation. This fact creates instability over the years regarding energy security of the region, while the population is constantly rising along with the energy consumption. Jurisdictional limitations, that in most cases require cooperation with Israel, prevent Palestinian authorities from planning and developing energy infrastructure.

According to the information above, it is understandable that the development of Gaza Marine gas field is greatly dependent on the willing of Palestinian and Israeli authorities for cooperation and the geopolitical framework of the whole region.

Map 7. Gaza Marine gas field



Source: Energypress

Conclusions

The review of the energy profiles of Israel, Cyprus, Egypt, Lebanon, West Bank and Gaza (Palestinian Territories) showed us that natural gas discoveries in Levant Basin have the potential to play a crucial role in international energy markets in the future. During the years under analysis, we saw that although there is an abundance of energy resources in Eastern Mediterranean, had not managed all countries to make progress concerning their further exploration and exploitation. Cyprus is one the countries that had shown remarkable progress in the development of domestic energy sector, as major international companies showed interest for investment and participated in exploration activities and development of energy infrastructure. Also, Israel and Egypt managed to start production from Leviathan and Zohr gas field respectively, which are of the largest natural gas discoveries in Levant Basin. The political challenges that Lebanon and West Bank and Gaza (Palestinian Territories) face from 2009 until 2018 shifted countries' interest to national security issues. As a consequence, they presented uncertainty regarding the exploration of their energy resources and their ability for utilization in the upcoming years.

6. Territorial disputes over the exploration of natural gas deposits in Eastern Mediterranean

Introduction

In this section we will analyze the affection of recent natural gas discoveries in the delimitation of maritime zones in Eastern Mediterranean region and their affection to the already existing security dilemmas in the region. Furthermore, we will explain why the differences in the delimitation of maritime zones pose a constant risk for escalation of conflicts, fact that can prevent private companies to invest in the exploration and exploitation of natural gas. Before continuing with our analysis, we are going to clarify the terms of 'Exclusive Economic Zone' and 'Continental Shelf'. According to United Nations Convention on the Law of the Sea (UNCLOS):

"Exclusive economic zone (EEZ) is an area beyond and adjacent to the territorial sea but shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured'. (UNCLOS, art. 55,57). 'In the EEZ, a State has sovereign rights to explore, exploit, conserve and manage the natural resources of the waters superjacent to the seabed and of the seabed and its subsoil; sovereign rights with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds' and jurisdiction over: '(i) the establishment and use of artificial islands, installations and structures; (ii) marine scientific research; (iii) the protection and preservation of the marine environment; (c) other rights and duties provided" (UNCLOS art. 56).

"The continental shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance" (UNCLOS art.76).

For the provision of mechanisms to resolve various problems that may arise in the delimitation of Exclusive Economic Zones (EEZ) and continental shelf, plenty of countries signed the United Nations Convention on the Law of the Sea (UNCLOS), an

agreement that resulted from the third United Nations Conference on the Law of the Sea (UNCLOS III) (1973-1982). Among Eastern Mediterranean countries under examination, Israel, Syria and Turkey have not signed UNCLOS, whereas Greece (1982), Egypt (1982), Cyprus(1988), Lebanon (1995), Jordan (1995), West Bank and Gaza (Palestine territories)(1995) have signed the agreement.

6.1 The maritime boundary of Israel-Lebanon

In June 2011, the Minister for Foreign Affairs and Emigrants of Lebanon addressed to the Secretary-General of the United Nations concerning the Agreement between the Government of the State of Israel and the Government of the Republic of Cyprus on the Delimitation of the Exclusive Economic Zone, signed in Nicosia on 17 December 2010. Lebanon expressed its arguments for this agreement as it created incompatibilities with the existed agreement between Lebanon and Cyprus (2007). Due to the fact that after these agreements, EZZs of Israel and Lebanon are overlapping, has been created a disputed zone between the two countries. The maritime boundary dispute refers to an area of 850 square/km on the southern part of Lebanon's EEZ (Map 8).

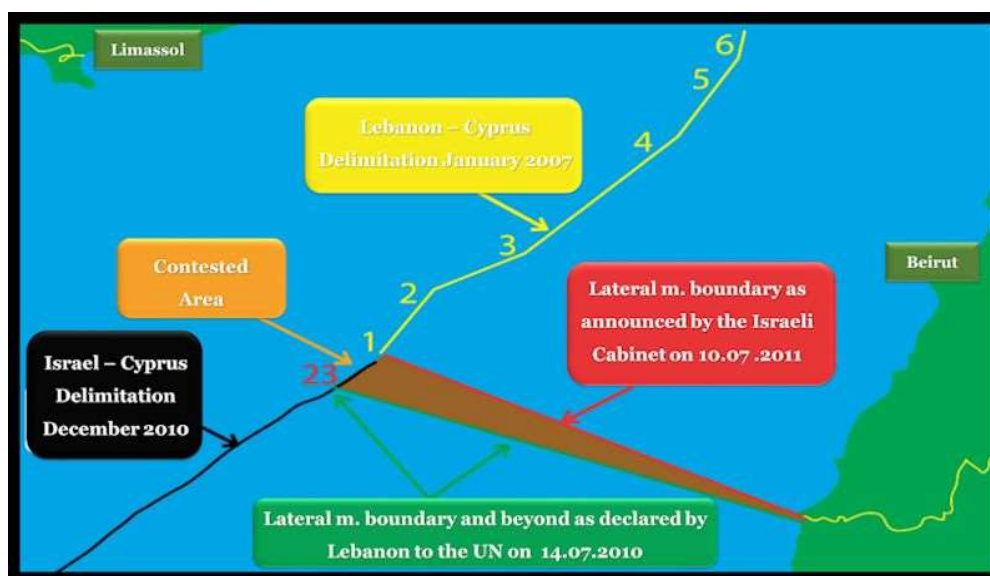
The main reason of the creation of the disputed zone is the discovery of significant hydrocarbon resources in Levant Basin and especially, in Tamar field which is located in the zone. Estimates based on seismic studies claim that Lebanon's EEZ may contain up to 25 tcf of natural gas. The prospect of exploration and exploitation of natural gas resources in Eastern Mediterranean region has led Lebanon to contend its energy resources despite the geopolitical risk.

The political instability in combination with governmental issues and the lack of a complete development plan for the energy sector, contributed to the delay of the bidding process from 2013 to 2017. Political dispute between Israel and Lebanon complicated the exploration and exploitation procedures in this, which is supposed to contain significant natural resources. The issue of delimiting EEZ of Israel and Lebanon became more complicated as both states are not subject to the jurisdiction

of the International Court Justice in Hague and are not bound by the relevant provisions of the United Nations Convention on the Law of the Sea (UNCLOS).

Although, a compromising agreement between the two states could create economic growth and establish energy security.

Map 8. Lebanese - Israeli Maritime boundaries



Source: "Lebanon's Maritime Boundaries: Between Economic Opportunities and Military Confrontation", (Meier, 2013)

6.2 Natural gas resources and Israeli, Cypriot, Turkish geopolitical relations

On 17th December 2010, the Government of the State of Israel signed an agreement with the Government of the Republic of Cyprus on the delimitation of the Exclusive Economic Zone. At the same time, agreed on the cooperative exploitation of Leviathan and Venus gas fields (Block 12), as they are consisted as an integrated area of common interest (Chrysochou & Dalaklis, 2012). The agreement concerning the EEZ entered into force on 25th February 2011, while Noble Energy has already announced the discovery of natural gas reserves in Aphrodite gas field. That discovery played a positive role in the Israeli-Cypriot relations, but affected negatively Israeli-Turkish relations, that are characterized generally unstable.

Turkey doesn't recognize the delimitation of Cypriot EEZ, as it concerns that Turkish Republic of Northern Cyprus is an autonomous state and hydrocarbon exploration and exploitation activities are illegal. According to the Turkish side, Turkey holds the 37% of Cyprus, fact that should be considered in the exploitation of energy resources. On the opposite, the Republic of Cyprus states that the income gained from these resources will be equitably shared (Johnson, Ross, Zemenides, 2015; Demir, Tekir, 2017). Turkey, by claiming that maritime boundaries are not delimited in Eastern Mediterranean region aimed to discourage Israeli and US energy companies from participating in exploration activities in the region.

Before the start of Noble Energy activities in 2011, Turkey provocatively announced the start of hydrocarbon exploration, southern of Kastelorizo, in a place where the Greek continental shelf covers the Turkish one. These actions were terminated through diplomatic interventions, due to the violation of Greek sovereign rights. Turkey continued acting aggressively by sending a research vessel into the territorial waters of 'Northern Cyprus' accompanied with three warships. These actions were interrupted by the intervention of EU authorities, pleading the sovereign rights of EU Member States. In February 2018, began another natural gas dispute between Cyprus and Turkey. The Turkish Navy stopped the Saipem 12000 vessel, chartered by Italian company ENI licensed by the government of the Republic of Cyprus (Reuters, 2019) as it made its way to explore natural gas reserves in the waters of Cyprus (Gurcan, 2018). Turkish Foreign Minister Mevlut Cavusoglu stated that Turkey is planning to explore for energy resources Eastern Mediterranean region, and that the agreement Cyprus and Egypt, in 2013, for the exploitation of natural resources in Eastern Mediterranean's economic zone is invalid because it violates the Turkish continental shelf. Moreover, the Turkish side expressed that Turk citizens in Cyprus have unquestionable rights on Cyprus' potential energy resources.

In July 2019, the European Council made several decisions concerning the Turkish exploration activities in Eastern Mediterranean region. Suggested to Turkey to act in accordance with International Law and respect the sovereign rights of Cyprus. Also, urged Governments of Cyprus, Turkey to delimit EEZs, continental shelf in a spirit of

cooperation and under the principles of International Law (Tidey, 2019; Gonen, 2019).

6.3 Maritime boundary dispute between Israel and Palestine

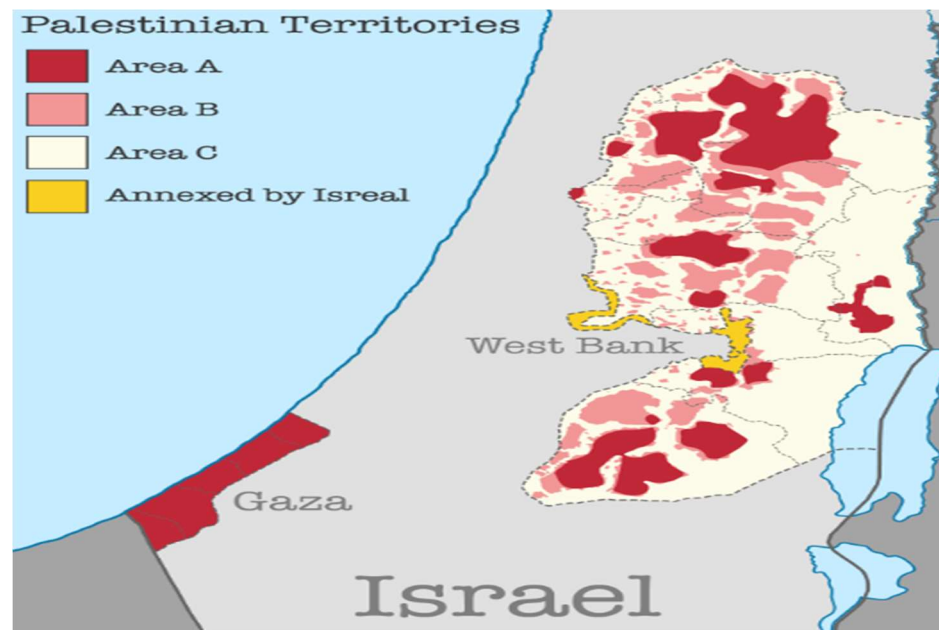
In 1988, the Palestine Liberation Organization (PLO) had an intention to declare a Palestinian State and Jordan renounced all territorial claims (Jordanian annexation) to West Bank.

The Oslo Accords, signed in 1993, contained provisions relating to the delimitation of maritime jurisdiction of the Palestinian National Authority at 20 nautical miles from the shore. Also, under the jurisdiction of the Palestinian National Authority were Area A (approximately 18% of the total territory of West Bank) and Area B (22% of the total territory of West Bank) which included 2,8 million Palestinians and Area C was controlled by Israel (Map 9) (Palestinian Central Bureau of Statistics). The agreement included the exercise of economic activities and potential drilling for hydrocarbon exploration.

In 2002, The Berlin Commitment reduced the jurisdiction of Palestinian National Authority to twelve nautical miles, and in 2006 after the Hamas takeover in Gaza Strip the access was restricted to six nautical miles. The Palestinian Territories were divided politically between Hamas and Fatah. The United Nations Security Council does not consider that Palestine is a sovereign entity. The same opinion represents, also, a lot of states including United States and Israel (McHugh, 2015).

In 2014, both political groups reconciled and had the willing of forming a compromise unity government, but one year after, affected by the Israel-Gaza conflict the unity government was dissolved (Keinon, 2014).

Map 9. West Bank and Gaza territory in Israel



Source: Welcome to Palestine

6.4 Eastern Mediterranean natural gas resources as an alternative source for EU's energy supply

As we have mentioned above, EU and Eastern Mediterranean countries are highly dependent on Russian natural gas. Natural gas crisis in 2009 between Russia and Ukraine, as well as the occupation of Crimea in 2014, designated even more their liability on Russian energy exports.

This crisis reminded to EU the need for diversification of resources in order to establish energy security for countries in the region. As a result, EU has supported the development of Trans Adriatic Pipeline (TAP). Through TAP, EU planned to import natural gas from Azerbaijan via Trans Anatolia Natural gas Pipeline (TANAP) and at the same time to increase natural gas imports from Norway.

Natural gas discoveries in Levant Basin could offer a solution in EU's need for diversification of natural gas resources (Map 10). Although there are doubts concerning the potential of new natural gas discoveries in covering the needs of European energy markets, others believe that Egypt, Israel and Cyprus can be energy transition hubs and export significant amount of natural gas in EU and Eastern

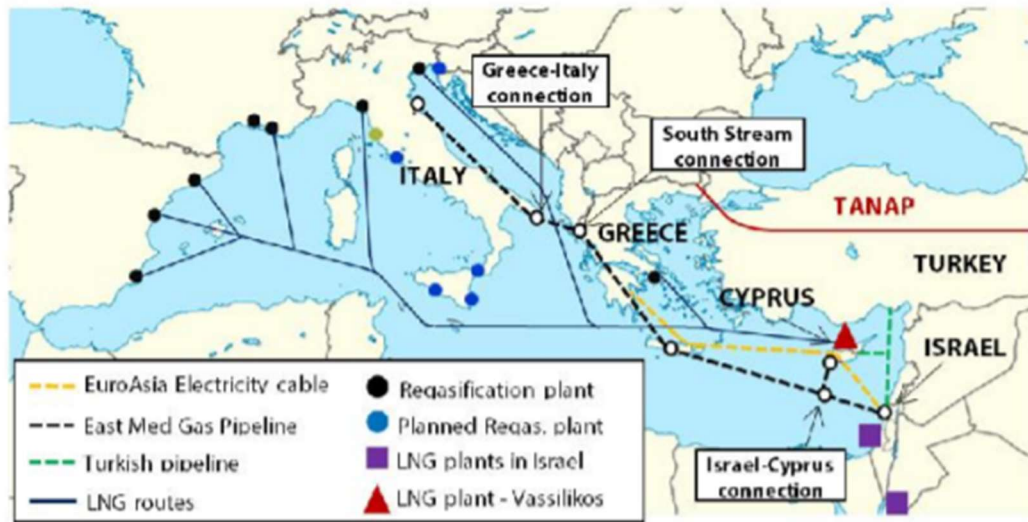
Mediterranean countries. Table 17 presents the proposed energy infrastructure for natural gas exports from Eastern Mediterranean to international energy markets.

Table 17 : Proposed energy infrastructure for international energy exports

Proposed energy infrastructure	Description
EuroAsia interconnector	The EuroAsia Interconnector comprises the electricity interconnection between the grids of Israel, Cyprus, Greece through a subsea DC cable and with high-voltage direct-current (HVDC) onshore converter stations at each connection point, with a total capacity of 2000MW. The project is an energy highway bridging Asia and Europe, with a total length of 1,208 km. It creates a reliable alternative route for the transfer of electric energy to and from Europe.
East Med gas pipeline	The Eastern Mediterranean (EastMed) pipeline project relates to an offshore/onshore natural gas pipeline, directly connecting East Mediterranean resources to Greece via Cyprus and Crete. The project is currently designed to transport initially 10 bcm of natural gas per year from the off-shore gas reserves in the Levantine Basin (Cyprus and Israel) into Greece and other European countries.
Israeli-Turkish natural gas pipeline	Israeli-Turkish subsea natural gas pipeline is supposed to transmit natural gas from Leviathan gas field to Turkish and European energy markets.
LNG import terminal in Vassilikos (Cyprus)	The LNG import terminal is being developed by Natural Gas Infrastructure Company of Cyprus and is promoted by The Ministry of Energy, Commerce, Industry and Tourism of the Republic of Cyprus (MECIT). It is estimated to cost 554million USD and to include a floating storage and regasification unit (FSRU) comprising a gas export system and loading arm equipped with meters, gas compressors, filters, heaters, and export arm pipelines. The FSRU will have a storage capacity of 125,000m ³ and aims in the reduction of country's dependence on imported oil and petroleum products.
LNG plant in Israel	Israeli energy company Delek Drilling is under negotiations for the development of a floating liquefied natural gas (FLNG) facility offshore Israel. The FLNG terminal will process between 2.4 and 5 million tons per year of natural gas from Leviathan gas field, to export worldwide via LNG vessels.

Source: EuroAsia Interconnector, IGI Poseidon, NS Energy, Reuters

Map 10. Proposed energy infrastructures for Eastern Mediterranean's natural gas exports



Source: Own elaboration based on European Rim Policy and Investment Council and Pytheas

Conclusions

The existence of recent natural gas deposits in disputed zones or in locations where the EEZs of two or more states are overlapping, in combination with the absence of willingness for dialogue and cooperation for the delimitation of EEZs, create multiple challenges concerning the political stability and national, energy security for countries under analysis and creates unattractive conditions for investments. Eastern Mediterranean countries in order to minimize their energy dependence on Russian natural gas and promote their mutual interest for the development of the energy sector should try to confront the existing transnational disputes according to the principles of International Law and the United Nations Convention on the Law of the Sea. The involvement and institutional participation of EU and US in the regional energy issues plays an important role in the ensurance of political stability and regional cooperation.

7. Conclusions

The extensive analysis of The Political Economy of Energy in Eastern Mediterranean countries under the prism of Realism and Regional Security Complex Theory (RSCT) helped us to make useful assumptions concerning the economic, geopolitical, and energy relations in the region and the future potential of the region to play a major role globally.

At first, the examination of macroeconomic indicators for each country separately presented the heterogeneity among countries in the region. Each country faces different challenges depending on its size, its political regime, its population etc. The common point for all countries is that they have been affected, more or less, by the consequences of global economic crisis.

The cases of Greece and Cyprus are characteristic examples for the understanding of economic crisis' effect in a country's economy. From our analysis above, it was observed that there has been a significant increase in the rates of unemployment, government gross debt, and an instability in the rates of inflation and GDP per capita. We noticed that countries that already face domestic issues, like the dominance of the public sector and the lack of an attractive regime for private investment, were more vulnerable to the consequences of economic crisis. On the other hand, although we observed a small change in the rates of Israel, its economy managed to overcome quickly from its impact.

Concerning Foreign Direct Investment in Eastern Mediterranean countries, we noticed that followed an unsteady route affected by economic and political circumstances. The diversity in the level of development of the countries under analysis played a crucial role in the willing of new investments. If we split the period under study in two subperiods, we notice that in the first sub-period (2009-2013) FDI highly affected by the general uncertainty in the region (Cyprus' economic recession, Egyptian crisis) presented lower rates than in the second sub-period (2014-2018) that most countries tried to overcome their issues and give incentives for new investments.

In general, data presented in Chapter 3 showed that Eastern Mediterranean countries are not an attractive destination for investment. Furthermore, the examination of trade relations among countries in the region showed that despite the efforts that have been made with the establishment of free trade agreements [Barcelona Process, Grain and Feed Trade Contracts (GAFTA)] countries face difficulties in adapting to the volatile environment of the region and don't deploy effectively their geographical proximity. Furthermore, our analysis reveals that all countries in Eastern Mediterranean region are net importers and are based on imports in order to fulfill their energy needs.

Concerning the energy sector, significant natural gas discoveries (Tamar field, Aphrodite field, Zohr field) that took place during the period under examination in Levant Basin raise the interest in the region. The beginning of natural gas production activities in the most countries under examination face multiple obstacles. The political tensions and insecurities that we mentioned in Chapter 6 and focused mainly on disputes cornering the demarcation of EEZs between states in the region seem to relate highly with the late progress of development of the energy sector. Furthermore, the geopolitical complexity is reinforced by the military presence of US and Russia in the region and, specifically, in Syria that has huge potential in the energy sector, but due to the political instability cannot be developed properly. Cyprus aims in becoming a regional natural gas producer and exporter, but the rising tensions with Turkey in combination with Israeli - Lebanese dispute delay its efforts.

The lack of cooperation, the insufficient legal framework and the continuous unsolved maritime boundary disputes minimize the stability of the region and affect negatively regional energy production and consumption, creating a problem of energy security to several countries in the region. Also, the geopolitical complications threaten the existence of the commercial and energy infrastructure.

States and their decisions affect importantly the interactions in Eastern Mediterranean region. Each state tries primarily to fulfill its national interest and secure its position in the region, and secondarily to contribute to the achievement of regional goals. The discovery of natural gas reserves in Eastern Mediterranean sets new challenges to countries under study, as they should try to overcome several

national economic and political obstacles and promote regional cooperation and institutional organizing.

Reviewing our analysis under the realistic school of thought we conclude that through the chronological period under study the actions and the decisions of nations-states held the main role in the formulation of the regional energy structure. From the examination of economic, trade and political interdependence in Chapter 4,6 we assume that Eastern Mediterranean can be characterized as an individual Regional Security Complex (RSC) that faces multiple security challenges and aims in the establishment of political and economic stability in order to strengthen its position as a “whole”. States in Eastern Mediterranean are in a constant effort to secure, primarily, their sovereignty and their national interests and secondly the regional economic and political stability. From our reference in multiple disputes between countries in the region in Chapter 6 we see that the security of each country in the region interacts with the security of the other countries. Threats and disagreements within the region are more common and stronger than these with countries outside the region, proving the existence of an intense security interdependence within the region, but interaction with outsiders is less active (Buzan & Waever, 2003). This means that states’ security concerns are primarily generated from disputes inside the region.

To sum up, based on the principles of Realism and Regional Security Complex Theory we believe that if through energy interdependence countries in the region succeed in establishing cooperation and overcoming regional disputes, Eastern Mediterranean as a separate region will play a dominant role in international energy markets minimizing, also, EU’s energy dependence on Russian natural gas.

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