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Energy Geopolitics and Geoeconomics in shaping the USA's Geostrategy in Asia after the "shale revolution"

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Abstract

The aim of the thesis is to highlight the role of energy in securing the American interests across the globe and to distinguish how the “shale revolution” has equipped the United States with new tools for geoeconomic statecraft. After the “shale revolution” the U.S. is on track to become a global energy superpower, becoming more immune against states that use energy as a diplomatic weapon, but not against international developments in the energy markets. It has also possibly acquired a new foreign policy tool. The U.S. geostrategy lies in 6 basic pillars: stay number 1 in power; prevent the unity of Eurasia; maintain the free movement of goods in the international lanes; protect energy resources; stop nuclear proliferation; suppress terrorist organizations which threaten the USA. Energy developments affect and are affected by all of these different aspects of U.S. interests, some of those in a greater extent than others. The energy landscape is different than it was a few years ago. The U.S. is the larger energy producer, while Russia and the Middle East see their dominant position in the energy game diminishing. On the other hand, China, a rising superpower that has made great effort in advancing its military capabilities and one of the strongest players of the geoeconomic game poses a threat to U.S. hegemony. That means that in this new reality, some aspects that have to do with the U.S. foreign policy need to be reconsidered and re-evaluated. Energy is a very importan geoeconomic tool, as it is not only a commodity to be traded internationally, but also a very important strategic weapon, that can be used in different ways to achieve both economic and foreign policy objectives.

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Chapter 1

Introduction

1.1 Determination of the matter in question and its importance

For many decades energy has been a core component for shaping the American strategy. USA as a great consumer of oil and a net importer has shaped in a great extent its foreign policies and its alliances under this regard. This led to a significant engagement oversees particularly concerning the fragile Middle East and North Africa region (and the region possessing the largest sources of oil in the world), a significant obligation of maintaining the sea lanes free and peaceful and in extent a constant obligation to intervene in all sorts of matters that may have caused a significant disruption and fluctuations to energy prices. Controlling oil access was traditionally a cornerstone for American foreign policy, leading to designed policies of containment. For example, the invasion of Iraq in Kuwait in 1990, which triggered the American intervention, was a threat to the US interests, as the occupation of the Kuwaiti oil fields would boost significantly the gravity of Iraq in OPEC and provide it the chance to affect international oil prices (Calvocoressi P, 2009). The protection of the international sea lanes has been also of vital importance for the US, as there is great need to ensure that trade is being implemented without disruptions that may affect the international oil price and the cost of premiums and also that the Gulf oil would not fall into hostile hands. The acquired role of USA as the guarantor of Middle Eastern oil has the negative extension of a direct or indirect support of authoritarian and repressing regimes, however it was considered that a sort of alliance with these regimes and their maintenance in power would help to maintain the stability in MENA, as the US interests require.

Diachronically, the use of geoeconomic practices in forming the US strategy had neither the same appeal nor the same gravity. The USA is considered to be a state which emphasizes more on military power in order to achieve its foreign policy goals. For example, the collapse of the Bretton Woods system, caused by President Nixon proved that economics had a small impact in the conduction of the US foreign policy; for the US, good political relations bring cooperation in trade and not the opposite.

Even after the collapse of the Soviet Union increasing funding for weapons modernization and the creation of a strong military force was the priority for US foreign strategy. The militarized character of US diplomacy was further enhanced by the events of 9/11, not any more focused just against foreign states, but against non-state actors that might pose as a threat against the US. (Blackwill and Harris, 2016)

However, foreign policy affects and is being affected by economic factors and today this is evident more than ever. America's core objective to remain the sole peripheral hegemon in the international system is being challenged by the significant rise of China as a potential economic superpower and geoeconomic player in the international system. China is currently the second most powerful state in terms of economic power and most projections predict that it will surpass the USA in the next decade to come. Also, China is a state that relies on geoeconomic instruments in order to project its power beyond its borders and its so far successful attempts to diversify away from the dollar, mean that in the following years it will be able to put a greater geoeconomic challenge against the US power and influence in different parts of the world (Blackwill and Harris, 2016). China is already exercising geoeconomic practices in order to create spheres of influence across the globe. It is investing in and buying up large areas of land, oil fields and mines in many areas in Africa and Asia and is creating strong economic ties with many states particularly in these regions and, in some cases, with states that have been considered by the West as threatening to peace and stability, like Iran and Venezuela. Especially in Africa, China has become a major source of development for many states through loans that help them develop national infrastructures, which are typically designed to be paid off through resources. It is necessary to point out that China seems as a better choice for these states to engage in large scale economic activity with, as it is a state that traditionally opposes the intervention in the domestic politics of sovereign nations and does not press to liberalize or reform authoritarian states and make them accept specific foreign economic norms. However, China's importance in the economies of many small nations would deter them from supporting policies that might prove disadvantageous to China. (Kitchen, 2012)

After the American shale revolution, the USA is on the road to become a global energy superpower. In 2014, it surpassed Russia as the larger producer of natural gas hydrocarbons globally and since then the gap is growing year by year. (Energy Information Administration, 2016) This means that the dependence of the US

on energy imports has significantly declined and is expected to further decline as more projects are developed, to wit the leverage that traditional energy exporters held against the US is undermined under the new energy order. Subsequently, the USA earned a new and strong geoeconomic tool in order to advance their geopolitical objectives. There is the sense that declining dependence on imports by the MENA will allow the US to adopt a more isolative foreign policy and will substantially lead to retrenchment from the region. However, the reduced dependence on imports does not mean immunity to international developments that might affect the ever-growing energy market. When disruptions lead the price of oil to increase, American consumers face these increases just like everyone else in the world. Also, the vast majority of oil and LNG trade continues to take place through the main sea lanes located in Middle East and Asia. As "nature abhors a vacuum" someone must fill it, so should the USA stop protecting the seas of international trade, someone else will probably take its place, and who would be more suitable than China to fill that gap? But letting the security of the seas in the hands of China would have significant strategic implications for the USA (Pascual, 2015).

The aforementioned developments, namely the transformation of the US from an energy net importer to a net exporter, the different allocation of market share between the states in the field of international energy trade, the shift of the center of gravity of energy demand from the West to the East, the potential rise of China as a dynamic challenger of the US hegemony in the international system and the alteration of the role of energy in the US agenda, shapes a different view of the world compared to a decade ago. New players in the energy game, change in the balance between the involved states' relations, antagonistic interests and the objectives of the big powers in the region pave the way for new chances of cooperation and conflict, due to different interests. As such, the topic this analysis is aiming to explore is of quite significant importance.

1.2 Aim and Methodology

The transformation of the energy landscape, concerning the shale revolution of the USA and in parallel the transposition of energy demand from the developed west states to the developing east states and the decline of the concentration of energy production inside OPEC towards the states outside OPEC have shaped a new energy regime which requires redefinition of the aims and objectives of the American foreign

policy. In addition, the constant development of China in terms of economic power with the potential to surpass the USA during the next decade, combined with its geoeconomic expansion across the globe, is alarming for the USA, which ought to take the right steps to contain this spread and maintain its leadership in the international system. The aim of the thesis is to outline the American geostrategy in light of energy policy in the new energy landscape and particularly the case of the role of energy as a geoeconomic tool for achieving USA's strategic goals and its interaction with the objectives of the main Asian big and medium powers.

To approach this thesis topic, the realist school of thought of international relations will be applied and the presentation of the facts will be through the inductive process. The structure of the thesis starts with the observations and theories towards the end of the research process, to wit the result of observations and the generation of conclusions. Starting with the presentation of the objectives of the modern American geostrategy, mainly regarding the Asian continent, as well as the historic role of USA as the sole peripheral hegemon globally, the observed development of these, their adaptation in the new international environment and the emerging challenges and prospects will be analyzed, in light of energy policy and trade.

Thus, the main questions this thesis will try to answer are the following: What is the role of energy nowadays in securing the American interests across the globe? What are the strategic interests of the USA in the Asian Continent today and in what degree have they been altered compared with the traditional ones? How has the shale revolution equipped the USA with new tools for geoeconomic statecraft? How will USA maintain its hegemony in the international system, while rising powers seek to alter the power equation especially by engaging in geoeconomic activities?

1.3 Structure

The structure of the thesis is the following: the first chapter includes the introduction. In the second one, I outline the objectives of the modern American geostrategy, focusing on the Asian continent. The third chapter includes the presentation of the new energy order as it is being formed by the American energy revolution, the new balances between producers and consumers and the subsequent geopolitical reclassification mainly for Asia. In the fourth chapter, I examine the added value of the energy revolution in shaping the American geostrategy, in terms of fostering the economic power of the US and strengthening its tools for geoeconomic

statecraft, providing examples from the Asian continent. The seventh chapter includes the conclusion.

CHAPTER 2

USA's Geostrategy in the Asian Continent: main objectives

The US is a superpower: it has the largest GDP in the world of about 18,1 trillion dollars, which accounts for 24% of the world GDP (World Bank, 2018) and is the seventh in economic complexity (Macro Connections, 2017), it is the second country in exports and the first country in imports in the world (Central Intelligence Agency, 2017), it is the third most populous country in the world and the fourth largest country by total area (Census Bureau, 2017) and has a strong education system, with 52 US universities ranking in the top 100 universities in the world (Nye, 2015).

Also, it possesses the largest military arsenal in the world and the stronger, in terms of quality, numbers and sophistication (RAND, 2015). Table 2.1 shows a summary of the conventional military capabilities of the first 10 states in military spending. Table 2.2 shows estimations of the size of the nuclear arsenals of nuclear states.

Country	Budget	Active personnel	Tanks	Total aircraft	Submarines
USA	$601 billion	1.400.000	8.848	13.892	72
China	$216 billion	2.333.000	9.150	2.860	67
Russia	$84,5 billion	766.055	15.398	3.429	55
France	$62.3 billion	202.761	423	1.264	10

S. Korea	$62.3 billion	624.465	2.381	1.412	13
United Kingdom	$60,5 billion	146.980	407	936	10
India	$50 billion	1.325.000	6.464	1.905	15
Japan	$41.6 billion	247.173	678	1.613	16
Italy	$34 billion	320.000	586	760	6
Turkey	$18.2 billion	410.500	3.778	1.020	13

Table 2.1: *Top 10 states in terms of military size*, Source: Business Insider, 2015

Country	Nuclear Warheads
Russia	7.000
United States	6.800
France	300
China	270
United Kingdom	215
Pakistan	140
India	130
Israel	80
North Korea	10

Table 2.2: *Nuclear Warheads estimations*, Source: Arms Control, 2017

It is for decades the country which spends the most for its defense and it possesses a large military industry, engages in international arms trade with many states, which are depended on the US exports for their own armament and consequently it has many alliances in the areas which concern it the most, and owns or has access to more than 400 military sites across the globe (including generally any base site listed in the Pentagon's Annual Base Report, any small military installation with less than 10 acres or less than $10 million of value and any facility that is not owned by the U.S. but U.S. personnel has access to it) (Vine, 2017).

In order to maintain their dominion, the US has a carefully designed foreign strategy, based on six pillars, which are very important for the country's national interests.

- Stay number 1 in power
- Prevent the unity of Euro-Asia
- Maintain the free movement of goods in the international sea lanes
- Protection of energy resources
- Stop nuclear proliferation
- Suppress terrorist organizations which threaten the USA

2.1 Stay No1 in power

The first pillar is that they will never allow to a competitor, an enemy or an ally, to surpass them in terms of power. The more powerful a state is relatively to its potential competitors, the least possible is that one of its competitors will attack it and threaten its survival. John Mearsheimer has created the theory of peripheral hegemony, according to which, taking into account that continental hegemony is not possible, with the exception of the possibility that a state acquires a profound nuclear superiority, the goal of every big power is to dominate its periphery and to prevent every other big power from dominating its own periphery. The main restraint is the difficulty in projecting power through large water areas, fact that makes it impossible for a big power to conquer and dominate regions which are being separated by oceans. (Mearsheimer, 2009)

The main goal of the United States is to remain the sole peripheral hegemon in the world. According to John Mearsheimer, peripheral hegemons fear that a competitor that is also a hegemon in its own periphery might threaten their own hegemony by reversing the balance of power in their backyard, for example to create a turbulent environment with a neighbor or to incite conflicts, in order to generally destabilize the area. This way, competitor hegemons can still threaten one another, even when they are divided by an ocean. Specifically, a peripheral hegemon might one day face a challenge in the local level by an emerging state, which will certainly have strong motive to ally with the distant hegemon, in order to be secured by an attack from the neighboring hegemon. (Mearsheimer, 2009)

A state, in order to be a peripheral hegemon, has to be much wealthier from its regional competitors and simultaneously possess the largest army in the region. In Table 2.3 we see the evolution of the GDP of the most important states in terms of economic power. Although focusing just on the GDP to evaluate a country's overall economic power is over simplistic, it is a good indicator for a country's productivity. By combining military and economic data, we can distinguish the most important potential competitors of the United States.

GDP Bill. US $	2011	2012	2013	2014	2015	2016	2017
USA	15.517,93	16.155,26	16.691,52	17.393,10	18.036,65	18.569,10	19,390.60
EU	18.340,54	17.271,71	18.002,70	18.588,24	16.334,85	16.397,98	17,277,70
China	7.572,55	8.560,55	9.607,22	10.482,37	11.064,66	11.199,15	12,237,70
Japan	6.157,46	6.203,21	5.155,72	4.848,73	4.383,08	4.939,38	4,872,14
Germany	3.757,70	3.543,98	3.752,51	3.879,28	3.363,60	3.466,76	3,677,44
United Kingdom	2.608,82	2.646,00	2.719,51	2.998,83	2.861,09	2.618,89	2,622,43
France	2.862,68	2.681,42	2.808,51	2.849,31	2.433,56	2.465,45	2,582,50
India	1.823,05	1.827,64	1.856,72	2.035,39	2.111,75	2.263,52	2,597,49
Italy	2.276,29	2.072,82	2.130,49	2.151,73	1.824,90	1.849,97	1,934,80
Brazil	2.616,20	2.465,19	2.472,81	2.455,99	1.803,65	1.796,19	2,055,50
Canada	1.788,65	1.824,29	1.842,63	1.792,88	1.552,81	1.529,76	1,653,04
Rep. of Korea	1.202,46	1.222,81	1.305,60	1.411,33	1.382,76	1.411,25	1,530,75
Russia	2.031,77	2.170,14	2.230,63	2.063,66	1.365,87	1.283,16	1,577,52

Table 2.3: *Evolution of the Gross Domestic product of top 15 countries (in billion US dollars)*, Data retrieved from: World Bank, 2018

In Asia, China, Japan, India, Russia and South Korea are the wealthier states in terms of Gross Domestic Product. We see that China is by far the wealthier state in the region and most projections predict that it will surpass the USA in terms of GDP growth by 2030 (National Intelligence Council, 2012). At a first glance, we see that the EU could be a more immediate threat that China, as it is the second wealthier entity behind the US; however, China is by far the most dangerous state for the US and the sole potential challenger of US hegemony.

The EU is following the USA in the GDP ranking, however, it does not consist a threat for US dominant position. Nevertheless, it remains a significant competitor for the USA. One of the goals of the European Union for the future is the strengthening of the Common Foreign and Security Policy, including the Common

Security and Defense Policy. However, the current economic crisis that oscillates Europe has caused disaffection among EU citizens damaging the European integration project, and has impinged upon the political and security framework of EU as an entity. Also, the economic crisis has put public budgets throughout the European Union under severe pressure and, according to a study of the European Parliament, current budgetary constraints for EU member states will remain in place at least until 2030. These budgetary constraints caused the delay of the development of Member States' military arsenals. The total defense spending of EU member states has declined by 14,5% since 2007 – 2015. EU Member States' average defense spending remains at 1,5% of GDP on defense, below the target of 2% of GDP agreed by NATO members. (European Parliament, 2016)

China, on the other hand, is the larger country in East Asia and the third larger country in the world, it is the most populous country on the world (Census Bureau, 2017), with a strong economy, being the first in purchasing power and the second in terms of GDP (World Bank, 2017) and the biggest manufacturer, trader and holder of foreign currency (IMF, 2019). The biggest achilles heel of China is its energy dependence; while it holds significant coal and oil resources and has advanced the penetration of Renewable Energy Sources in its energy mix, growing demand for energy, because of its significant growth, make it hard for the country to meet its energy needs without being significantly depended on external sources for its supply.

In addition, although numbers suggest a significant enforcement of China in terms of economic power, and the prospect of becoming number one in the years to come, the composition and sophistication of US and Chinese economies are not equal. China has a large underdeveloped countryside and faces a number of challenges in the domestic level, such as rapid urbanization. Also, although China is the first country in exports, a large part of them have low added value, and China lacks leading brands compared with the US, for which 19 of the top 25 global brands are American, and 46% of the top 500 transnational corporations are owned by Americans (Nye, 2015).

The strategic objectives of China, as expressed by its leaders since 2002 are the following: 1. Perpetuate Communist Party of China's rule, 2. maintain domestic stability, 3. sustain economic growth and development, 4. defend national sovereignty and territorial development, 5. defend national sovereignty and territorial integrity, 6. secure China's status as a great power and, ultimately, reacquiring regional preeminence, and safeguard China's interests abroad.

In order to achieve its goal of becoming a superpower, China is advancing its military capabilities, so to be worthy of a great power, through modernization of its army, which was highly out of date relatively to USA's the previous years. It is also seeking progressively to enhance its leadership in Asian affairs through mechanisms, like the proposed "New Asian Security Concept", in order to provide an alternative to its neighbors to US alliance and promote an attitude of regionalization (US Department of Defense, 2016). China's increasingly assertive efforts to advance its national sovereignty and territorial claims (Table 2.4 summarizes China's territorial disputes) and its efforts to create a large and modernized military, create security dilemmas for the states in the region, who will find it necessary to balance against the upcoming hegemon, either by increasing their own military capabilities (internal balancing) and/or by increasing their ties with the US to create a balancing coalition (external balancing). Territorial disputes of China concern the US, as some of these disputes involve US allies with whom there exist long-standing cooperation and security treaty commitments.

Disputed Area	Involved States
Arunachal Pradesh and Askai Chin borders	China and India
East China Sea – Continental Self and EEZ	China and Japan
Luconia Shoals	China and Malaysia
Paracel Islands	China and Vietnam
Reed Bank	China and Phillippines
Scarborough Reef	China and Philippines
Senkaku Islands	China, Japan and Taiwan
Spratly Islands	China, Taiwan, Malaysia, Philippines and Vietnam

Table 2.4: *People's Republic of China territorial disputes*, Data retrieved from: US DoD, 2016

China is also expanding its access to foreign ports to ease the deployment of Chinese forces in distant places, for example the Indian Ocean and the Mediterranean, and has publicly confirmed its intention to build military bases in Djibouti, to ease its

efforts of participating in UN peacekeeping operations and enhancing security in the Gulf of Aden. This Chinese initiative both reflects China's growing geopolitical reach and aspirations, and extending the scope of Chinese influence across the globe. (US Department of Defense, 2016)

The Rand Corporation has published an annual report for the Military and Security Developments involving the People's Republic of China. In this report they explore the balance between US and China in all areas of military resources and capabilities: air bases, air-to-air capabilities, penetration of Chinese airspace, anti-surface warfare, counter-space systems and nuclear stability. The report concludes that the Chinese military has made improvements, for example to its ballistic missiles, *"that have come extraordinary quick by any historical standard".* In some areas, improvements such as the capabilities of Chinese missiles, aircraft and submarines have dramatically outstripped improvements to the survivability of the equivalent US forces, and a remarkable progress has been made in air defense capabilities, which used to be significantly out of date in the previous decade. In addition, the dependence on foreign sources for the modernization and armament of the Chinese military has declined, as its domestic defense industry has since evolved to the point that it can indigenously produce many elements of air defense equipment. Of course, the USA has still a better arsenal in terms of numbers, quality and sophistication, and in some military areas, for example air-to-air capabilities, China is still behind.

More specifically, China can be effective in wars in its close territory, but operating at greater distances is not yet possible. Also, gaining local or temporary superiority against the US in its close territories will take some time. However, even without superiority it can still achieve regional objectives and undermine US deterrence and its prestige as a powerful ally, as to defeat them will require more protracted conflict. Also, taking into account the constant modernization and the overall capability of the Chinese economy to support an expensive military program, this desired superiority may not be far away, concerning the local level. The Rand's report is estimating that point to come around 2020. (RAND, 2015)

The above points indicate that China, is transforming itself to a significant challenger of US hegemony in East Asia, and the obstacles of the previous years and power imbalances it used to have, now are being declined, with the prospect to further decline or in the worst case for the US, to come to parity.

2.2 Prevent the unity of Eurasia

The second pillar is the prevention of the unity of Eurasia, to wit the emergence of a single superpower or coalition which would control the Euro-Asian region (Gray, 2008, Brzezinksi, 2004). The significance of the wider Euro-Asian region for the international system has been pointed out by many scholars in the past, making it one of the most diachronic arguments of international relations analysis.

Sir Halford Mackinder suggests that the region that starts from East Europe until the Siberian fields, as "Heartland". The Heartland holds the central strategic position in the international chessboard and possesses uncountable resources. Its dynamic is based on the fact that it is inaccessible from both the south, due to mountain ranges and the north, due to frosts and offers agility to ground forces (Koliopoulos, 2010). The Heartland is surrounded by the inner crescent, which includes countries of the perimeter of Eurasia. It is also surrounded by the outer crescent which includes countries like Great Britain, South Africa, Japan etc. Mackinder's theory claims that whoever rules East Europe controls the Heartland, whoever controls the Heartland controls the global isle and whoever controls the global isle controls the whole world.

Nicholas Spykman criticized Mackinder's theory by claiming that the Rimland could be proved by strategic view more important than the Heartland, mainly along the region of Eurasia. Whoever controls the Rimland controls the Heartland and whoever controls the Heartland controls the whole world. Zbignew Brzezinsky, in his work *"The Grand Chessboard"*, claims that Eurasia is the center of the world and just like Mackinder, by following the same reasoning, concludes that whoever controls the center of the world controls the whole world. According to him, the United States are the first and sole superpower, without the consent and the participation of which, important Eurasian issues could not be solved. Consequently, if the United States want to continue to hold a leading role in the international system, they should maintain their control over Eurasia. (Brzezinsky, 1997, Koliopoulos, 2010)

In order to maintain their control, it is imperative that no Eurasian challenger emerges, capable of dominating Eurasia and thus also of challenging America. In Eurasia lie 12 of the 15 most productive states of the world, 69,52% of world's population (59,63% in Asia and 9,89% in Europe) (Statista, 2017), two of the most rich in energy reserves regions, the Middle East and Russia (BP, 2017) and 15 out of 20 of the most powerful armies (10 in Asia and 5 in Europe) (Business Insider, 2015).

One could argue that, as the development in Europe is relatively stagnant, and the most rapid growth rates, along with the energy demand and simultaneously the energy resources concentration is being identified in Asia, the first compound “Eur” is not necessary for fearing the unity of Eur-Asia.

The domination of Eurasia by one single power is not an easy thing to happen. However, even unity in-part, or strong influence to part of the region by one player is dangerous. According to the current status quo, the USA is prevailing in terms of power; however, in the event of the creation of a strong alliance among some states, the position of the US would be worse. (Brzezinsky, 2003)

Japan, Russia and India are states with remarkable economic resources, though with differences in size of the economy and different growth rates. However, none of these states possess the necessary combination of economic and military power to challenge the US on its own. In the event that the US were to withdraw from the region, each state would have a reason to join a Chinese bandwagon, in order to gain some benefits from the emerging superpower, than being threatened by it. With the exception of Japan, with which there are territorial disputes between the two countries, the cooperation between the other two and China has been reinforced the past years, through trade, the UN Security Council and BRICS. However, it is more likely that these states, or some of them, would form an alliance along with the US to counter Chinese rise, as these states are in the same periphery and share borders with China, so it is more of an immediate threat than a potential ally. (Nye, 2015)

The fact that China, as discussed in the previous subsection, cannot become a competitor to the US on a global basis, at least in the short or medium term, does not mean that it could not challenge the US in Asia, but, as mentioned earlier, the rise of Chinese power in Asia is contested by India, Japan and Russia, and that provides a major advantage to the US. The US-Japan alliance is an important impediment to Chinese ambitions, as is improvement in US-India relations and India-Japan relations. This means that in the great power politics of the region, China cannot easily expel the US, or achieve a great influence to control the Eurasian land. (Nye, 2015)

Also, according to Brzezinsky, a threat derived by the economic growth and military advancement of China is that it facilitates the mobilization of political support of its large and economically powerful diaspora in Singapore, Bangkok, Kuala Lumpur, Manila and Jakarta, Taiwan and Hong Kong. (Brzezinsky, 2004)

Iran is also a very important player, as it is a wealthy and assertive state and the only state in the Middle East region, along with Saudi Arabia, that can be considered as a potential regional big power. Also, as mentioned before, China's weakest spot is energy, thus creating spheres of influence in the region which supply to it the most oil is very important. The relations between Iran and the US are still hostile, especially after the U.S. exit from the JCPOA. China was a very important actor for Iran during the sanctions regime, and it can be argued that Iran needs China and its great market to sell its oil and natural gas and recover from the past years of hardship caused by the sanctions. Similarly, Iran, can be an important ally for China, not only for its natural resources China needs so badly, but also as it controls the Strait of Hormuz, a chokepoint which is very important for Chinese energy security. Also, it could expand its geopolitical range through alliance with Pakistan, India's number one competitor, and thus penetrate more into central Asia. An Iranian-Pakistani-Chinese pipeline would be a good alternate path for China, as it would reduce its maritime-transported supply, which represents risks, and would also be an alternative to a Russian pipeline.

Thus, American presence and engagement in the Eurasian region is a core component of US geostrategy, as it is a prerequisite to achieve one of its main interests – staying the first and sole superpower of the international system. In Eurasia in general, the US, as we mentioned, has to prevent another superpower or coalition from emerging and taking control of the whole region. On the contrary, as Robert J. Art puts it, the US has little interest in preventing non-great power wars in Eurasia and should stay out of them to the extent possible. In case there is the risk of great power war, nuclear weapons proliferation, or an immediate threat or attack to a US ally, it might be necessary for the US to intervene (Art, 2003).

2.3 Protection of energy resources

The third pillar is protecting oil resources from falling in the hands of hostile actors. America does not want main oil producers, like Saudi Arabia to face domestic instability, it does not want someone else to control the diodes where oil transportation takes place and it does not want concentration of production to one or two states.

The region of Middle East is a significant region, as the developments there are constant, history is being written there every day. Middle East is the soft

underbelly of the international system, as a region of significant geostrategic position, rich in natural resources, but too instable, resulting to the need of someone to impose order, a very difficult and costly job. The US has two major interests in the area of Middle East. Three of those interests, energy, nuclear non-proliferation and counter-terrorism, are traditional national security interests, which fall into the realm of grand strategy (Art, 2008).

The interest of the US in the Persian Gulf regarding energy arises from the energy resources concentrated there. Table 2.5 shows the concentration of energy reserves in Middle East.

Middle East	Quantity	World Share (%)
Proved oil reserves	109,3 TMT	47,6
Oil production	1481,1 MT	33,8
Proved gas reserves	79,1 TCM	40,9
Gas production	659,9 BCM	17,9

Table 2.5: *Middle East's energy resources, 2017*, Data retrieved from: BP Statistical Review of World Energy, 2018

The US economy does not in any narrow sense depend on the energy resources of the Persian Gulf, which was the source of only 20% of US oil imports in 2012 (EIA, 2017). US dependence on energy imports more generally is gradually falling, due mainly to the introduction of shale technology to extract natural gas and oil domestically. However, the oil market is global, so if Gulf oil were to disappear from the market, the price for oil worldwide would increase and the US would pay more for energy. Households would have to pay more for heating and transportation and businesses which use fuel as an input, would face increase in their total costs. Consequently, oil price increases directly affect the prices of goods made with petroleum products or for goods produced by businesses which use oil as an input, as businesses in general use to pass production costs to consumers. So, oil prices in high levels for a prolonged period may lead to inflation and reduce demand of goods and services. Of course, the duration of the period of high oil prices is very important when measuring the effect they have on the economy; however, five of the last seven US recessions burst out after a prolonged period of high oil prices. (Federal Reserve Bank of San Francisco, 2017)

Year	Average Price	Lowest Price	Highest Price	Event
1990	$24,53	$15,15	$32,88	Gulf War
2001	$25,98	$15,95	$24,63	September 11 and Invasion of Iraq
2002	$26,18	$17,04	$27,14	
2003	$31,08	$24,48	$32,23	
2011	$94,88	$87,61	$107,98	Arab Spring
2012	$94,88	$92,99	$108,54	Iran events
2013	$97,98	$90,36	$104,16	Iran threatens to close Hormuz

Table 2.6: *Historical events in the Middle East that affected international oil prices*, Source: The Balance, 2017

Control over energy resources is also a matter of power. Big powers seek to prevent rival big powers from dominating the wealthy regions of the world. Sometimes they try to dominate themselves in these areas, but, if not, at least they try to ensure that none of them gets under the control of a rival force. (Mearsheimer, 2009) Because most of the Arab oil producers are relatively small states, they are vulnerable to domination by a greater power. Also, if Gulf oil was dominated by one single state, this state would hold a strong position to play with oil prices, as it would have so much oil in its possession, it would be feasible and possible for it to forgo oil income and manipulate oil prices for fulfilling its own interests. The US should thus make sure that Middle East reserves are divided among more than one regional actors and if possible the more the better so to reduce the possibility of collusion. (Art, 2003)

The above statement summarizes the reason that the US intervened in the Persian Gulf War. The invasion of Iraq to Kuwait would mean that Iraq might be in the position to control or affect the oil policy of Saudi Arabia through threats. If by using its army, Iraq could manipulate the energy policies of Saudi Arabia and the other small producers of the Middle East, it could control half of the global oil production. (Miller and Mylroie, 1990) Also, the occupation of the Kuwaiti oil fields would enforce significantly the relevant weight of Iraq in OPEC (Calvocoressi 2009).

In general, for the exact aforementioned reasons, the US has followed a balance of power strategy in the Persian Gulf, first favoring Iran, when Iraq looked stronger, then Iraq, when Iran looked stronger, while protecting the Kuwaiti and Saudi oil from falling in the hands of either one of them. (Art, 2003)

2.4 Protection of the seas

The fourth one is the protection of the seas. The USA wants to have the role of the Master of the Seas, thus of the international trade. For doing so, it must keep safe the main international sea lanes and chokepoints of international trade, in order to have in control the international trade and in extent of the international energy trade. The significance of international sea lanes to energy trade is paramount. An amount of 61% of the world's oil and other liquids moved in oil tankers via maritime routes in 2015 (EIA, 2016). In 2016, total globally-traded LNG volumes reached 258MT, a 13.1MT increase over 2015, the highest growth rate since 2011, and new record for global LNG trade. In fact, this record is expected to be broken repeatedly over the next few years as additional liquefaction plants will come online (International Gas Union, 2017).

In Asia, or neighboring to, lie three chokepoints, the Suez Canal (located in Egypt and connecting the Red Sea and Gulf of Suez with the Mediterranean), the Strait of Hormuz (located between Oman and Iran and connecting the Gulf of Oman and the Arabian Sea), the strait of Bad – El Mandab (located between Yemen, Djibouti, and Eritrea connecting the Red Sea with the Gulf of Aden and the Arabian Sea), and the Strait of Malacca, linking the Indian and Pacific Oceans, through which is transferred in total the 72,31% of global oil transports (EIA, 2016). These high rates derive from the fact that oil production is concentrated close to the shores of the gulf nations and thus it is efficient to ship the oil out by tanker.

Map 2.1: *Suez Canal, Bad-El Mandab, Strait of Hormuz,* Source: Google Maps

Map 2.2: *Strait of Malacca,* Source: Google Maps

A chokepoint is defined as a strategic narrow route providing passage through or to another region (EIA, 2016). Their physical formation makes them insecure as diodes, as they are vulnerable to piracy and terrorist attacks. Especially in the Middle

East, where the political unrest and extremist practices are permanent, the preservation of security for oil transportation is of great importance. There is also the threat of blocking a chokepoint by the regional states, as a pressure lever to assert their national interests, with implications for the global market, as it pushes prices upwards and adds thousands of miles of transit in alternative routes, while it increases the cost of premiums. Apart from the loses of lost cargo, piracy and terrorist attacks increase the cost of maritime transport, due to the rise of the cost of premiums by insurance companies and higher ship leasing costs. (Benanssi and Zarzoso, 2013)

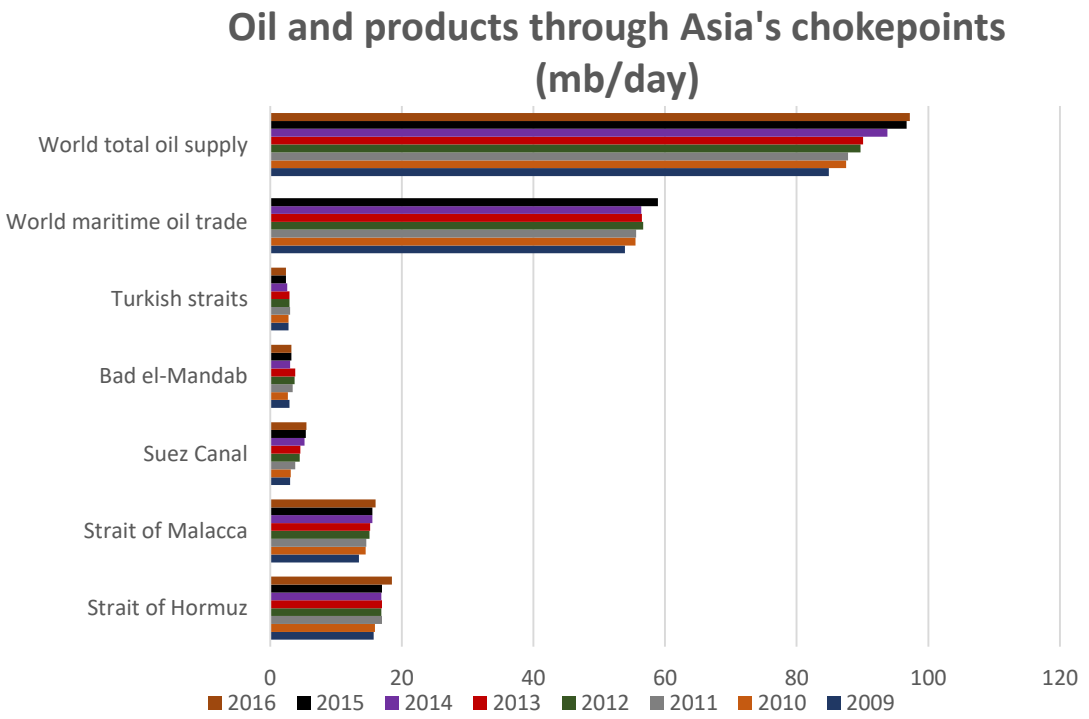

Figure 2.1: *Oil and Products Transported through Asia's Chokepoints (million barrels/day),*
Source: Energy Information Administration, 2016

International maritime piracy and terrorist attacks at sea are disruptive phenomena for international trade, as they increase the insecurity of the transportation of goods through certain diodes. During the Arab Spring there has been a bunch of incidents, for example the attack at the vessel COSCO Asia (Reuters, 2013) in the Suez Canal and the air attack at a Greek oil tanker at Libya's ports (Reuters, 2015), which resulted to the increase of uncertainty in the region. Somali piracy has been the case for many years in the Gulf of Aden. Somalia has been suffering from civil war and instability for decades, which along with the economic situation of its people and

the corruption in political cycles, resulted to the rise of piracy in extremely disruptive levels for the international trade (Duda and Szubrycht, 2009). Specifically, international trade between Europe and Asia had a loss of 17 billion euro in 2008, due to maritime piracy in the Gulf of Aden (Benanssi and Martinez-Zarzoso, 2013).

The Iranian government has many times in the past used the closure of the Strait of Hormuz in its rhetoric, but has not in fact proceeded with this action. A closure of the Strait of Hormuz, one of the most important diodes for maritime transport globally, as it is the only maritime exit of the Persian Gulf, would cause the immediate increase of oil prices and a supply shock, whose extent depends on the duration of the closure and the events following it. However, even without an actual closure, prices can still be affected, if a military conflict in the area is being real or feared.

2.5 Proliferation of Nuclear Weapons

The fifth pillar is the restriction of nuclear proliferation. They do not want a proliferation because, on the one hand, for some analysts it increases the possibility of a nuclear attack, but most importantly, nuclear weapons provide the nuclear state with much power, which would have been impossible, had it not had nuclear weapons.

They stopped the nuclear programs of many states, including Belarus, Kazakhstan, Ukraine, and South Africa, which states finally joined the NPT. Iraq's nuclear program ended as it was forced to verifiably dismantle it under the supervision of UN inspectors. Libya, Argentina, Brazil, South Korea, and Taiwan also abandoned nuclear weapons programs. (Arms Control, 2017)

The chances that nuclear weapons will be fired in anger or accidentally exploded in a way that prompts a nuclear exchange are finite, though unknown. Those chances increase as the number of nuclear states increase. If the supply of states of good character is limited as widely thought, then the larger the number of nuclear states the greater the chances of nuclear war become. If nuclear weapons are acquired by countries whose governments totter and frequently fall, should we not worry more about the world's destruction than we do now? And if nuclear weapons are acquired by two states that are traditional and bitter rivals, should that not also foster our concern? (Waltz) According to the opposite view, nuclear weapons strengthen stability in the region they exist, as rival powers which possess nuclear weapons fear that aggressive behavior may cause the opposite side to fire them, and the other side

by its position fears that should it attack with nuclear weapons it would face strong retaliation which would destroy its state. Consequently, nuclear weapons make the ones who hold them more careful in its international actions.

The main problem with nuclear weapons and the main reason that the US denies the right of other states to acquire them is that they can give a state outstanding power, making it easy for a small power to transform to a power capable of severely battering a big power. Also, states with nuclear weapons cannot be easily militarily defeated nor diplomatically controlled. As a consequence, any military attempt against a nuclear state would risk the burst of a nuclear war. (Art, 2008)

Nuclear Weapons proliferation is a very important issue of international relations, and an ever growing challenge, with lots of security, power and ethical extension. However, this matter exceeds the purpose of this thesis and it will not be discussed in detail.

2.6 Suppression of terrorist organizations

The sixth pillar is the suppression of the terrorist organizations that threaten the US. The combination of the fifth and the sixth pillar, to wit terrorist attack with nuclear weapons, is America's total nightmare. For example, the 4th airplane of the terrorist attack of 9/11 is said to have had a different target, the Three Mile Island nuclear power plant. If the airplane had actually hit this nuclear plant, the fatality count of 9/11 would have been increased by hundreds (Grundy, 2017).

The US, as the sole superpower in the international system, and an actor that has been acting as the protector of world order, is maybe the most attractive target for terrorist organizations. As Robert Kagan has put it, *"outlaws shoot sheriffs, not saloonkeepers"* (Gray, 2008)

Terrorism is also a very important matter and highly topical these days, with also many extensions, but we will focus shortly just to the extent it affects international energy markets. The significant role of oil in economic growth has made energy infrastructure an attractive target for terrorist organizations. As energy markets globally are in fact interconnected, a sudden supply disruption affects many different countries and implies shortages if the supply is not restored before the depletion of stored reserves. Also, the only way to keep the market balanced, except for filling the gaps with spare capacities of oil producing states, is the increase in oil prices, which, added to the rise of the cost of premiums by insurance companies, may have a strong

impact on importing countries' economies. So, terrorist groups find attacks on energy infrastructure an easy way to attract global attention and publicity, cause wide economic damage to the Western economy and disrupt producing countries' government revenue.

According to the US State Department, between 1996 and 2004 there were at least 80 terrorist attacks against oil companies worldwide (Giroux, 2009). Also, data drawn from the Energy Infrastructure Attack Database shows that between 2000-2010 there were on average nearly 400 annual attacks on energy infrastructure worldwide, which means 200 more than the decade before (Giroux et al, 2013). In fact, in the past, terrorist group Al-Qaeda has included in its rhetoric declarations the role of energy infrastructure as the best target for its operations. Indicative, a part of Sheikh Abdullah bin Nasir al-Rashid's "The Laws of targeting Petroleum-Related Interests and a Review of the Laws Pertaining to the Economic Jihad", focuses on the importance of the oil industry and facilities and the impact that destroying them would have at the modern industrial world and the economies of the industrialized infidel countries, while calling for the mujahedeen to target these facilities.

2.7 Conclusion and basic points of the chapter

The above analysis was focused on the main objectives of modern American geostrategy and how it is correlated with energy matters. We see that Asia is a very important region when it comes to international relations and energy concerns of the United States, as it includes important maritime diodes of international energy trade, the region with the larger oil and natural gas resources, Middle East and Russia, and a large consumer and recovering power, China. It is also the region with the most assertive states of the international system that concern the United States, and in some parts, a very fragile region, where instability and conflict are always present and can affect the United States' power status, economy, alliances and influence.

The Chapter had the purpose to outline the American objectives in Asia, to serve as an introduction to the overall picture of the region, the balance of power equation, and the main states' place in the region, so to continue in a logical sequence with the next chapter, which includes the energy environment in Asia after the shale revolution. Specifically, it explores what has changed and what remains unchanged in Asia, after the USA became an energy exporter, and what are the geopolitical implications of this change for the involved states.

CHAPTER 3

The Asian energy landscape after the «shale revolution»

3.1 Swifts in power in the energy sector of the USA and the main Asian states

The oil production of the four largest oil producing states, namely the USA, Russia, Saudi Arabia, Iran and Iraq, provides us a first image of the potential of the US to be an energy superpower. The US oil production is gradually and significantly rising since the wake of the "shale revolution" in 2011 reaching to the point in 2014 to acquire the first place in the largest producing states ranking, surpassing both Russia and Saudi Arabia for the first time since 1974. The rise in production of the other energy producers follows about the same pace, with the exception of Iran, which faced a decline in production since 2011, due to the sanctions imposed by the West. (Figure 3.1)

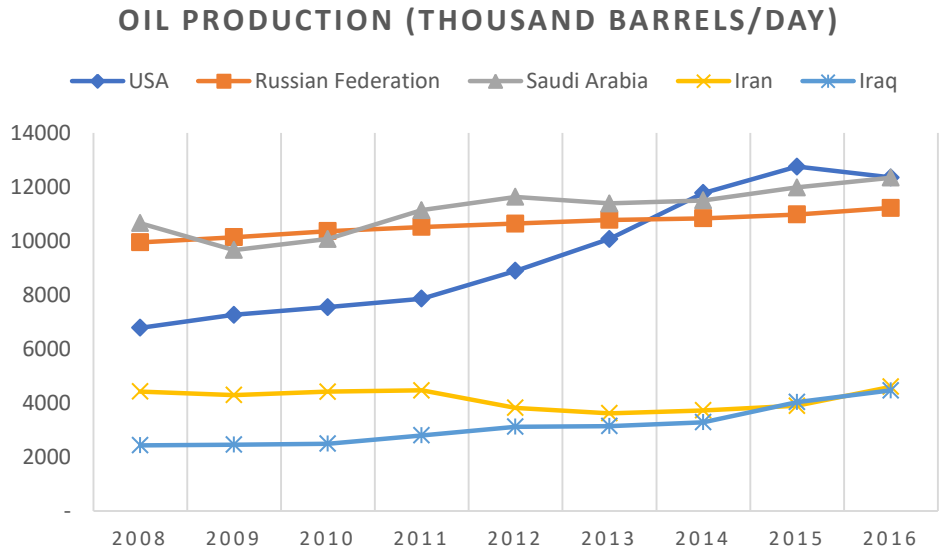

Figure 3.1: *Evolution of oil production of top 5 producing states in thousand barrels per day*, Data retrieved from BP Statistical Review of World Energy 2017

The production of natural gas follows the same story. Since 2009 the USA has surpassed Russia in natural gas production and while the tendency of US production is upwards, this is not the case for Russia, which faces a stagnant production (Figure 3.2).

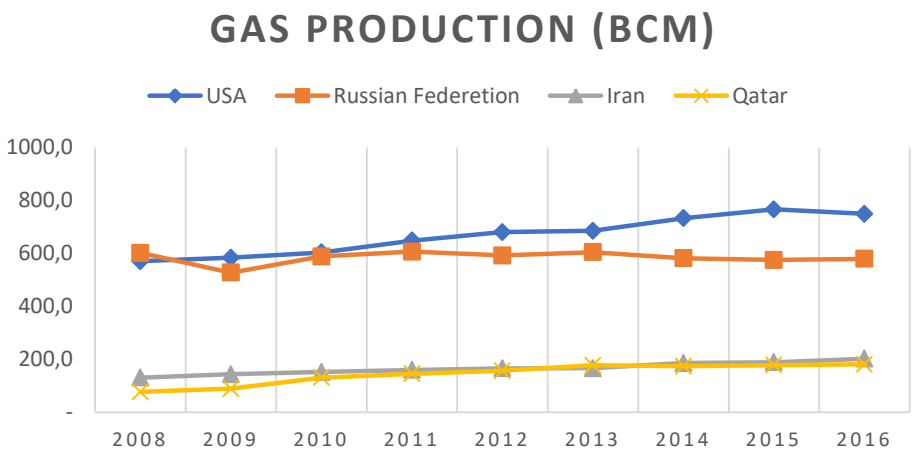

Figure 3.2: *Evolution of natural gas production of top 4 producers*, Data retrieved from BP Statistical Review of World Energy 2017

However, the leading role of USA in hydrocarbon production has not yet been translated into a leading role in hydrocarbon exports. Russia and Saudi Arabia are still the competing leaders in oil exports with the US following right from behind, yet sure facing a gradual increase in its exports since 2010.

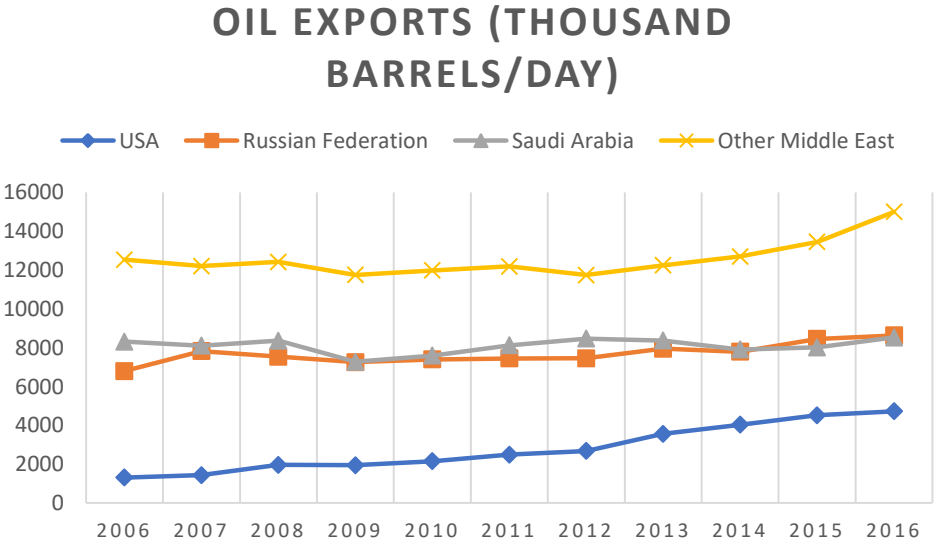

Figure 4: *Evolution of oil exports for the top 4 exporting regions*, Data retrieved from Energy Information Administration, 2017

The USA used to prohibit exports of crude oil and condensate, though such restrictions were fewer on natural gas; exports are free to countries with which the USA has a Free Trade Agreement. Also, several LNG export projects are on track to

be developed, for example Cheniere's liquefaction terminal in Corpus Christie bay. (Rognerud, 2015)

Nevertheless, the area of the Middle East as a whole is by far the first region in terms of oil production and exports, an area of vital importance for the stability of the global energy markets. Despite the US "shale revolution", the Middle East is expected to remain the leader in oil production globally. Reduced oil imports may have decreased Middle Easter producers' leverage over the US and the vulnerability of the US to supply shocks, but the US are still affected by price fluctuations. (Andrijanic, 2015)

In addition, due to significant Qatari production, the Middle East was the leader in LNG exports from 2010 to 2015. However, in 2016 the Asia-Pacific returned to the first place, with 38,6% of total exports, as several new liquefaction plants came online and in the Middle East, which represented the 35,3% of total exports, Yemen's production was off, due to political unrest in the domestic level. Qatar still remains the leader in LNG exports, with 30% of total exports. (International Gas Union, 2017)

The increasing US exports are generally diversified, destined to 31 countries across the globe; however, we see a dominant position of Canada in US exports, possessing the 60% of its total exports. This makes Canada profoundly the most significant partner of the US in oil trade. This is a logical consequence, as states, when they are not engaged in some sort of conflict tend to trade a great deal with those states that have the money to buy and the goods or resources to sell. When proximity and richness coincide, as in the case of USA and Canada, trade can become highly concentrated (Cagan, 2008). The volumes of the rest of its exports are relatively equally distributed, with no country possessing more than 10% of its total exports, meaning that the position of the US as an energy provider to these states is in no way vulnerable. However, in order to define the balance between the US and its trade partners we ought to explore the gravity of US imports in the states receiving them.

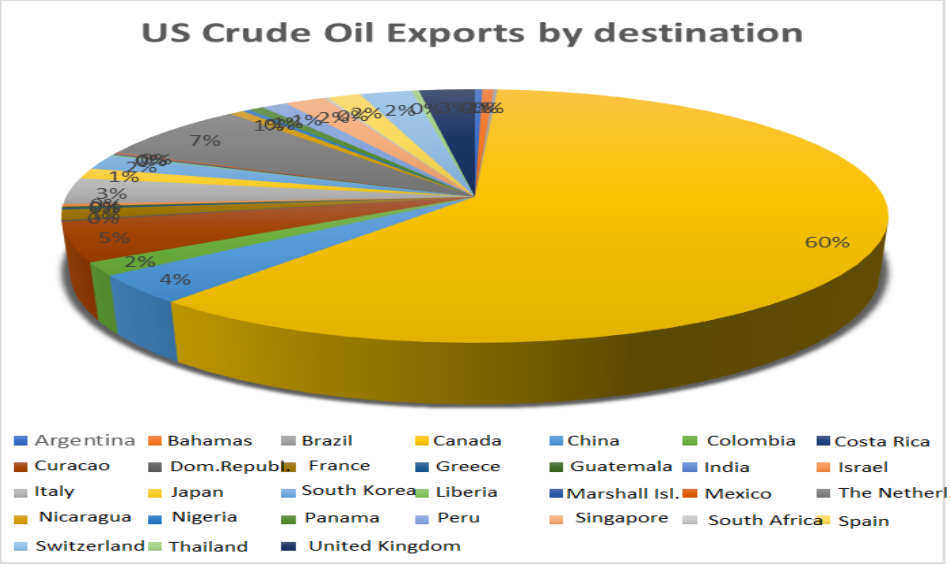

Figure 3.5: *USA's crude oil exports by country of destination for 2016*, Data retrieved from Energy Information Administration, 2017

Its natural gas exports are mainly through pipeline to Canada and Mexico, while LNG exports are still a small part of the US' overall exports, as shown in Figure 6. The blue line in Figure 3.6 depicts the CNG exports to Canada and some re-exports of natural gas, mainly to Mexico and Canada. The role of LNG in US energy exports is therefore minimum compared to its potential, however, as more projects are developed it is expected to increase and in fact possess a strong position in US' natural gas trade.

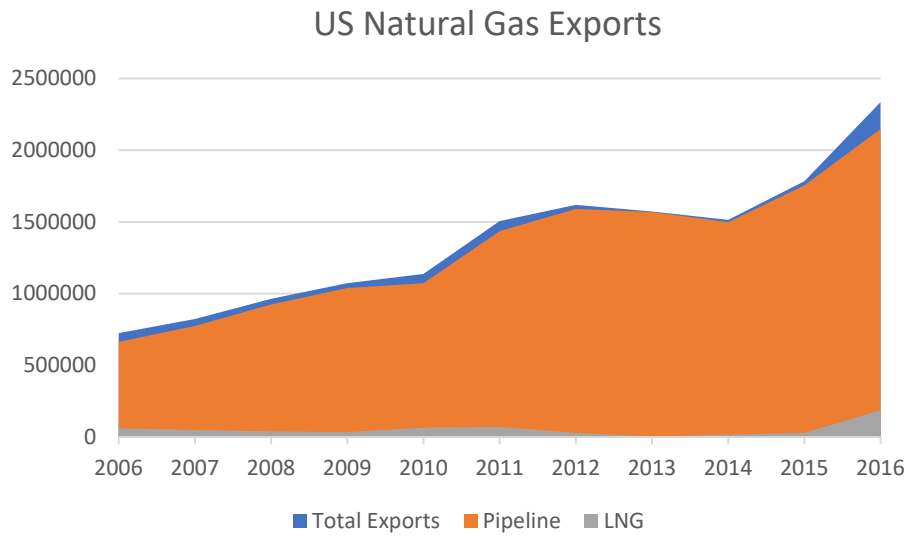

Figure 3.6: *USA's natural gas exports by fuel type,* Data retrieved from Energy Information Administration, 2017

49,7% of the capacity of LNG liquefaction plants under-construction is located in the USA and accounts for 57,6 MT/year. The International Gas Union projects that the United States will be the primary source of incremental liquefaction capacity over the next five years. Currently, the US exports from two trains at Sabine Pass LNG. The Kenai LNG project in Alaska was used in the past for the exportation of small volumes, but in 2016 it was not. To date, there are six projects under construction, three of which are expected to operate by 2019.

As shown in Figure 3.7, US LNG exports are, like in the case of oil exports, in a fair extent diversified, with no state possessing a large percentage of US exports. However, Canada remains its most significant partner in the case of natural gas trade, as it receives the vast majority of the gas exported via pipeline, with Mexico receiving only a small part of the overall natural gas exports.

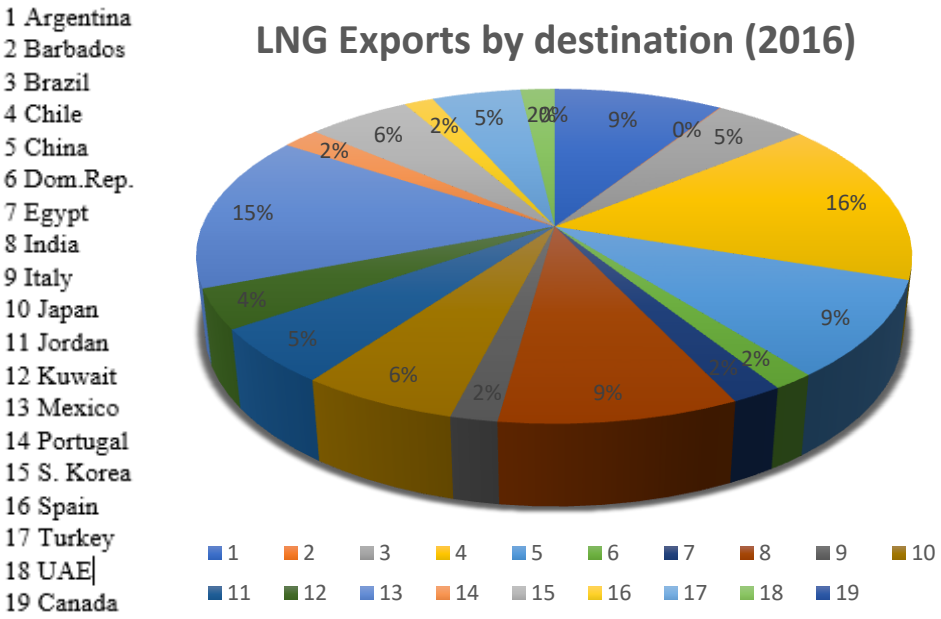

Figure 3.7: *USA's natural gas export by country of destination for 2016*, Data retrieved from Energy Information Administration, 2017

Figures 3.8 and 3.9 show the followed reduction in US imports of oil and natural gas, naturally caused by its increased production and the economic recession of 2008. We see that the sharpest fall is caused in LNG imports, which are by 88.5% less than their highest reach in 2007. The natural gas imports via pipeline are also reduced, however in a much smaller rate

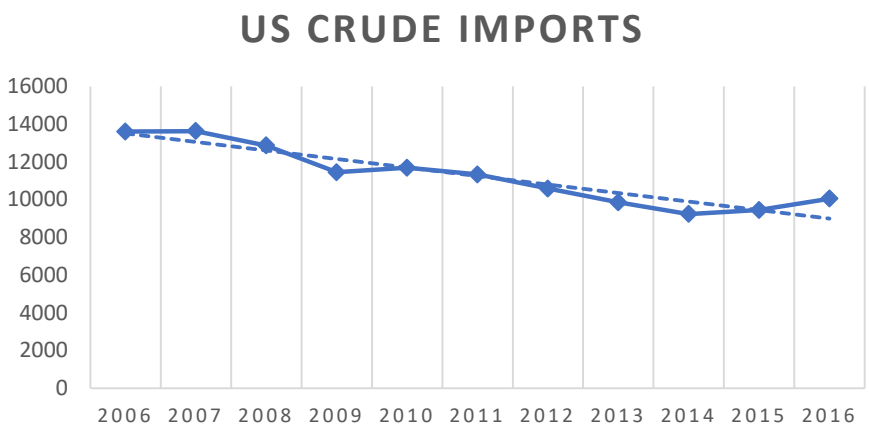

Figure 3.8: *Evolution of USA's crude oil imports*, Data retrieved from Energy Information Administration, 2017

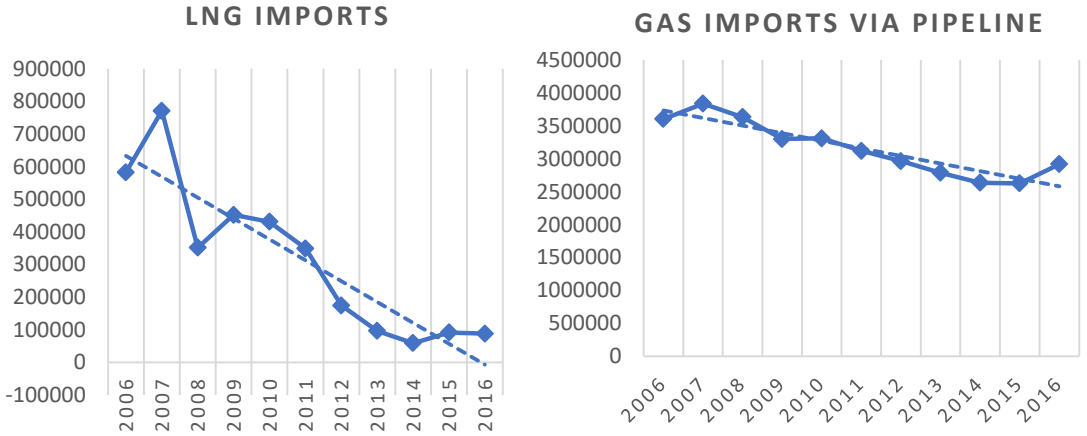

Figure 3.9: *Evolution of USA's LNG and natural gas imports,* Data retrieved from Energy Information Administration, 2017

The decline in LNG imports has affected all its previous significant exporters. The most profound reduction is in the case of Trinidad and Tobago, whose exports to USA has fallen by 81.2% in 2016 from its highest rate in 2007. Also, the other states which were exporting steadily some amounts of LNG to the US market, especially after 2011 are being used to fill the needs of the US in natural gas in periods of peak demand. In other cases, the exports to USA have been totally terminated. The decline in exports directed to the USA left the LNG free for export to other regions. Especially in the case of Middle East suppliers and more particularly Qatar, the available LNG is mostly directed to Europe, fact that lead to a decrease in pipeline imports from Russia giving the Russian energy market a shock. (Kropatcheva, 2013, Rognerud, 2015)

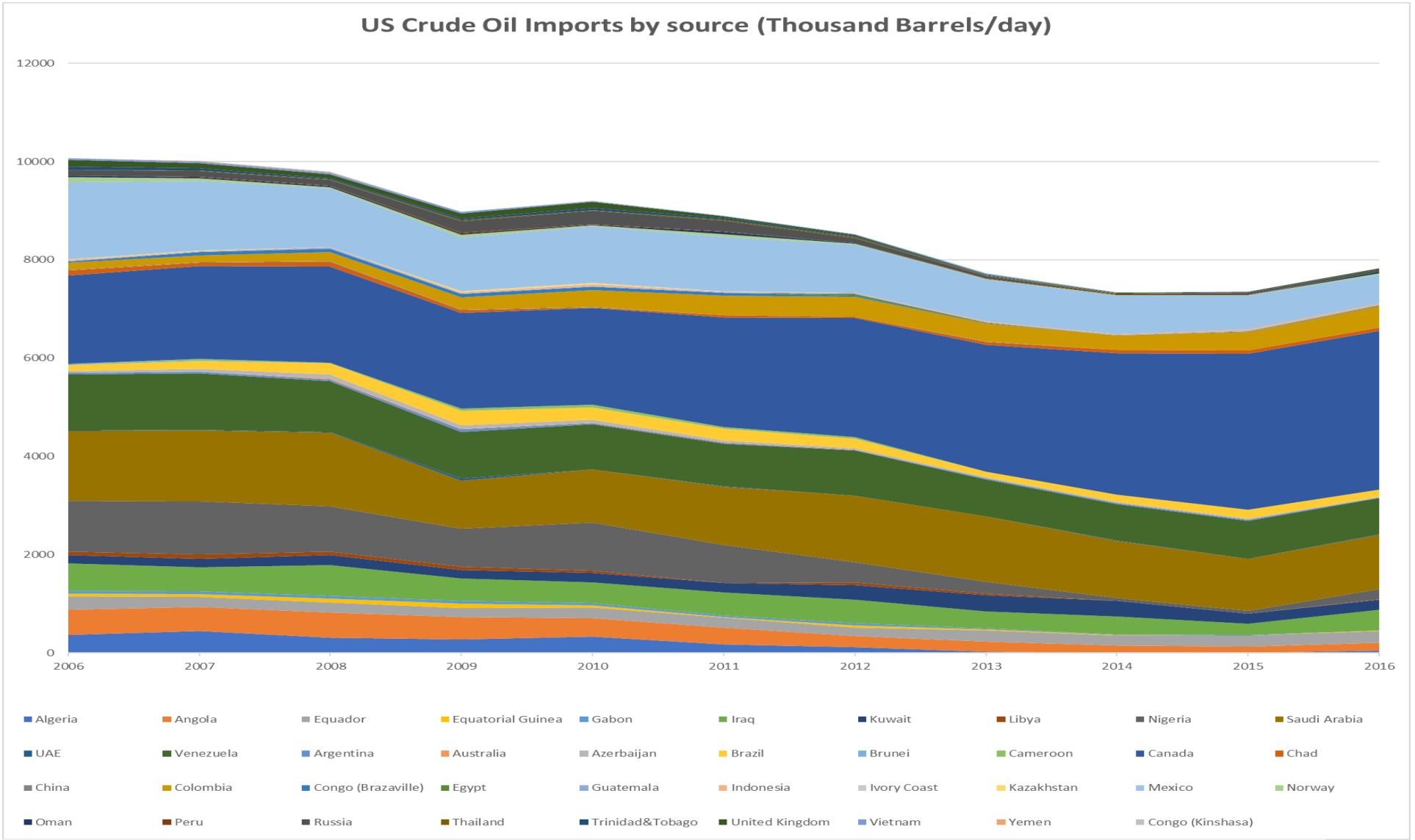

Figure 3.10: *Evolution of USA's crude oil imports by country of origin*, Data retrieved from Energy Information Administration, 2017

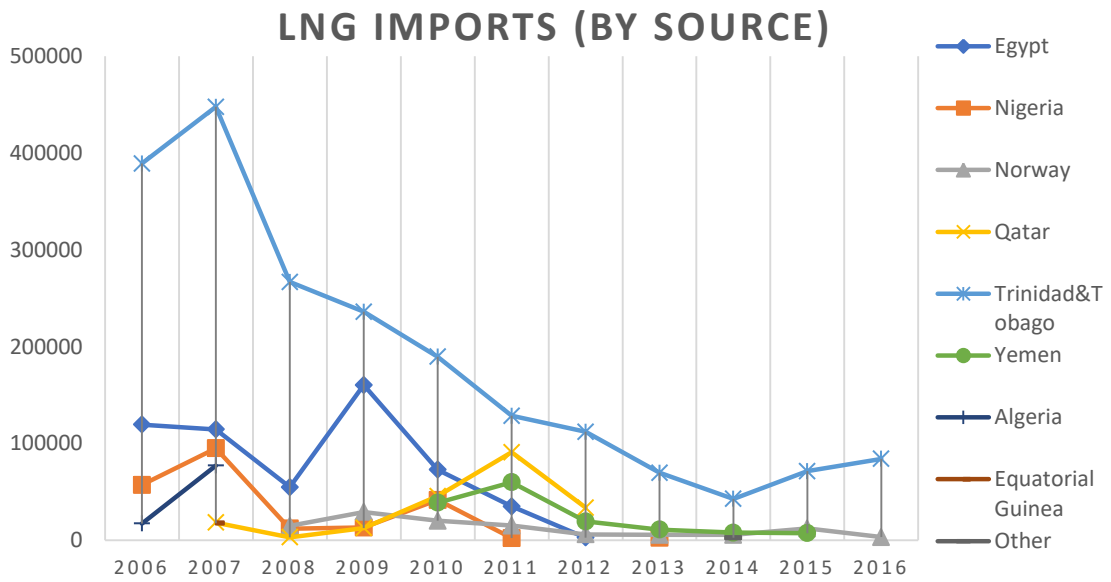

Figure 3.11: *Evolution of USA's LNG imports by country of origin,* Data retrieved from Energy Information Administration, 2017

The increased production of US hydrocarbons, followed by the increased oil and gas traded in the international energy markets resulted in a fall of oil and gas prices. The Brent spot prices follow in reverse the increased oil exports of the USA, with the sharpest fall to happen in 2014. The previous years, oil prices remained in relatively high levels, due to the events of the Arab Spring, which destabilized the region and caused significant disruptions, due to attacks in energy infrastructure and from the general sense in the oil market, where in the presence of turmoil, or even in the fear of it, oil prices tend to rise, even if no physical disruptions take place. In fact, the US "shale revolution" operated as a stabilizing factor for the oil and gas markets, as it helped to fill the market with the lost energy caused by the Arab uprisings. As the events of the Arab Spring ended and the stability in their oil markets was restored, the international markets responded and the oil price dropped to its lowest levels of the previous decade. The fall in oil prices was further enhanced by the lift of the sanctions imposed against the Islamic Republic of Iran and its return to the oil trade. In January 2016, when the sanctions were lifted, Iran added to the market 4 million barrels per day (CNN, 2016); its exports were increasing every month and just 4 months after the sanctions almost reached pre sanctions level high. (Reuters, 2016)

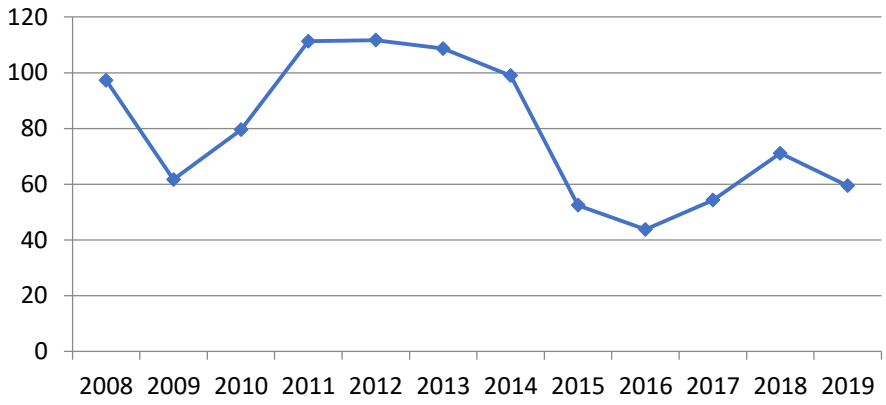

Figure 3.12: *Evolution of Brent spot prices*, Data retrieved from Energy Information Administration, 2019

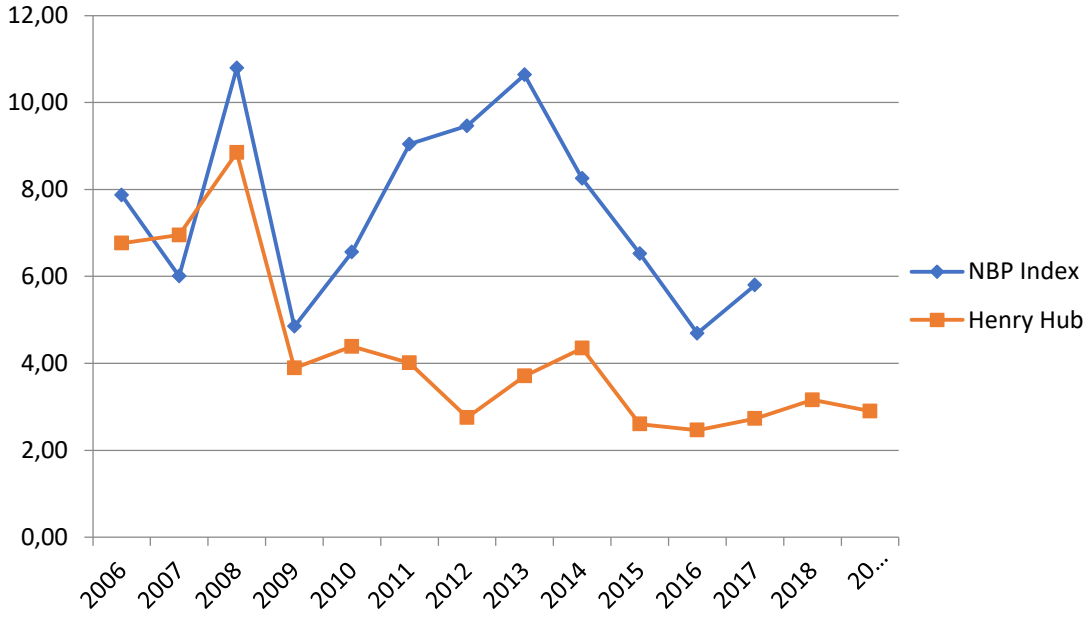

Figure 3.13: *Evolution of natural gas spot prices at NBP and Henry Hub*, Data retrieved from Energy Information Administration, 2019

If the new round of US sanctions were to result in the same size of losses in Iranian production as in 2012, the impact on oil prices under current market conditions would be twice as large. Although even conservative estimates of the potential Iranian losses did not eliminate the risk of sharp oil price rises (Fattouh 2018; Fattouh and Economou, 2018), the increase was not as dramatic as it was predicted.

As more projects develop, the significant US gas volumes which are assumed to reach the global market would further increase the likelihood of more flexible price

indexation in Asia, where gas supply is based on long-term contracts with oil-linked prices, like in the case of Europe (Rognerud, 2015). Increased liquidity and exchange between North American, European and Asian markets could cause further decline to prices in Asia in the decade ahead (Blackwill and Harris, 2016). Delinking from oil will be a complex and time-consuming scheme and it is not likely to be implemented in the short term; however, reductions in prices would cause buyers, especially businesses which use natural gas as an immediate input, to re-negotiate these contracts in the context of unforeseen circumstances.

3.2 The consequences of the "shale revolution" for the USA and the main Asian states.

The "shale revolution" has affected the US economy obviously in positive way. The decrease in USA's imports has significantly improved the US trade balance. In addition, it is estimated that the shale boom has already helped generate an additional 135.000 high wage jobs from 2007-2012 and it is estimated that the development of new infrastructure could generate another 1,7 million jobs (Rognerund, 2015). Also, the manufacturing sector, which uses gas as an input has benefited the most from the "shale revolution" (Andrijanic, 2015, Rognerund, 2015), and same is the case for petrochemicals (Andriajanic, 2015). In general, gas-fueled industries have reduced their production costs to a level that comes close to that of China. The fiscal revenue coming from the energy sector, in the form of employee income tax, corporate profits tax and royalty payments, reaches $62 billion, while the Federal Government's share, $31 billion, is enough to fund 80% of the activities of the Department of Interior, Department of Commerce and NASA combined (Aguilera and Radetzki, 2013).

The decrease in oil prices puts a great pressure on the economies of the producers of the Middle East, as their economies are generally relied on oil revenues, in a different extent regarding each state, but in all cases in a great one. The economies of Middle Easts' producing states are not diversified and in order to keep the same degree of public spending, which is vital for the popularity of the authoritarian regimes in power. A huge problem for these economies is mainly the existence of large energy subsidies, a sort of "social contract" between the state and its people, where consumers pay low prices for their energy, sometimes under the cost

of production, and the regime gets to remain in power. Table 3.1 shows the breakeven process of Middle East's producers under the current public spending rates.

Country	Breakeven Prices ($US)
Bahrain	84
Oman	75
Saudi Arabia	74
Iraq	61
UAE	60
Qatar	51
Kuwait	45

Table 3.1: *Breakeven prices for Middle East's producers*, 2016, Data retrieved from Fitch, 2017

Population growth, life expectancy increase, an expanding middle class, industrialization, urbanization, rural development, scarcity of water resources, is parallel realities that Middle East's countries face and lead to increased energy demand. Demand for electricity is so rapidly increasing also because of existing energy subsidies provided to consumers and so price signals do not exist to encourage energy efficient behavior (Fattouh and El-Katiri, 2012)

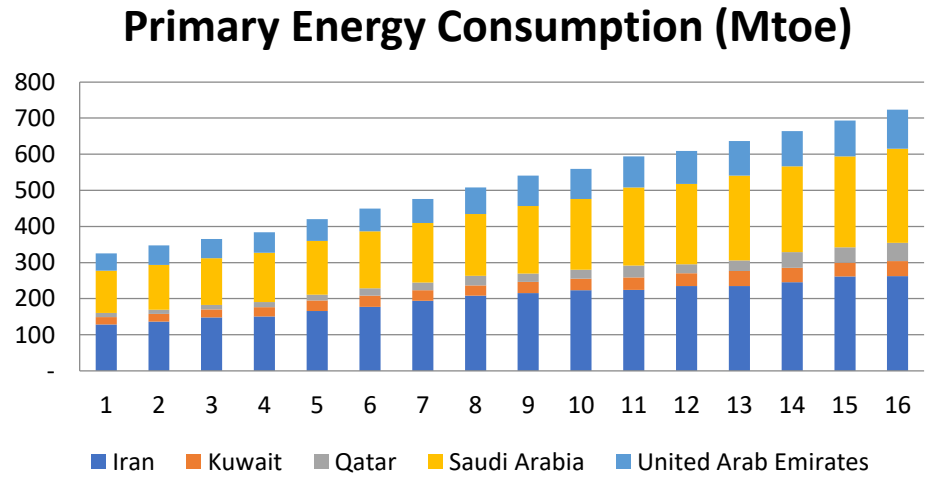

Figure 3.14: *Evolution of Primary Energy Consumption of Middle East's producers in MTOE*, Data retrieved from BP Statistical Review of World Energy, 2017

If domestic demand keeps increasing at the same rate and the governments fail to diversify their economies, Middle East's states will no longer be available to export the same volumes, which will consequently lead to significant decrease in their main source of revenue. Without compensatory programs to work as a safety net for domestic consumers and particularly poor households, increases in energy prices will impact significantly citizens' welfare, as they will have to pay more for the energy they consume and as the production costs, and thus product prices, will increase for products which require energy as an immediate input to be produced. Also, the impact on domestic industries will be severe, mainly petrochemicals, which have historically been built around the competitive advantage of low-cost energy. (El-Katiri and Fattouh, 2015)

Furthermore, population growth, economic development and urbanization in the Middle East are causing the increase of water, energy and food consumption (REN21, 2015). Resource scarcity and climate change makes meeting the demand difficult. Energy supply accounts for nearly 15% of global freshwater withdrawals annually (REN21, 2015), so fluctuations in energy prices can affect the availability and affordability of food, while food demand requires more energy to be used (IRENA, 2015).

Fear of rising living costs could stir up further popular discontent. In the case of the Arab Spring, the global wheat shortages, due to the winter drought in China in 2010-2011 and the following increase in bread prices, affected Egypt, the largest wheat importer globally, and regional states, making bread the symbol of the protests in Egypt, Yemen, Jordan and Tunisia and focusing protests on poverty and high-cost of food (Sternberg, 2013). In addition, the 2006-2011 droughts in Syria affected hundred thousands of Syrians, as a great percentage of the Syrians are involved in the agricultural sector, triggering the increase in poverty rates and significant movement to the cities, exacerbating the existing social stress (Femia, Weller, 2013).

In addition, states which use energy to advance their national interests will no longer be able to do that, at least in the same level. For example, Saudi Arabia will no longer be able to fund its preferred regimes in the region, or to provide preferential supply contracts to them. And as some MENA net-importers, namely Lebanon,

Jordan, Morocco and Tunisia have relied on preferential oil supply contracts with allied Arab producing states, but the gradual erosion of such contracts lead to an increase of the cost of their energy imports (El-Katiri, 2014). Consequently, states relying on energy revenues for both domestic political support and influence over regional states will see their capabilities decreasing.

Similarly, Russia has also lot to lose from the "shale revolution", as it is one of the largest energy exporters and a state which traditionally uses energy as a pressure lever to advance its own national interests.

As mentioned earlier, LNG exporters, such as Qatar, used their spare capacities which were previously directed to the American market, to supply the European market. This lead to a decrease of Russian pipeline exports to the EU. New LNG players in the regional trade compete with Russian pipelines, as Russia has only one LNG plant, it cannot fully compete with them, before the planed LNG plant projects are developed.

The general decline of Russian market power prevents it from dictating the terms of natural gas trade. Indicatively, Gazprom had to reduce the rate of minimum volumes that the buyers have to receive, or purchase (Take or Pay) from 85% to 60%. Similarly, it is being pressed to switch from long-term contracts and oil-linked gas pricing, to spot prices.

These facts are translated into losses of revenue for Russia, which depends on energy revenue for 50% of its federal budget revenue. Taking into account that the breakeven price for Russia is $72 (Kropatcheva, 2013)

Total energy consumption of China is greater than that of the USA, Canada and Mexico combined, as than total EU and Middle East combined. (BP, 2017)

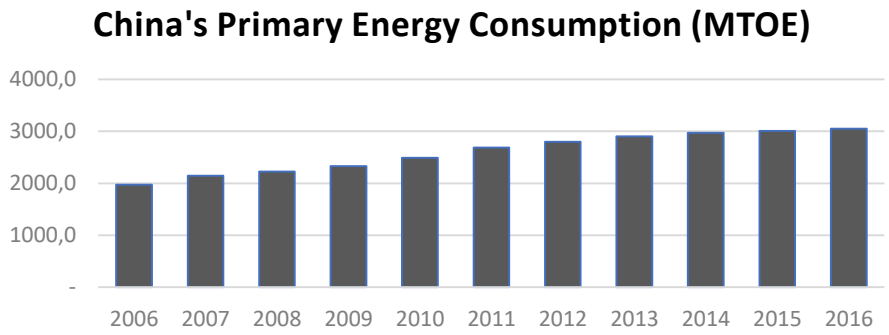

Figure 3.15: *Evolution of People's Republic of China Primary Energy Consumption in MTOE*, Data retrieved from BP Statistical Review of World Energy, 2017

By examining the above data it is obvious that during the past years, there has been a significant increase in energy consumption and production in China. More specifically, the most important domestic energy source is coal; China is the largest consumer of coal in the world, while the USA which is the second, consumes about half of the coal that China consumes. China's economy is growing rapidly and is expected to continue to grow in a steady pace, so demand for energy and in particular oil and gas will continue to increase dramatically.

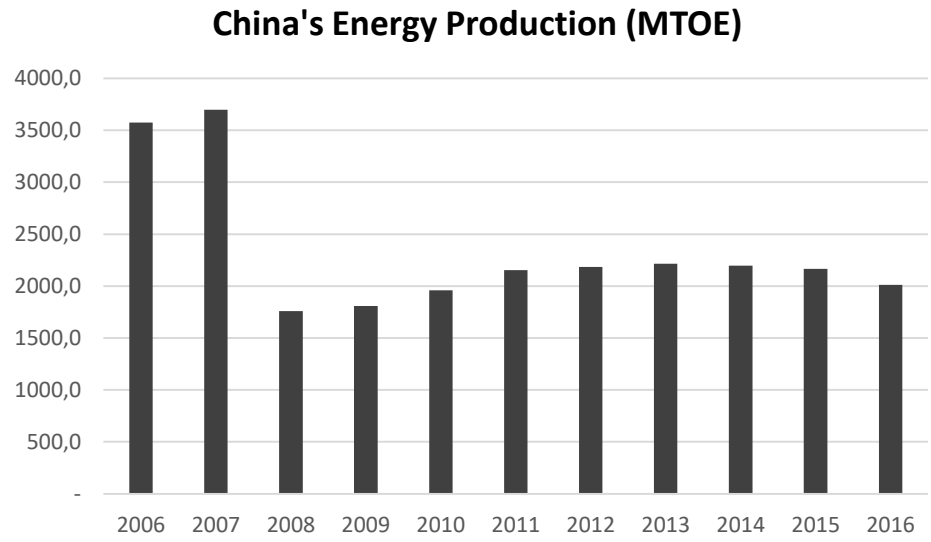

Figure: *Evolution of People's Republic of China energy production, including Oil, Natural Gas, Coal, Renewables and Biofuels,* Data retrieved from BP Statistical Review of World Energy, 2017

As we see, import dependence of China is significant, especially for oil and it is projected that it will continue to increase. Specifically, British Petroleum estimates that the energy production of China will have been increased by 38%, while consumption by 47%, much faster than global average of 29% and 31% respectively. Demand for oil will increase by 61% and for gas by 186% and consequently, energy import dependence ratio will rise from 16% in 2015 to 21% in 2035. Oil and gas import dependency will rise from 61% in 2015 to 79% in 2035 and from 30% to 40% respectively. (BP, 2017)

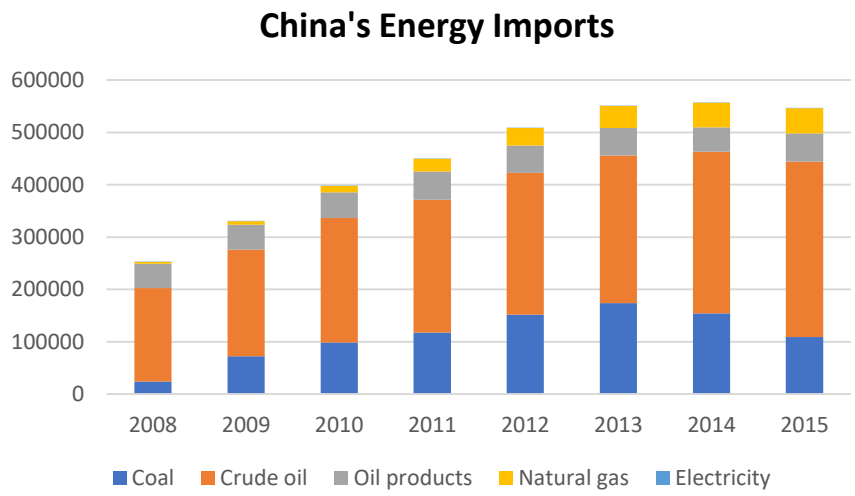

Figure: *Evolution of People's Republic of China Energy imports in KTOE*, Data retrieved from International Energy Agency, 2016

Also, it is projected that in the coming decades, China in order to meet its growing demand for oil and natural gas, will more than double its current imports from Middle East, which means that maritime transportation through the Indian Ocean and the Straits of Malacca and Hormuz, not only will increase in number of tankers surpassing, but also, its significance for Chinese energy security will increase even more. (Rognerud, 2015)

The decrease in oil prices benefits China, as every other importing country through the transfer of real income from producers to consumers. Energy net importers pay less for their energy consumption, they face improvements in their terms of trade, the less expensive oil enables expansion of their petrochemical production and, as oil use is taxed and especially in China the tax is relatively high, so the interaction of existing distortions and structural change leads to efficiency gains. (World Bank, 2016)

However, China faces the threat of experiencing a decline in its relative power against the USA, as the US has much to gain from the "shale revolution", as discussed above. As the manufacturing sector of the USA experiences enormous benefits from the "shale revolution", China may need to further increase the sophistication of its manufacturing base to keep track with US growth. In addition, according to Morgan Stanley, China should move away from an export-led economy and concentrate on domestic consumption to drive growth, as a manufacturing base that caters to domestic consumption would be less threatened than one that relies on investment and

has to cater to external demand because of insufficient domestic demand. (CNBC, 2013)

China holds vast unconventional resources, based on estimations; its resources may be the largest in the world. However, they are not yet exploitable, as it lacks the regulatory framework and technical expertise. With an impressive resource wealth, a sizable conventional gas production and with the authorities very keen, by 2035 shale gas is projected to account for 70 % of total gas output. However, it should be noted that water shortages, pose a challenge in China, as large amounts of water are necessary for fracturing. (Aguilera and Radetzki, 2013) Also, there are other challenges connected with complex geology, deep deposits and high cost of extraction (Blackwill and Harris, 2016). China's shale gas development is still in its infancy stage and any meaningful production may not happen in the short term, and also, there is uncertainty on how large these reserves really are and how high the costs to extract them is. (Yang and Liu, 2013)

As obvious, the impact of the "shale revolution" was great also on OPEC as an entity. When the USA started exporting, the oil cartel responded by lowering their prices to expel the USA from the market. Seemingly, the USA and small producers would face a shock, but in Middle East the companies which manage the costs for extractions are national, so less revenue for all producers, which means decrease of the budget, which leads to deficit. The USA is not affected to the same extent, because domestic oil companies are private, so their impact on the US national economy is lesser, exactly because it pays less for oil and gas imports. So, savings from the public sector cover the losses from the private sector. Also, at the first years of the "shale boom", even in the period of extremely low prices, the US companies spent their revenues to improve their production techniques (Rognerund, 2015). Also, the US provides lots of incentives to research laboratories. These lead to high production efficiency and, as a result, the cost of shale production fell from $80 to $23-$40, due to technology improvement.

Then, OPEC decided to cut back production and reduce its exports, in order to increase the international price. This action, not only did not benefit the Middle Eastern exporters, but also, obviously, resulted to loss of market share to the United States. Consequently, it could be argued that OPEC has lost its power in the new energy environment, as it is unable to control or dictate oil prices any more, as the US is resilient enough to respond to these actions. Not only can they survive in a low

price environment, but also, they have the ability to flood the market with additional quantities, every time the prices have upwards tendencies, so to hit Middle East's producers right to their soft spot.

3.3 Conclusion and basic points of the Chapter

This Chapter explored the present situation in the energy market, concerning the largest exporters and importers and outlined the effect of the "shale revolution" on the USA, the Middle East, Russia and China, to wit the most important actors operating in the Asian peninsula. Specifically, it explores what has changed and what remains unchanged in Asia, after the USA became an energy exporter, and what are the geopolitical implications of this change for the involved states.

We see that the USA has become one of the most significant players of the energy game globally and is potentially on track to become an energy superpower. Being the first country in energy production and building a large infrastructure base to support large export volumes, further enforcing its already resilient and sophisticated economy, the USA has a new era of excellence. That fact poses a challenge to China, which has to keep on track with US development, so already existing gaps between the two countries' power may be further enhanced as the gains from energy trade enforce the US side. In addition, Russia and the Middle East, which can be described with the term "rentier states", which means they rely heavily on energy revenues to support their governmental budgets and lack sufficient diversification to absorb price shocks, lie at the worst positions of any other player of the energy game. Russia sees its precious market power, its most important foreign policy tool, diminishing. Middle East states see their abilities to support their populist programs disappearing, and are in danger of facing severe political unrest. In general, the energy landscape is nowadays completely different than it was a few years ago and all states, including the USA, need to adjust to the new reality and make the most of it.

After examining the general picture of the region in terms of balance of power and geopolitical position in Asia in the previous Chapter, and after outlining the contemporary situation of the energy environment and the strengths and weaknesses of each state under examination, and taking into account the American geostrategy outlined in the second Chapter, the following questions will be answered: what new tools have the USA acquired after the shale boom and how have their old tools been

reinforced in this new reality? How can the USA use the shale boom to advance its foreing policy goals and to contain rising powers?

CHAPTER 4

New tools for geoeconomic statecraft

4.1 Introductory remarks:

In the previous Chapter I presented the general picture of the energy environment concerning the USA and the main Asian states, producers and consumers. I concluded that the USA is on track to become an energy superpower and the benefits that it has acquired by this new position have resulted to a handicap against the other players, such as Middle East states and Russia, which see their relative power shrinking. In the following Chapter I try to translate this handicap into specific actions for the enforcement of the US foreign strategy.

The economy of a state is used as the foundation of its military power and as the means for achieving foreign policy goals through economic influence (Platias, 2010). Energy is maybe the most accurate example to explain how geoeconomic tactics co-exist with geopolitical ones in shaping a state's Geostrategy. That because it is the basic element of the industrial activities, every-day life and military activities, so it is an extremely vital parameter of how power is being divided among the states in international politics. (Platias, 2010)

In general, trade can be used by a state as the geoeconomic means to achieve geopolitical goals both through incentives and coercive tactics. A typical example of trade coercion is the 1974 US Trade Act, which allowed the US to impose unilateral sanctions on countries whose trade practices were found to be unfair to US interests (Anesi, Facchini, 2015). Another example is the disruption of energy flow from Russia to Ukraine in 2006, because of a dispute over the price of gas and again in 2009 because of the failure to conclude in an agreement about energy price and transmission contracts. Ukraine did not want to change the terms of trade that were active since the era of the USSR, while Russia used the energy weapon to make Ukraine consent to the expansion of Russian access to the Ukrainian port of

Sevastopol. These disruptions affected EU member states; according to the Commission the second disruption affected 12 EU member states and deprived the EU of 20% of its total energy supply. (Stern 2006; Pirani et al 2009)

In the case of US sanctions against Iran, the goal was to prevent Iran from developing its nuclear program and the means was, among a series of measures, to deny Iranian oil and gas access to international markets. Also, in 2014 Russia denied the transportation of most Ukrainian trucks though Russian territory, resulting to the closure of some Ukrainian factories, just to remind to their neighboring country that choosing alliance with the EU over Russia will have consequences. (Blackwill and Harris, 2016)

The USA has a great opportunity to use their energy power to advance their geopolitical goals. It does not mean that they can solve every foreign policy problem through energy trade, but they have a very important tool that can be used in cases where foreign policy interests and energy matters coincide. USA's continental size, large population, strong economy, energy reserves, strong financial markets and currency, military size and sophistication consist it a very strong player of the geoeconomic game. The focus must be placed to the points on the map of most significance to the USA.

It is also a case that today there are a lot of countries that use geoeconomic means to advance their geopolitical goals, sometimes against US interests. (Blackwill and Harris, 2016) China, the only big power that could challenge, if we assume that someone could, the American hegemony, is a state that uses its large economy to project its power abroad through investments and trade.

China's One Belt One Road Strategy is apart from an economic development strategy, a political strategy. Among the 5 basic goals of the OBOR strategy, namely connecting a. infrastructure, b. trade, c. finance, d. policy communication and e. people's minds, the last two are political. China is already the first partner in trade for most of the countries that are included in the strategy. Many of those countries have the need for vital infrastructure and China has the ability to fulfill those needs. Also, many projects that have been implemented or are under development do not follow the principles of market economy, but have rather more political and diplomatic goals. (Xiaoyu Pu, 2016)

Chinese companies have a large share of some renewable energy and railway markets. Investments in Africa, Central Asia and Latin America provide China with

access to important resources and geopolitical presence. (Zarate, 2012) For example, in Africa, China has implemented 4300 projects and spent $350 billion on Official Development Assistance and has funded more than 1500 projects in 51 countries. However, some countries, were not included in those, because they do not have advanced political relationships with China. (Surid, 2016) Before Chinese involvement in Africa, there were 13 countries that recognized Taiwan. After 5 years of Chinese geoeconomic involvement remained only 4.(Blackwill and Harris, 2016).China has also strong economic ties with North Korea, providing it with 90% of total North Korean imports and for most of its food and energy supplies. (Surid, 2017)

The USA is a country with vast geoeconomic potential and the shale revolution has enforced even more those potential. It has made the US economy stronger, through revenues, millions of jobs generation and through indirect gains in terms of infrastructure investment, construction and services. According to Blackwill and Harris the shale revolution could contribute to the US GDP from 1 to 4%, depending on the oil price. Also, the position of the US dollar to the global financial system gives US a large advantage, as a big portion of global transactions rely upon the US financial system in some way, in some cases in a big degree and less in others. (Blackwill and Harris, 2016)

4.2 Traditional tools of Geoeconomic Statecraft

There are two ways through which a state can use economic means to achieve geopolitical objectives; through negative economic incentives and positive ones. The first one refers to a bunch of economic sanctions and the second one to a series of positive inducements.

Economic sanctions have the goal to punish the country that accepts the sanctions for not complying with the demands of the state that imposes those (Blanchard et al, 2015). The sanctions can take many forms, which are described below. They are used as an instrument of foreign policy that can be described as a carrot-and-stick approach to international politics.

For example, the sender of economic sanctions can deny or threat to deny the supply of a certain product or access to a certain market to the receiving state in an effort to persuade the receiver to transform or adopt a certain policy, and/or achieve

direct influence over the economic security, prosperity and abilities of the receiver, without the effort to persuade it to adopt a certain policy. (Platias, 2010)

The effectiveness of sanctions relies on two variables: domestic market size and global market share (Blackwill and Harris, 2016). For example, if a state prohibits imports by another state, how large will the losses be for the state that accepts the sanctions? Respectively, how easy is it to find an alternative supplier if we prohibit the imports from one state and how easy is it to find alternative buyers in the case that there is lack of competition in the market under question?

There are a lot of ways to apply economic sanctions. Pr. Platias in its work "Geopolitics, Geoeconomics and International Competition" has made a thorough list of the types of sanctions that can be used by a state, either singly or in combination. Most of those I set bellow.

First of all, there is the "embargo". The term embargo refers to the prohibition of exports, or of the total trade transactions for a specific country. For example, in 1960 President Eisenhower imposed a partial embargo on Cuba, prohibiting all exports except for food, medicines and a few other commodities. In 1962, after the Bay of Pigs invasion, J.F. Kennedy imposed a total embargo against Cuba. (Osieja, 2006) In the Gulf War, the Americans enforced a large-scale embargo with 6 months of duration against Iraq. Having firstly caused financial bleeding to Iraq, the US continued with military attack in order to give an easy final hit. (Platias, 2010)

"Boycott" refers to the situation of prohibitions of imports by a specific state. Two months after the imposition of the embargo against Cuba in 1962, the Congress prohibited imports of all commodities manufactured with raw materials originated from Cuba. The goal of the sanctions was to cause the fall of the regime in Cuba, as other means did not succeed in doing so. (Osieja, 2006)

"Blackboard" refers to the prohibition of business transactions with corporations that engage in trade activities with the country that receives the economic sanctions. Part of the sanctions against Cuba in 1962 was the denial of access to American ports for ships that carry cargo to and from Cuba and also the denial to carry American cargo to ships that trade with Cuba (Osieja, 2006). Part of the sanctions against Iran is also the prohibition of companies to engage in commercial activities with Iran, with the Department of State's Office of Economic Sanctions Policy and Implementation to be responsible for enforcing sanctions to the companies that fail to comply with US sanctions. (US Department of State, 2019) In

April 2018 the US announced a 7-year prohibition of exports to ZTE, a Chinese telecommunications company, for illegally engaging in trade with North Korea and Iran. (CNBC, 2019)

Freezing of Assets is also a very common type of economic sanctions and is referred to the seizure of funds, the denial of access to bank accounts that belong to a certain country or to other assets that belong to a certain country. The sanctions against Iran include asset freezing. A 2015 report of the Treasury Department states that there were almost $2000 billion of Iranian frozen assets in the USA, with real estate not included in the calculation due to difficulty in evaluating their worth (Clawson, 2015). In 2017, Canada, based on its alliance with the US, imposed an asset freeze and dealings ban on Venezuela, as a response to human rights violation inside the country. (CBC, 2017)

Suspension in aid is the decrease or the end of aid funding. For example, in September 2018, the US suspended the aid to Pakistan in total of $800 million, with the excuse that Pakistan is granting safe haven to insurgents who are waging war in Afghanistan, accompanied with the reassurance that if Pakistan changes its behavior the aid will return. (Reuters, 2018)

After we outlined the use of economic means to change a state's behavior through economic sanctions, we proceed with the use of economic inducements. This is referred to the occasion where a government gives economic advantages to another country in order to gain a place of power and influence over the country. Economic inducements include trade deals, technical knowledge sharing and other economic incentives. The effectiveness of economic inducements depends on domestic politics within the target state. (Blanchard, 2015) For example, as mentioned below, financial aid provided by the US to Pakistan was not enough to make Pakistan comply and support the US South Asia strategy.

There are a lot of ways to provide economic inducement. Tax discrimination, to wit favorable tariffs to imports originated from the state that receives the economic inducement, or the decrease in tariffs in specific products coming from a state. There is also the granting of Most Favored Nation status, where there is the promise of favorable and equal treatment in comparison with imports of respective products of other countries. These inducements can also be used as the form of economic sanctions if used in their adverse form, to wit increase in tariffs or suspending the MFN status for the receiving state. (Platias, 2010)

Foreign aid is the situation where a state grants financial aid to another nation through bilateral or multilateral channels in the form of grants or loans, while indirect aid can be granted through the implementation of FDI.

The U.S. has used both financial aid and Foreign Direct Investments in the past to achieve political objectives. Franklin Roosevelt signed 29 trade agreements with Latin American countries in order to prevent the expansion of German investment in the region. In 1944 the US and its allies signed the Bretton Woods Agreement, believing that economic interdependence and economic prosperity of states could reduce tension and lead to a more peaceful international environment. During the Cold War, the U.S. provided a series of economic benefits, financial assistance, and preferential trade conditions, in fact discriminating US goods over European, in order to empower European States, in an effort to counter USSR dominance in the region. US multinational companies invested in a large extent in the European market, creating a strong American presence and influence in the region. These examples show that the US in the past was willing to engage in economic activities with no economic benefit for themselves, but with strong geopolitical meaning. In addition, after the World War II, the US faced shortages in vital resources and they used its multinational companies by providing them tax exemptions for investing in energy and other raw materials abroad, creating a friendly investment environment and so achieving its own goals, which were the assurance of access to much needed resources. (Giggy, 2017)

4.3 "Shale Revolution" as Geoeconomic Tool

Growth in domestic energy production benefits the United States by reducing dependence on imported energy and diversifying the economy. (Brown and Yücel, 2013) According to the American Chemistry Council, the shale revolution benefited a lot the US manufacturers, as they use natural gas as an input for a wide range of processes to produce their goods. Domestic shale gas production is leading to reduction of gas prices and a more stable supply of natural gas. It is also leading to reduction in the price of ethane, a natural gas liquid which is a key raw material used in the chemical industry. This leads to enhanced competitiveness, greater investment and industry growth and job creation, increased federal, state and local tax revenue. (American Chemistry Council, 2012)

Also, lower natural gas prices mean reduced heating and electricity costs, which means that consumers have more money available to spend on other goods, positively impacting US GDP. (Arora, 2018) Maybe the most important effect of growing domestic production was on trade, where for the first time in 2016, exports surpassed imports of natural gas, providing an addition to US GDP. (Arora, 2018)

In 2012, shale oil and gas development, supported 2.1 million jobs, generated nearly $75 billion in government revenues, and $284 billion to US GDP. In a report of the Institute of 21st Century Energy in cooperation with other entities on behalf of the U.S. Chamber of Commerce, it is estimated that by 2025 job generation will rise to 3.9 million, more than $533 billion will be added annually to the U.S. GDP and more than $1.6 trillion will be generated in state and federal government revenues. (U.S. Chamber of Commerce, 2013)

In short, the "shale revolution" reduced American dependency on external sources of energy, eliminating the leverage of other states against the U.S. and it further enhanced the strength of its economy, needed to continue its foreign activities, including military engagement and financial aid. As a strong economy is the most basic prerequisite for a country that wish to engage in geoeconomic activities to advance its foreign policy goals, we see that the shale revolution first and foremost contributes to that.

Secondly, let's see how it has affected the employment of successful economic sanctions. The growing domestic energy production provide the U.S. with the ability to impose sanctions against energy producing states, as it can replace the lost energy with its own production and eliminate the risks of price increase. Also, as Blackwill and Harris note, sanctions need friends and allies. The effectiveness of sanctions, and particularly the maintenance of those, is harder when imposed unilaterally. With energy as a new tool for negotiations with allies, the creation of coalitions for imposing sanctions is more possible. For example, in 2012, the U.S. added 1 mb/d to the international market, reassuring its allies that the price of energy will not take an upwards course if sanctions against the Islamic Republic of Iran are imposed. Such reassurance was very important given the fact that at the time the world was recovering from the financial crisis, while the EU had not yet fully recovered, and the prices were already in relatively high levels due to instability in the region of the Middle East in the aftermath of the Arab Spring. In fact, in the sanctions legislation there was the reassurance that the sanctions would be lifted by the U.S. if they lead to

an unbearable price increase. (Blackwill and Harris, 2016; Costigan, 2018) This helped U.S. allies to agree with the sanctions, but it was also a clause that was created due to the confidence of the U.S. that they could balance the market and there would be no need to use this clause.

Also, at the time of the negotiations which led to the final deal, international energy prices lied in low levels for a long time, as we saw in the previous Chapter. That means that Iran could not earn enough revenue given its reduced exports, so it needed more buyers to support its budget, and also needed access to international capital markets. That brings us to the conclusion that Iran would possibly not decide to enter negotiations to conclude to the Joint Comprehensive Plan Of Action, were it not for the "shale revolution" (Blackwill and Harris, 2016).

However, as strong as it is the energy card in the negotiations with foes and allies, regarding the imposition and/or removal of sanctions, it does not guarantee the successful creation of multilateral action. This is evident after the exit of the US from the JCPOA. The other parties of the agreement do not seem willing to follow the US in exiting the deal, no matter the reassurance for a stable international energy price environment. Specifically, after the US announced their withdrawal from the deal, the other parties immediately announced their support to the deal and their intention to fulfill their commitments and protect their companies from the effects of the re-imposition of U.S. sanctions (Kerr and Katzman, 2018).

Another way the U.S. can use the shale boom is to steal market share from adversaries to weaken their position. The most profound example is that of Russia. Russia is traditionally the main supplier natural gas for the EU with a share of 37% for 2017. Previously we mentioned some examples of how Russia takes advantage of this position of power for its own interest with serious implications for the European states. In case of a supply disruption from Russia, European states and especially countries like Bulgaria, Romania and Hungary, which are heavily reliant on Russian gas, would be affected in a large extent. The USA could assist the EU in its effort to diversify its sources of supply, by supplying it with LNG and investing in infrastructure needed to accept and transmit the gas through the member states, and lessen its reliance on Russian gas, meaning that Russian dominance in the European energy markets would be reduced and leverage over eastern European states would diminish.

As Henry Kissinger has put it, *"The United States finds itself in a paradoxical situation. By any standard of national capacity, we are in a position to achieve our objectives and to shape international affairs. Yet, as we look around the world, we encounter upheaval and conflict. The United States has not faced a more diverse and complex array of crises since the end of the Second World War."* (Troxell, 2018) With China expanding its influence across the globe through investments and trade, and trying to create alternative institutions to the current order, the U.S. should take actions to counter this effort and eliminate the risk of a China as a challenger of U.S. hegemony. In addition, as we described in the second Chapter of the thesis, China is involved in a range of territorial disputes with its neighbors, claiming a huge part of the South China Sea, in order to secure energy reserves to meet its own needs.

While China applies geoeconomic means to affect the policies of its adversaries, the U.S. can interfere to prevent this from happening by applying its own geoeconomic strategy. For sure, a scenario where the South China Sea is controlled solely by China, as it aspires, is not an acceptable scenario for the U.S., in a similar way that control by one or two states' over Middle East's reserves is not acceptable. With growing military capabilities especially for war in its territory (see Chapter 2), the U.S. cannot count solely on its military capabilities to prevent such a scenario from being reality. Assisting those countries in empowering their economy and immune themselves from Chinese geoeconomic manipulation is an alternative worth considering.

The U.S. can use its energy exports and invest in projects to create spheres of influence in points of interest on the map. For example, it could expand its cooperation with Japan and other East Asian countries, which especially after the Fukushima disaster are hungry for gas (Blackwill and Harris, 2016), or with India, which faces difficulties in increasing production or finding new cost-effective and exploitable energy resources, in order to meet growing domestic demand (Vidakis et al, 2017). Some countries in Asia and the Pacific are facing serious energy-related challenges, including the need to increase energy supplies to meet growing domestic demand. At the same time they need to improve their transmission networks, as a very large amount of the population do not have access to electricity or is being relied on biomass such as firewood and charcoal for heating and cooking. (EcoSoc, 2016)

Country	Population Without Access to Electricity (in million)	Population reliant on biomass (in million)
South Korea	17	23
Indonesia	10	101
LAOS	2	6
Myanmar	25	49
Phillippines	12	52
Thailand	-	16
Vietnam	0,9	44
Bangladesh	63	138
India	269	809
Nepal	7	22
Sri Lanka	2	15
Cambodia	10	13

Table 4.1, *Population under energy poverty in selected countries of Asia and the Pacific*, Data retrieved from Economic and Social Council of the United Nations, 2016

By assisting states in their effort to secure their energy supply, either by exports or by investments in their energy transmission system, or by providing them with information about the technology of fracking and assisting them in their effort to exploit unconventional resources, the U.S. would create a strong U.S. presence in the area. Global Shale Gas Initiative and the Unconventional Gas Technical Engagement Program are U.S. initiatives for sharing knowledge about the regulatory, environmental, and financing aspects of shale production (Giggy, 2017). Expanding those initiatives and including East Asian states to it could assist in a general geoeconomic strategy. Of course, as Blackwill and Harris note the results of this effort would not be immediate for the states that receive the knowledge transfer, as the development of shale resources would take years even in the best case scenario, however their existence would provide a symbol of U.S. support and alliance (Blackwill and Harris, 2016).

Furthermore, the United States can use their multinational companies, by providing incentives to invest in energy projects that will facilitate U.S. exports to key countries and create a safer and stable environment in areas of interest. This would be a neglect of trade for trade's shake approach, where companies are investing and target their exports based exclusively on profit. The U.S. could provide financial backing to encourage multinationals to invest in other countries, where they hesitate to invest due to instability and/or financial risk. China's State Owned Enterprises, as they are backed by the government, take on those risks. If the U.S. believes that investments in selected countries could promote better stability and serve U.S. interests in the long term, such support should be given, just as it did during the Cold War. (Giggy, 2017)

A similar agenda could be applied also in the region of Middle East and North Africa. In a low price environment, Middle East's producing states face serious challenges for their governmental budgets. As explained in the previous Chapter, their economies are not enough diversified and they rely heavily on oil revenues to support their public spending that keeps their regimes in power and they diminish Saudi Arabia's ability to provide preferential contracts to its neighbors, which buy their alliance. They also face serious domestic social problems, explained in the previous Chapter, which are further exaggerated by poor economic performance. As Robert Blackwill noted in its presentation for the Ananta Aspen Center in New Delhi, a stable Egypt is a backbone of U.S. national interests in the Middle East and also the future of Jordan will be an important factor that will affect peace and stability in the region. U.S. military power is not the solution for Egypt and Jordan overcoming their economic problems. The U.S. should identify their key problems and assist them in a broader effort to create a stable environment for the region in general and the energy market in particular.

4.4 Conclusion and main points of the Chapter

The "shale revolution" has contributed to the empowerment of the U.S. economy in ways described above. Most importantly though, it is not just a commodity that provides the country with profit; it is a commodity of great strategic meaning, because of its significance in the economies and life of every state and because of its rareness. This combination makes energy a perfect tool for geoeconomic statecraft. Foreign states and especially China engage in geoeconomic

activities in a great extent, relying to these more than they rely on military power. The U.S. use geoeconomic means to advance geopolitical ends, however their most commonly used tool diachronically is sanctions. It may be a very important tool, indeed, however it is not the only one, and it is not applicable to all cases, so it is not enough to frame a comprehensive American geoeconomic strategy. With investments, trade and cooperation with allies in different regions the U.S. can create a strong strategic position against powers like China and Russia, which act against U.S. interests. Finished with analyzing the shale revolution as an important tool in U.S.' geoeconomic kit, we proceed with the last Chapter, the conclusion of the thesis.

Chapter 5
Conclusion

Energy has always been an important determinant of power in the international system and every change in the global energy patterns brings change to the international politics. In general, the energy landscape is nowadays completely different than it was a few years ago and the USA, need to distinguish the discontinuities and the continuities of the present and future international energy landscape and create a comprehensive strategy to make the most of it.

Asia is a very important region for the United States and for the global energy market, as it includes important maritime diodes of international energy trade, the region with the larger oil and natural gas resources, Middle East and Russia, and a large consumer and recovering power, China. It is also the region with the most assertive states of the international system, Saudi Arabia, Iran, Russia, and some very fragile regions, where instability and conflict are always present and can affect the United States' power status, economy, alliances and influence. Consequently, U.S. national interests focus on Asia on all dimensions; political, military and economic.

The USA has become one of the most significant players of the energy game globally and is on track to become an energy superpower. On the other hand, Russia sees its most precious foreign policy tool, diminishing. Middle East states see their abilities to support their populist programs disappearing, and are in danger of facing severe political unrest. Although the Middle East and North Africa as a whole is not

any more a necessary source of supply for the US, in the way it was before, it still holds a large share of the world's proven oil reserves and natural gas reserves. Consequently, stability in the region must remain of central concern to the US.

China is another story; a rising superpower that has made great effort in advancing its military capabilities and one of the strongest players of the geoeconomic game. These facts create anxiety at the states in the region, who will find it necessary to balance against the upcoming hegemon. In relation with the U.S., power imbalances it used to have are gradually declining, with the prospect to further decline or in the worst case for the US, to come to parity.

National interest is multidimensional in nature, so it needs a multidimensional approach, which will combine geoeconomic (investments, trade, technology transfer) and geopolitical (military aid, military presence) tactics in the general U.S. geostrategy.

In order to contain another power, a state needs to be present and close to the state that is under containment. In case of absence, the state under containment and the allies of the state that implements containment would not work in line with its policy. If the goal is to counter geoeconomic and geopolitical coercion, then respective forces, military and economic, should be present.

The U.S. should work towards creating spheres of influence in important regions to contain rising China, enhance cooperation among players to assist the U.S. in doing so, create a stable economic environment for those areas to advance stability and enhance allies' abilities to counter geoeconomic or geopolitical coercion, create an efficient infrastructure base that can accommodate U.S. energy exports and maybe in the long run create alternative diodes to diminish reliance on dangerous chokepoints for international trade.

Energy is not just a commodity that provides the country with profit; it is a commodity of great strategic meaning, because of its significance in the economies and life of every state and because of its rareness. This combination makes energy a perfect tool for geoeconomic statecraft. Sanctions may be a very important tool, indeed, however it is not the only one, and it is not applicable to all cases, so it is not enough to frame a comprehensive American geoeconomic strategy. With investments, trade and cooperation with allies in different regions the U.S. can create a strong strategic position against powers like China and Russia, which act against U.S. interests. If we help them with the economic and energy challenges they face, in

parallel with the already existing military cooperation that is in place with some of the states, it will be hard to oppose the U.S. in matters of foreign policy when the time comes, as they will have more to lose.

Including geoeconomic practices in the U.S. foreign policy may be judged as costly and lacking guaranteed outcomes, but first of all, there is no such thing as guaranteed outcome in international relations and secondly, what is the alternative solution? Sometimes we have to distinguish the best among the worst alternatives, in order to maximize the minimum profit.

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