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21st Century: Atlantic or Asian-Pacific Century?

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Abstract

The present dissertation aims to study whether the 21st century will be an Atlantic or an Asian-Pacific century. Indeed, the literature has been studying the reshaping of the world economy, motivated by the impressive economic growth of Asian countries observed in the last decades. However, the main researchers have focusing on this problematic in a West versus Asia perspective. Thus, our main contribution is to give a different perspective in this matter, comparing the Atlantic with Asia-Pacific and, therefore, finding out the main features of each region.

In order to do so, we identified the major trends on literature review and through a quantitative analysis we describe the evolution in the period 1990-2018 using proxies for both regions. This analysis is mainly based on economic indicators, both internal and external, but we also analyse the political and energetic field.

From a strengths and weaknesses analysis for each region, we were able to conclude that the Atlantic, despite including south emerging economies, has been losing its economic centrality. On the other hand, an Asian-Pacific century is still uncertain, even though more probable than Atlantic's. Although being the biggest economically region, due to its GDP dimension, the major FDI attractor and outward investor as well as becoming increasingly relevant on merchandise trade, it still faces some challenges regarding its soft power, influence in global governance and human development.

Key words: Atlantic Century, Asian-Pacific Century, Economic shift, World Economy, Politics, Energy

Resumo

A presente dissertação visa estudar se o século XXI será o século do Atlântico ou da Asia-Pacifico. A literatura tem vindo a estudar a transformação geográfica da economia mundial, motivada pelo impressionante crescimento económico observado pelos países asiáticos nos últimos anos. No entanto, a investigação levada a cabo tem se focado na perspetiva Ocidente versus Ásia. Assim, o nosso principal contributo passa por dar uma perspetiva diferente, estudando o Atlântico versus a Ásia-Pacífico e, deste modo, descobrir quais os principais atributos de cada região.

Assim sendo, depois de identificadas as principais características na revisão da literatura, levamos a cabo uma análise quantitativa para descrever a sua evolução no período de 1990-2018. Para esse efeito, utilizando uma proxy, recorremos maioritariamente a indicadores económicos de ordem interna e externa, assim como a indicadores políticos e energéticos.

Através da realização de uma análise das forças e fraquezas de cada região, foi possível concluir que o Atlântico, ainda que incluindo economias emergentes do Sul, está a perder a sua centralidade económica. Por outro lado, um século da Asia-Pacífico é incerto, ainda que mais provável que o do Atlântico. Apesar de ser a região económica maior, devido à dimensão do seu PIB, de ser o maior atractor e recetor de IDE, bem como estar a ganhar importância no comércio de mercadorias, ainda enfrenta alguns desafios no que respeita ao *soft power*, na sua influência na liderança global e no desenvolvimento económico.

Palavras-chave: Século da Ásia, Atlântico, Mudança Económica, Energia, Política, Economia Mundial

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1-Introduction

In the last 30 years, the world economy has been reshaped. Since mid-20th century, we have seen Asian countries achieving high growth rates: firstly Japan, followed by the Asian Tigers and more recently China and India. This evolution of the world economy led to an emergency of a possible 21st century denomination as "Pacific Century", and later, after Japan economic stagnation, the focus moved to China´s economic growth as a sign of an "Asian Century". In fact, this can be considered as a re-emergency, because of China and India´s economic dominance until the industrial revolution.

At the same time, a worldwide perception of an economic declining of the West was rising. Indeed, studies like Quah (2010), revealed that the economic centre of gravity was located in 1980 in the middle of Atlantic and is now moving East more and more, contributing to this idea.

Although in the literature review an economic shift is recognized, the same is not true for a power shift towards an Asian century. Features like lack of Asian unity, matters of hard and soft power, as well energetic and political problems are pointed as the liabilities of Asia and, on the other hand, as West strengths.

Because of these features, alternatives of global governance are presented. That is the case of scenarios like an American century, based on United States re-achieving of economic growth, a US-China cooperation or even a world where there are no hegemonic leaders or superpowers.

Even though the literature has been discussing a possible decline of the West versus a rising of Asia, and even presenting alternatives for global governance, the role of Atlantic (the world´s economic centre around 1980) in the 21st century it is not clear. Despite its economic decline, this zone is still geo-strategically important and a "silent" rise of Atlantic in energetic field is expected to happen. Unlike the West, when considered as a whole, instead of just North Atlantic, the Atlantic aggregates not only developed economies, but also emerging economies with high performances such as Brazil and Mexico. Therefore, it makes relevant and appealing to study if considering them is that enough to prevent or even revert this zone

of the globe from losing more centrality? Or will Asia-Pacific[1] overcome this region in all this matters, leading us towards an Asia-Pacific century? This is our investigation question and the aim of this dissertation.

In order to do so, we chose to follow a quantitative methodology. For that, we use a proxy for Atlantic and Asia-Pacific and analyse it in three main areas: economics, politics and energetics, over the 1990-2018 period. More than just considering each indicator individually, we also choose to do a strengths and weaknesses analysis to find out where these geographic zones perform better as well as their main liabilities.

This dissertation is divided in three chapters, excluding the introduction. In the first one, a literature review is made, based on different global governance scenarios, such as Pacific, Asian and Atlantic. In the following chapter we explain our methodological approach and analyse the major trends of Atlantic and Asia-Pacific region from an economic, politic and energetic point of view. Finally, we present the main conclusions of our study, as well as its limitations and some clues for future investigation.

[1] Initially, our goal was to study Atlantic versus Pacific, in order to contrast one ocean with another. However, the economic importance of Asian countries, such India, led us to opt for analysing Asia-Pacific.

2- Literature Review

The terms "Pacific Century", "Asian Century" and "Chinese Century" have been emerging in the last decades following the evolution of the world economy. As Spakowski (2016) said, these denominations are similar, but not totally equivalent, and they need to be clearly defined. For this reason, we start our literature review trying to answer the following dimensions for Pacific and Asian Century: where, when, whose and why. We opt not to dedicate an entire section to the term Chinese Century because it only focusses on impressive economic growth of China, that is already considered in the concept of Asian Century.

2.1-Pacific Century

2.1.1- Where

The Pacific Century has more than one spatial denomination, as notions like "Pacific Basin", "Pacific Rim" and "Asia-Pacific" are very common. But what exactly do we understand by "Pacific Region"? At the first view, it seems appealing to answer this question with a geographical definition. However, as Dirlik (1992) argues:

> "The problem with most definitions of the region, whether or not they pretend to precision, is **a geographical bias**- in other words, a tendency to view the region as a geographical given, a physically delineated stage, as it were, upon which human beings play out their various activities."

For Dirlik (1992), the Pacific Rim focuses on the edges of the Pacific region, which means that includes only the countries which have the oceanic border. Therefore, it excludes some Asian countries, such as India, that have different types of relationships with this region (Dirlik, 1995). That's the reason why the term "Asia- Pacific" is emerging, which includes India, besides the Western Pacific Oceanic countries and United States (Wilkins, 2010). At the same time, there are other definitions of Asia-Pacific, which includes all the countries on the edges of the Pacific plus India (Desker (2008) (apud Wilkins, 2010).

Above all, the use of each term has a different global economic significance (Dixon and Smith, 1995), but it also represents different ideological and political purposes (Wilkins, 2010).

2.1.2-When

The concept of Pacific century firstly appeared in the 19th century, as Inagaki claimed a "Pacific Age" (Korhonen, 1996). However, it has only spread in the 20th century, as a claim for the next century being ruled by Pacific countries (Scott, 2008). In this context, Wilkins argues that the Pacific century began in 1980, as scholars identify the economic rise of the East and the decline of the West.

The discussion and even belief about a Pacific Century were based in the Japanese economic miracle and economic expectations. However, it did not take long. In 1990, Japan economy decelerated and when Asia financial crises arrived, the belief of a Pacific Century was no longer claimed. Consequently, scientific article titles showed the rising of scepticism about this term, which started to disappear from public debate (Scott, 2008).

2.1.3-Whose

Not only Japan claimed the leading of the Pacific Century. According to Scott (2008), United States and Australia also evidenced "romance" for this concept. Indeed, journalists, writers, politicians and even Presidents were very enthusiastic with it. That was the case of Reagan, former President of US, who said in 1986 "If the next century is the Pacific century, as some have suggested, America will be leading the way". Also, Alexander Downer, Australia Foreign Minister in 1997, said "We are about to enter what will surely be the Asia Pacific century… It is a ringing declaration of Australia's enduring commitment to the Asia Pacific ".

2.1.4-Why

In 1980, for the first time, the transpacific trade was higher than the one with the Atlantic (Wilkins). Dixon and Smith argue that the rising importance of Pacific Asia as trading partner of US and Australia, as well as its investment in US, has opening way to an integrated Pacific.

Foot and Walter (1999) pointed three elements which supported the Pacific Century: Japan economic miracle and its spread to the Asian Tigers (Hong Kong, South Korea, Singapore and Taiwan), the growing influence of this area in the international order towards the West hemisphere and the emerging of an economic and political community in the Pacific.

Although Japan was defeated in World War II, its economy started to recover very fast (Foot and Walter). So, in 1950-1973 period, the Japanese real GDP increased by more than 9% yearly, which was at the time a better performance than US and Europe. Also, the volume

of Japanese exports registered an increase of 15,4% per year over the same period. Consequently, Japan became the third world biggest exporter and surpassed UK and France in economic size.

These achievements were not exclusive from Japan and were spreading to his neighbours. After 1980, the four economic tigers also achieved growth rates near to 10% (Foot and Walter). The success of Japan and the Asian tigers were mainly evident in manufactured export industries and they were challenging the West competitiveness. Besides, the four economic tigers (China, Thailand, Malaysia and Indonesia) were also experiencing a significant economic growth. As Foot and Walter noted "it was evident that a broader regional pattern of rapid growth was emerging".

Various explanations for this pattern emerged. In the economic field, the main view talks about a model of neomercantilism development, that was replicated by East Asian countries through capital and technology transfer (Foot and Walter). The key features pointed were industrial policy, private sector innovation and management techniques.

In the political field, two factors are pointed: the idea of a strong state and an authoritarian regime. As Foot and Walter said, one thing should remain clear "the idea that Japan had discovered a superior way of making things and of organizing the relationship between state and market" and so "it was increasingly unclear how the West could presume to claim any moral superiority for its liberal model when the results it produced were economically and perhaps socially inferior".

Some of those elements, pointed before, should be carefully assessed. Although East Asia and mainly Japan were increasing their relevance in the international order, mainly because of the increasing world weight of Asia-Pacific institutions since 1980, their exports were much more dependent on General Agreement on Tariffs and Trade (GATT) (than those from Europe or US (Foot and Walter). Moreover, Japan did not have enough political influence in the International Monetary Fund (IMF), despite its economic status as the largest aid donner at the time. On the proposition of a Pacific community, Foot and Walter argued that the countries had "more features than those which bring them together". In fact, the political, ethnic or even religious conflicts in Asia-Pacific would illustrate quite well this point.

Regardless of these motives to invoke a Pacific Century, in 1990 the Japan started to slow-down and Asian economic crises came up in 1997. Besides that, the embracement of globalization by this region led to even worse consequences (such as real estate bubbles, overvalued currencies and outflow of foreign direct investment) (MacDonald and Lemco, 2011). As a result, the hope for a Pacific Century disappeared, so that China, who was not affected for this Asian crisis, started to gain attention.

2.2-Asian Century

According to Scott, mentioned above, the term Asian Century has two "shifts". The "marked 1" Asian Century emerged in 1980s, with the rising of Japan and Asian tigers, and it was different from the concept of Pacific Century because it excluded America and focused on Asian character, also known as Confucian model. However, this term faced the same problems as the Pacific Century. When Japan economic growth started to stagnate and Asian crises began, the idea of an Asian Century started to vanish away. So, the "marked 2" Asian Century is associated with the economic rise of China and India and we will only focus on this one, as it is different from the previous.

2.2.1-Where

According to Spakowski, the geographical definition of Asian Century only includes Asian countries, which means that this time the "ocean criteria" is not applied and, therefore, America is not included. Asia is defined by Parag Khanna (2019) as "stretches from the Mediterranean and Red Seas across two-thirds of the Eurasian continent to the Pacific Ocean". This means that new Asian economy is formed by countries such China, Japan and India, but also by the following countries: South Korea, Indonesia, Thailand, Burma, Singapore and Vietnam (MacDonald and Lemco, 2011). However, New Zealand, Australia and Papa New Guinea are often associated as important elements of an Asian Century, despite not belonging to Asian continent (according to MacDonald and Lemco).

2.2.2-When

Asia had been in world economic dominance until mid of the 19th century. In that period, the Industrial Revolution began in England and spread to other western countries (Jacques, 2009), which gave advantage to the West and dislocated the centre of economic gravity to that region. The period of 1850-1950 is named by the Chinese as the century of humiliation,

due to its negative economic consequences as in 1820 China GDP was 228,6 billion dollars and by 1950 it was barely the same- 239,9 billion dollars. The economic situation only began to improve with Mao and especially with Deng's economic policy, which made China to achieve a two-digit real GDP growth.

Romei and Reed (2019) predicted that in 2020 the weight of Asian economies would be higher than the rest of the world, and therefore they expected that an Asian Century will begin. This is quite a fast evolution, when considering that the Asian economy only accounted for 1/3 of the world output economy in the 2000's.

2.2.3- Whose

The "marked 2" Asian Century is associated with China and India performance, which led to the use of "*ChinIndia"* (Scott). This term appeared in 2005 and singled out these two countries as giants in terms of population and GDP growth (Spakowski): together they represent over half of the world population and a largest market (MacDonald and Lemco).

However, Chinese economic growth is still far ahead from Indian´s and this, sometimes, led to a world perception of a Chinese Century[2]. The Deng's economic programme, that was initiated in 1978, achieved real growth rates near to 10% in 1980-1990 period at the same time as Japan was suffering an economic slowdown and Asian Tigers were facing a crisis (Scott). These dynamics drew the attention to China as an economic power and opened a prospect for a debate about a future domination by this country, for which there was no consensus. China, however, rejected this focus by preferring the term Asian to Chinese Century, that Scott considered as "a better international political marketing".

2.2.4- Why

Kim Mahbubani is the leader of the Asian Century school of thought (Pei, 2009). According to Mahbubani (2008), the Asian societies will replicate the West model, and this will lead to a (irresistible) shift of global power to east. For Spakowski, there are three main pillars of an Asian Century: history, business press and international institutions. The historical pillar uses quantitative indicators such as GDP to prove an Asian hegemony in the past. Combined with the promising projections of GDP produced by international institutions such as the

[2] As the Chinese Century has almost the same features of an Asian Century, although with higher focus on China's economic growth, we chose not to dedicate a chapter to explain it.

World Bank, the IMF and the Asian Development Bank, a re-emergence is claimed. The business press takes advantage of this data and use it in titles of investment magazines and even daily papers, which contributes to a creation of a journalist hype.

The re-emergence of an Asian Century is supported by the economic rise of China and India. Until 1978, China was ruled by Mao, who was against globalization and its institutions, but things have changed with Deng, as he implemented an economic reform known as "Four Modernizations". It introduced price controls and special economic zones, which allowed negotiation with foreign firms and trade with the West. Its main goal was to change China's inward agriculture model to an industrial socialist market (MacDonald and Lemco). In doing so, it assigned capital to key sectors, gave incentives and attracted Foreign Direct Investment (FDI), and these measures increased the standard of living and economic growth rates. Moreover, China's good economic performance was not affected by Asian economic crises of 1997/1998.

Despite the introduction of some economic liberalization, in political field things were kept in tight control. According to MacDonald and Lemco, the Chinese political system is autocratic, constructed to satisfy interests of a well-marked elite and backed by People's Liberation Army, which uses coercion when necessary.

India´s economic take-off started in the 1980s, as the country did not want to get behind its neighbours that already had embraced economic growth policies. However, it was the damaging economic consequences of the Gulf War in 1991 that triggered the path to growth by liberalization of trade and reduction of bureaucratic costs. Along with the adoption of this new economic path, its internal aspects were also crucial to be successful in a globalized world. India's work force was characterized for English-speaking, high level of education and specialization, and was relatively cheap. It was a technological and innovative society, with a robust business class. In addition, India democracy and non-political military contributed for it (MacDonald and Lemco).

Despite the rapid and highest economic growth of these two Asian countries, there was the need to create a new Asian economy. According to MacDonald and Lemco, the push for it evolved an emphasis on Asian institutions, increasing preferential trade agreements between Asian countries, and for defining an Asia Pacific zone. For instance, the creation of an Asian Development Bank and Chiang Mai Initiative (CMI), despite one including countries outside

of the region and the other do not contemplate all Asian countries, respectively, support an emerging Asian economic unity.

Asia is a diverse continent, with nations which do not share a common history, culture or even religion, distinctly of Europe (Asian Development Bank, 2011). However, according to Khanna, Asia is becoming a system that is "a collection of countries that are bound together not only by geography but also by the forces of diplomacy, war, and trade". Thus, these nations are constructing economic and strategic linkages, so that, for example, Asian countries trade more with each other than with other regions of the world, even before the financial crises.

In this context, the One Belt One Road (OBOR) Chinese diplomatic project is the most important world project since the Marshall Plan. It is the recreation of the historical Skill Road, connecting Eurasia, and the One Road is the creation of the maritime version, which includes the regions of South and Southeast Asia, Oceania and Africa (Cai, 2018). The OBOR involves the construction of roads, railways, oil and natural gas pipelines and coastal investments (Cai, 2018), and at the end, it covers 60 countries and 65% of the world population. Its main purpose is economic, but it has also diplomatic and security goals. At economic level, the OBOR will allow China to export to new markets and, thus, overcome its industrial overcapacity (Cai; Punnose and Vinodam, 2019). In doing so, it will promote Chinese currency in international markets as well as the economic development of underdeveloped areas, such as Xinjiang, which has independence claims. It also pretends to claim its economic and political model abroad and to reform the existing one, dominated by US whose practices and rules do not satisfy China (Lima, 2016; Cai). At geopolitical level, the new Silk Road pretends to ensure security on the Asia-Pacific region, particularly in the Strait of Malacca, a crucial route of Chinese trade, (Cai) and to diversify the oil and gas supply (Punnose and Vinodam). Finally, the OBOR has the diplomatic goal of turning Beijing the centre of international system (Lima).

Nonetheless, Asian Century is not only about China (and India). The four East Asian Economies (Malaysia, Vietnam, Thailand and Indonesia) have been showing strong real growth rates of 5 % since the beginning of the century (Ing & Widiana, 2014). This led Khanna to consider it as the four wave of Asian economic growth, that is sustained by consumer confidence, less dependence on domestic consumption for GDP and demographic dividend.

Thus, the economic rising of Asia is about to change the world centre of gravity. Quah (2011) studied "the average location of the planet's economic activity measured by GDP" and concluded that in 2050 the centre of gravity will be located between India and China. For Scott, the return of Japan as an economic power in 2005 also helped to change it. This shift to east is also evident when one considers the share of GDP at current market exchange rates (Hamnett, 2018). The seven Western biggest economies no longer represented half of the world GDP in 2016, while in the same year the developing Asia plus China held 38% of the world GDP. The United States is still the biggest economy when GDP is measured at current dollars. However, when we measured it at PPP, China overpassed the US in 2016. Moreover, the World Bank (2013) has estimated that by 2030 China would become a modern and high-income society. Does the economic rising of China and Asia mean a declining of the West?

Let's start by clarifying what the West is. The term "West" represents very complex ideas (Hall, 1992). One could think of it as only a geographical definition, however it could also be associated to a type of society and a level of development.

Geographically, the West is defined as the United States, Canada, Australia, Europe (MacDonald and Lemco) and New Zealand (Mahbubani, 2008). For Hall, it also includes Japan, which is on the east side of the planet, but it is on western mental map. For Samuel Huntington (1996) (apud Ferguson, 2011), the West definition excludes the European countries which have Orthodox religion, such as Greece, Romania, Russia and Ukraine. A historical approach is also needed to define it. As Hall says, western societies are "developed, industrialized, urbanized, capitalist, secular, and modern", and so they are the result of an economic, political, social and cultural process. That is the reason why Hall justifies that Latin America, despite being on west side of the planet, is not included on West definition.

For Mahbubani (2008), the West is representative of the Judeo-Christian identity, contributed to ideals of gender equality and dignity of individuals, and introduced modern science and technology. Indeed, to Hall the concept of West can be used for a division of societies into western, developed and desirable, and non-western, underdeveloped and non-desirable.

For Niall Ferguson (2011), "the rise of Western civilization is the single most important historical phenomenon of the second half of the second millennium after Christ." This author argues that the Great Divergence started 500 years ago, as a result of 6 "kill applications": competition, science, property right, medicine, the consumer society and the work

ethic. The evidence shows that Western Europe´s GDP overtook China's in 1850 (Ferguson, 2011). Until then, China and India were the largest world economies (Jacques, 2009). The evolution was quite fast, as in 1900 the combined US and Europe GDP per capita was ten times higher than China's. By the second half of 20th century, US GDP overtook Western Europe's, so that US became a "first truly global power", not only economically but also by spreading its culture and its power worldwide. Indeed, Kawai (2017) talks about the 20th century as an "American century", not only due to its economic, political, military and political dominance, but with other factors like US support and export of democracy, human rights and market economy, an international opened and multi-ethnic society, and the spread of material success, mass culture and even the American way of life.

Having clarified what is the West, we will now introduce the ones within the literature that do not agree with such idea. In this context, the main economic critique regards to GDP per capita (Minxin Pei, 2009). Indeed, the rapid economic growth has brought a reduction of poverty and allowed the creation of a middle class (Cox, 2012). However, it was not enough to bring China and India to the same living standards of the Western countries. That is quite evident in the Human Development Index (HDI), where China ranks 90 out of 139 countries (Punnoose &Vinodan, 2019), which demonstrates that economic progress is not necessarily followed by development. Moreover, the Asian economic model faces the challenge of ageing population that could lead to economic stagnation (according to Pei).

In addition, qualitative criteria also help to judge economic power (Cox, 2012). Taking into account that the West is leader in competitiveness, research and development and in innovation, in that matter, China is still a long way to go, as it struggles with "poor enforcement of intellectual property rights, an educational system that emphasizes rote learning over critical thinking, and a shortage of independent organizations that can evaluate scientific progress" (Durfee and James Pomfret, 2011). Thus, in terms of corporate strength, western companies are still at the top, although emerging economies are getting close (Cox, 2012).

Another problem emerges at energetic level. Energy security is a prerequisite to have both economic security and military capability (Punnoose & Vinodan). China's economic rise was dependent on petroleum and on strategic minerals, which made it switch from the status of largest oil exporter of East Asia to the biggest world importer (Punnoose & Vinodan; Zweig David and Bi Jianhai (2005)). China´s position is even more fragile because of the possibility

of US intervention in Malacca Straits, which could disrupt Middle East oil supplies. Being aware of this, according to Punnoose & Vinodan, China adopted a diversification oil policy, so that now only 40% of its imports are from this region.

Also, Michael Cox (2011) believes this economic shift does not necessarily mean an irreversible economic decline of the West. Indeed, the Transatlantic region (United States and Europe) remains powerful and accounts for 40% of the world GDP (Hamilton and Quinlan, 2010). Together, the two areas are the main sources of world FDI and the most important markets, and in addition, the major banks and universities are in these regions (Cox, 2011).

On the other hand, as Cox (2011) argued, that economic shift will not drive to power shift. For him, "Power though is not just about economics; also matters a great deal who you happen to be allied with in world politics and how important they are". Therefore, power can be measured by hard power and soft power. Joseph Ney (1990) firstly introduced the term soft power as the capacity to controlling the other behaviours by attractiveness of intangible resources such as culture, ideology and institutions. Otherwise, hard power is the capacity to controlling the other using coercion, which can be military or economic strength.

In the matter of hard power, the evidence suggests that the West is looking more attractive than elsewhere (Cox, 2012). The invasion of Iraq by United States and 2008 economic crises may have decreased the confidence in the West, but US remain the main provider of security in Asia and Europe, as its total spending on defence represent 45% of the world's. Despite China´s economic influence, it remains with few allies, due to cultural, ideological and political reasons. The Chinese have a suspicion attitude about foreigners, but the South China's Sea claiming and the silent position about North Korea also contributes to word's lack of confidence on China. It is true that China has now the second largest defence budget in the world (Punnose &Vinodan, 2019), however this budget rising is on par with its economic growth, and only represents 2% of the country's GDP (China Power Project, 2018). Although, the increase of both economic and military capacity lead to lack of confidence by its neighbours. Therefore, India and Japan have signed a "Joined Declaration on Security Cooperation" in 2008 (Punnose & Vinodan).

In soft power, the West has a good score. Firstly, because Western countries possesses a pluralistic political culture, which allows differing views, without being afraid of penalties (Cox, 2012). Another reason lies on an open system of higher education and a high quality

of university sector. Otherwise, China has only five ranked universities and India do not have any university in top 100, so that many Asian students recognizing the Western reputation universities prefer to across the Pacific Ocean just to study there. Besides that, is the West that writes the rules of the most important international system.

Finally, an argument against an Asian Century is that Asia cannot be considered as a truly community. For Cox (2012), "Asia hardly exists as a collective actor". It is a heterogeneous continent composed by two totally different main civilizations, Indian and Chinese, which do not share political, religious or moral common values (Lima, 2016). The political regime is also diverse, as many countries possesses authoritarian regime, such as China, while others have a democratic regime, such as India and Japan (Lima, 2016; MacDonald & Lemco). The hostilities between Asian countries also weakness the sense of common purpose. Although being the result of centuries of conflicts, these hostilities are still present on border disputes and on suspicions about each other's (MacDonald & Lemco and Cox, 2012).

We have presented the fundamental reasons to claim an Asian Century, that are mainly economic and implies a declining of the West. In economic terms, we may say that we are entering in an Asian Century, but as we have just discussed the same cannot be said in political terms. Consequently, we are going to present some alternatives on this matter.

Thus, Kawai (2017) points the following alternative global governance structures: American century 2.0 world, G-2 world, G-0 world and Multipolar world. According to this author, the "American century 2.0 world" lies on the perspective that, although US is losing its supremacy, it may conquer again the leading position at economic, technological, political and military levels, as well as the soft power hegemony by re-achieving sustained economic growth. Moreover, the other countries not only will respect US as a hegemonic power but will also work together with it. Although this is a possible scenario, Kawai argues that it is becoming more unlikely to occur, as recent developments in the American foreign policy is turning the country more and more inward-looking, as well as Asian economy growth is hardly ceasing. For instance, taking as example the Trans-Pacific Partnership (PPP), it was created by President Obama as a geopolitical tool to enhance US power in Asia and weaken the Chinese influence in that region (Nagy, 2015). However, in 2017, President Donald Trump withdrew United States from TPP, as part of the US new strategy of putting "America first" (McBride and Chatzky, 2019).

In the other hand, the "G-2" scenario implies an US-China cooperation in priority areas such as investment, trade, climate change and energy, as well as meeting each other core interests. According to Kawai, China would appreciate this scenario, because it may allow the division of the Pacific Ocean in East and West part, and, therefore, it would allow China to control East and South Seas. However, neither Obama was likely to accept it, neither Trump seems now to be receptive about this, as the US foreign policy is using more and more geo-economic instruments (such as taxes) towards China. Besides that, Kawai also points that the US-China relations faces critical tensions regarding US military support to Taiwan, South Sea and Senkaku/Diaoyu islands, so that this "G-2"scenario seems to be unrealistic.

Still in this context, the "G-0 world" is a scenario where no region and/or country is a hegemonic leader in both economic, political and security affairs, and there is no will to international cooperation. In fact, Kawai points some international events that corroborates this last feature, such as Brexit, "America first" inward policy and China domestic trade protection. However, he noted that this scenario, despite possible, will only be temporary, as economic interdependence turns out to trigger several types of international cooperation. Buzan (2011) argues that the world is driving to a decentred globalism scenario, where there are no superpowers but only great powers. He defines superpower as a nation that has the capacity of spreading its political, military, economic and cultural influence in the whole international system, while on the other hand, a great power can only reach it in more than one region. Thus, the US superpower status is declining due to changes in social support (domestically and internationally) at the same time as China and European Union, the other two candidates to superpowers, face obstacles, such as the non-establishment of legitimacy abroad, and as do not have internal consensus to pursue a more international engagement, respectively (according to Buzan).

The last alternative scenario that we can discuss is the Multipolar world. This is the perspective of Herolf (2011), that believes we are driving into such situation, in what seems to be a positive sum-game. Thus, he uses two definitions of multipolarity. The first one says that we have a multipolar world when we have more than one centre of power and interest, while the other one describes it as nation-states that have similar economic, military and cultural power. For Grevi (2009), the world is becoming interpolar, which means interdependence between the dominant nations, whose core sets on economic growth, energy security and environmental suitability. Lastly, Kawai thinks that although Asia will dominate the world

economically, the political, military and security affairs will be multilaterally managed by US, European Union, Asia and even some emerging economies. In fact, he points the G-20 as a model of global governance in this scenario as well as the importance of international institutions such as Organisation for Economic Co-operation and Development (OECD), United Nations (UN) and the Bank of International Settlements (BIS).

2.3-The Atlantic

Atlantic had been the main region in 19th and 20th century in economic and military terms, but the rapid and high economic growth of Asian countries have drawn the attention of the globe to Asia and Pacific region. Considering this evolution, in this section we will discuss if the Atlantic is still a strategic geographic area, and what are its strengths.

2.3.1- Definition of the Atlantic Basin

According to Isbell (2012), the Atlantic Basin corresponds to:

"Southward and counterclockwise along the coasts of Greenland and Canada to the United States; down through the Gulf of Mexico and the Caribbean to Venezuela, the Guyanas, and the eastern Amazon Basin; and then moving on through southern Brazil, the Rio de la Plata, Argentina's Patagonia, Cape Horn, and Antarctica "

Isbell (2012) points three possible definitions of the Atlantic Basin: a "broad", an "intermediate" and a "narrow" definition. The Atlantic Basin is constituted, accordingly to "broad" definition, by the North, Central and South America, Europe and Africa, and it includes even countries that do not have an Atlantic border. The "intermediate" definition only includes the countries with Atlantic border (including Mediterranean, Baltic and Caribbean seas, but excluding landlock countries and countries which only have a border with the Pacific or Indic). Finally, the "narrow" definition applies to a looser version of the "intermediate", including the Caribbean seas but excluding the Mediterranean and Baltic. This geo-economic adjustment implies 50 per cent adjustments, which means that the data will be dived by half, for the countries which has two ocean coasts (such as US, Canada and South Africa).

2.3.2-Temporal evolution

The Atlantic has been the main economic area in the 19th and 20th centuries, especially after the World War II. According to Reis (2015), the evidence suggests that, in 1948, the Atlantic controlled over 80% of the world trade, and that the European Atlantic empires represented

in 1945 one-quarter of world surface and one-fifth of the world population. However, the decolonization processes have led to the decreasing of Atlantic´s economic power, so that in 2009 its share of the world trade was about 60% (Ruano, 2013).

Although, for Reis, these numbers only represent a declining if we understand it as an absolute dominance, so it doesn't make sense to announce a collapse of the Atlantic. For understanding the importance of the Atlantic nowadays, we need to take in account not only the commercial and economic dimension, but also to pay attention on sustainability and energetic field.

2.3.3-Political community

The Atlantic community is associated with North Atlantic (Freres, 2013). In fact, after the World War II, an international order was created, dominated by West powers, such as NATO (North Atlantic Treaty Organization) and OECD. Indeed, an international financial system, dominated by the West, was established by the Bretton Woods Conference, with its two most important institutions: IMF and World Bank.

This community is linked by principles, democratic values and institutionalism (Lima, 2016). For John Ikenberry (2001) (apud Bernardo Pires de Lima, 2016), there are three fundamentals features for the success of this community: it was constructed with the pillar of non-discrimination and open markets; it has a multilateral leadership as well as institutions and a norm system supporting and embracing it.

2.3.4-Economics and Commercial

Every year a report about the transatlantic economy (US and Europe) is launched. The most recent report (Hamilton and Quinlan, 2019) reveals that Europe and US are not only the most important markets of each other, but also the most integrated regions in the world. This is particularly impressive if we regard the turbulence that led to the cancellation of TTIP (Transatlantic Trade and Investment Partnership) negotiation[3]. The major conclusions of this report are that US and Europe are not only each other's first source and destination of

[3] The TTIP negotiations started in 2011 and they were interrupted when the new President of United States, Donald Trump, came into power in 2016. TTIP pretends to reduce non-tariff barriers and to converge into regulatory norms, establishing common standard norms in areas such as investment and intellectual property between US and European Union (Hamilton and Blockmans, 2015). In doing so, TTIP can be considered a "second anchor" of the transatlantic relationship, mainly because of the integration of societies and economies of both sides of Atlantic that is implicit on it (Hamilton and Blockmans).

FDI (Foreign Direct Investment), but also each other's largest trading partners. Thus, in 2017, the US FDI in Europe were 3,5 higher than those made by US in the Asia-Pacific. Moreover, the US companies are responsible in 2017 for the creation of 4,8 million jobs in Europe, as well as for 31,3 billion dollars spending in Research and Development in 2016. Otherwise, European firms generated, in 2017, 4.6 million direct jobs in US and spent 43,8 billion dollars in R&D in the US territory in 2016. In this context, it is also important to highlight that US is the largest trader in services while EU is the world largest trader in goods.

Lorena Ruano (2013) studied trade in the Atlantic basin in the period 2000-2012. She observed that in 2009 the Atlantic trade account for 60% of world trade, while in 1980 it represented 80%. This is line with the relative decline of the Atlantic main powers, although other countries such Mexico and Brazil are increasing its weight on world trade. The major trade relations, in 2011, are the ones between North America and Europe and US and Latin America, while on the other hand, the smallest commercial relations are between Africa and Latin America, that are the Atlantic least develop areas. Despite these two regions are largely depending on trade relations with the North Atlantic, it was also found that trade flow between them observed the highest increase over the period in question. On the other hand, China is increasing its weight as commercial partner of the Atlantic, so that it is the second highest trade partner in this region.

2.3.5-Energy

Isbell (2013) underlines that the world centre of energetic economy is changing to the Atlantic basin. In fact, the oil reserves have been increasing in absolute and relative terms, so that in 2010 more than 40% of world oil reserves were in the Atlantic, and this region is leader on oil production. Moreover, the importance of unconventional gas (shale gas, tight gas, coal bed methane) is being increasing, and it is expected that the Atlantic, excluding the Mediterranean, account for 59% of the commercial recoverable unconventional gas. Also in renewable energy, the Atlantic Basin is the region leader (according to Isbell, 2012). For instance, 80% of world solar power is in the (North) Atlantic, 64% of 200GW installed wind capacity is based in this region and 80% of its global activity happens in the (South) Atlantic.

Besides that, in 2035 the Atlantic will probably be the world major producer and exporter of energy, while China, India and the middle east will be the areas with the highest demand

(Lima, 2016). This author believes that all these features announce a silent rise of Atlantic in international politics.

2.3.6-South Atlantic

For Freres (2013), the literature of international relations has been disregarding the South Atlantic. However, the dynamic in energetic field is changing the West's centre of gravity, from North towards South Atlantic (Isbell, 2012). As this author argued "Today, the Atlantic Basin takes on new meaning as an analytical lens and strategic framework that emerging market countries in the southern Atlantic might leverage to improve their geopolitical flexibility and economic prospects. The concept of the Atlantic Basin might even serve as an inspiration for a revived and transformed West, or for at least a reconfigured Atlantic space". So, according to Isbell (2013), energy and climate issues are the key factors in that transformation.

In this context, Lima (2016) considers Angola, Argentina, Brazil, Nigeria and South Africa the most important countries of South Atlantic, and together they represent 500 million inhabitants, with an average of 24 years old. Brazil is the 6th world economy and jointly with Argentina, they account for 70% of South America GDP and 65% of this region population. Both economies belong to G20, and Brazil is the South American country which receives more FDI as well as it is the 9th world petroleum productor and it is an element of the so-called BRICS. On the other hand, South Africa, Angola and Nigeria belong to the top 5 economies of Africa (Nigeria is the most important and South Africa the second). Angola and Nigeria are the main oil productors in Africa and their exports are widely depend on it. However, only South Africa is member of G20 and has a strategic partnership with EU.

3- Empirical analysis

3.1- Methodological options

The point of this dissertation is to answer to the question: "21st Century: Atlantic Century or Asia-Pacific Century?". We have opted to follow a quantitative approach, aiming to explain what is observed, through precise measurement and analysis, and the researcher remain objectively separated from the research subject (MacDonald and Headlam, 2015). In this context, our goal will be to identify and describe the evolution of indicators on economic, political and energetic areas regarding Atlantic and Asia-Pacific.

We will analyse economic, political and energetic indicators. In the economic field, we will analyse the major trends on GDP, Manufacturing output, labour force, financial, trade (merchandise and services) and FDI. In political terms, we will use, among others, data on military spending, the amount of commercial agreements of each area as well the cooperation projects. In the energetic area, we will analyse data on imports and exports of each kind of energy, amount of reserves, productions and the future trends. Our data sources were World Bank, International Monetary Fund (IMF), World trade Organization (WTO), United Nations Conference on Trade and Development (UNCTAD), United Nations Comtrade (UN Comtrade), Portland, United Nation (UN), Our World data, Energy Information Admnistration (EIA), British Petroleum (BP).

One important element to define in our analysis was the temporal perspective. Initially, our goal was to analyse the period between 1980 and 2018, as it could give us the big picture of the transition from the 20th to the 21st century. However, trade data on USA, one of the most important economies, were only available since 1989 in UN Comtrade. Therefore, we had to restrict our time analysis to 1990-2018. In general, the majority of economic indicators will focus on this period, but there are a few exceptions, regarding services (from 2005 to 2018), export diversification and quality (1990-2010), debt (1990- 2015) and manufacturing production (1997-2018). Also, on energetic analysis some indicators are only available until 2017 and on soft power the analysis is limited to 2015-2018 period.

As we intend to analyse the macroeconomic indicators in a perspective of Atlantic zone versus Asia-Pacific zone, one important element lies on the geographic definition of each one. In the literature review, we have made some considerations on the definition of Pacific,

Asia and Atlantic region. Here we opted to compare the Atlantic to the Asia-Pacific region (instead of just Pacific), in order to include India, which is becoming an important actor in this part of the globe. As Hettne (2005) (apud Wilkins, 2010) said "there are no 'natural' regions: definitions of a 'region' vary according to the problem or question under investigation. Moreover, it is widely accepted that it is how political actors perceive and interpret the idea of region and notions of 'regionness' that is critical: all regions are socially constructed and hence politically contested".

We included in the Asia-Pacific zone all the countries which belong to Asia continent and/or those which have a Pacific coastline. This means that we will consider all the countries with available data, located in Asia, Oceania and in North and South America. In the last one, weonly included those with Pacific coastline, excluding the land-lock countries.

In the Atlantic chapter, we have discussed some definitions of the Atlantic basin. Therefore, we will consider a mix version of the "broad", the "intermediate" and the "narrow" versions of Atlantic. This means that we will consider some land-lock countries, all of them in Europe, because they are part of the European Union and this area will be used as a "proxy" for Europe. Besides that, we will consider Mediterranean and Baltic countries, but excluding the countries on Caribbean seas.

We are aware of a major difficulty, resulting from the fact that some countries such as US, Canada, Mexico, Colombia and South Africa have double coast (Atlantic and Pacific borders for the first four cases, and Atlantic and Indic borders for South Africa). Therefore, we will make 50 per cent adjustment regarding the data for these countries, as made in the "narrow version" discussed above. South Africa, which have also double coastline, will not be considered, despite its relevance in the African continent, because of some gaps on the data on trade for this country. This reason was also decisive for others that are not included in the next table. In fact, trade is the most restrictive data, and so it was the guideline to construct the proxy for Atlantic and Asia-Pacific. These proxies were applied to all indicators considered in the empirical analysis.

However, there are some limitations in the beginning of the period of analysis, mainly due to the geographical transformation that happened in European continent after the end of Cold War. That was the case of the German Unification, the division of Czechoslovakia in two countries (Czech Republic and Slovakia), the division of Yugoslavia in six countries, one

of them being Croatia (considered in the following table) and the fall of Soviet Union, in 1991, that lead to the emergence of new countries ,such as Latvia, Lithuania and Estonia, and to the independence of Azerbaijan, Georgia and Kazakhstan. Furthermore, we opt to exclude Russia. It is a Eurasian country and its main territory is in Asia. Despite not having direct access on Atlantic Ocean, its main cities are in European part. However, its relations with European Union are controversial due to gas pipelines and the use of it to influence post-soviet countries. Because of these specific particularities, we chose to exclude this country of this empirical analysis.

Geographic areas	
Asia-Pacific	Australia, Azerbaijan, Canada, Chile, China, Colombia, Ecuador, Georgia, Hong Kong SAR (China), India, Indonesia, Israel, Japan, Jordan, Kazakhstan, Malaysia, Mexico, New Zealand, Oman, Pakistan, Peru, Philippines, Qatar, Singapore, Republic of Korea, Thailand, Turkey, United States of America, Viet Nam
Atlantic	Algeria, Argentina, Austria, Belgium, Brazil, Bulgaria, Canada, Colombia, Croatia, Cyprus, Czechia, Denmark, Egypt, Estonia, Finland, France, Germany, Ghana, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Mexico, Morocco, Netherlands, Nigeria, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, United Kingdom, United States of America, Uruguay

Table 1- Geographic areas

3.2-Economic Analysis

The economic analysis lies on two groups of indicators. The first group focus on internal indicators, such as GDP, Manufacturing Production, Labour force and Finance. The second group focus on external relations by analysing the Trade (Merchandise and Services) and Foreign Direct Investment (FDI).

3.2.1-GDP

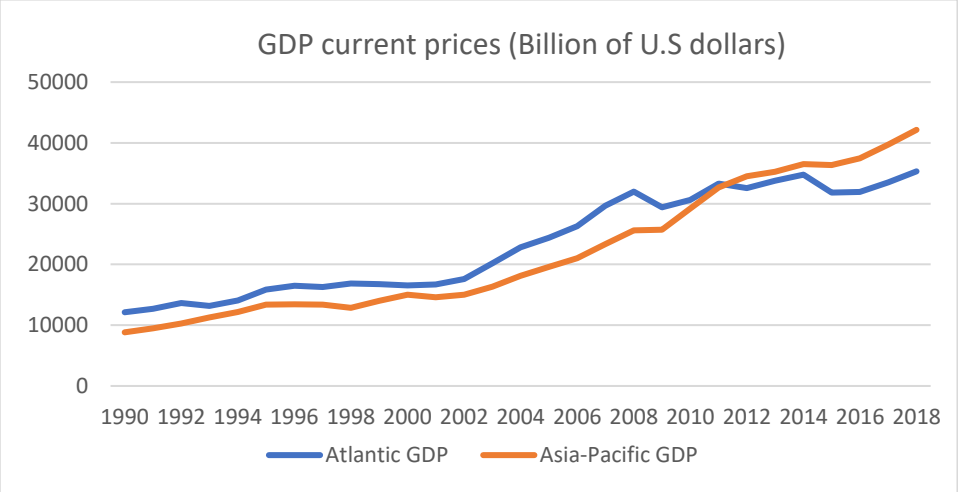

Figure 1- GDP at current prices. Author's elaboration, using IMF data

According to figure 1, in 1990, at current prices the Atlantic GDP was bigger than the Asia-Pacific GDP. During the 1990-2018 period, this one has been growing at an annual rate of 5,6%, against 3,8% of the Atlantic GDP, as expressed by table 4[4], so that in 2012 the Asia-Pacific GDP was already higher than the Atlantic. Since that year the difference among these two areas is becoming higher.

An additional feature lies on two declining points on the evolution of GDP for both zones. The first happened in 2009, when the Atlantic registered a drop of 8%, while Asia-Pacific only grew 0,5%, due to the global financial crisis of 2008 (table 4). The second one occurred in 2015 because of a mini recession (Irwin, 2018). That was the result of three main connected reasons: 1)slowdown in emerging markets, due to the Chinese policy of restrain growth, that led to a 2) fall on demand for oil and other commodities, and consequently to a drop in prices; and on the other hand,3) an appreciation on the dollar currency.

On the other hand, table 5 shows the top 10 world economies in 2018 measured at GDP current prices. United States is the major world economy, while 5 out of the 10 biggest economies are exclusively located in the Atlantic zone (Germany, United Kingdom, Italy, France and Brazil), plus US that belongs also to the Asia-Pacific area. However, in the top 3 economies, two of them are exclusively from Asia-Pacific area (China and Japan).

[4] Because of space restrictions, we will prioritize figures over tables, putting most tables on annexes

Going back to 1990, illustrated by table 6, US was already the biggest economy and the biggest difference from nowadays is that top 10 economies were more concentrated in the Atlantic. Japan was the only Asia-Pacific country represented, if we exclude US and Canada (which belong to both regions). Therefore, although Atlantic countries are still the most important economies, at least at current prices, the situation is changing, because Asia-Pacific countries are gaining importance.

We are aware of the limitations of GDP measured at market exchange rates, as it doesn´t consider the differences in living standards. For this reason, is also important to analyse the GDP measured at Purchasing Power Parity (PPP).

According to figure 2, although Atlantic GDP at PPP was bigger in 1990 than Asia-Pacific GDP, that difference was smaller when compared with GDP measured at current prices. Besides that, Asia-Pacific GDP surpassed the Atlantic GDP in 2002, ten years earlier than it did when measured at current prices. Another difference lies on the higher annual growth rates of both areas: 4,2% and 6,7%, respectively (table 7). At the end of the period in analysis, Asia-Pacific GDP was more than 28800 billion of international dollars higher than the Atlantic GDP, which is four times more than with the previous indicator.

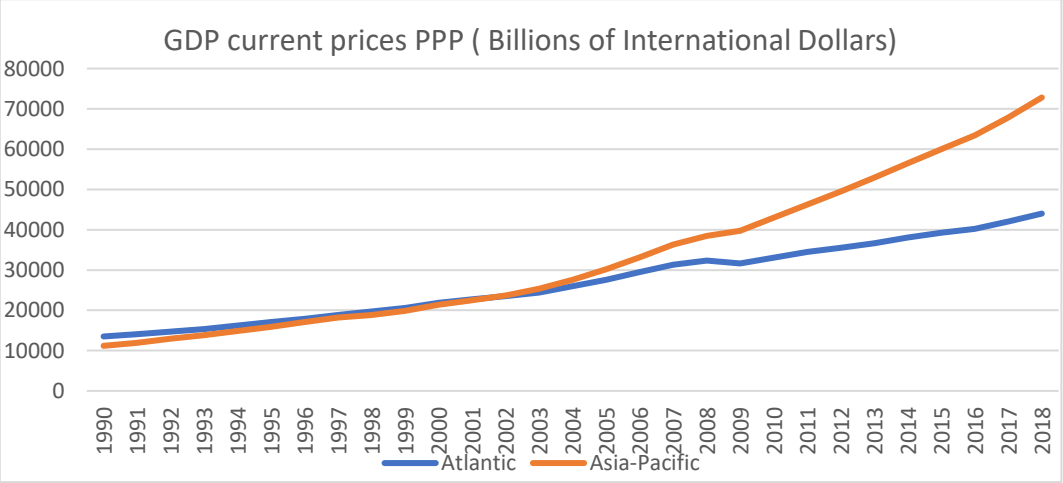

Figure 2- GDP current prices at PPP. Author's elaboration, using IMF data

One interesting approach lies on the evolution of the share of world GDP, measured at PPP, that both zones hold. Figure 3 shows that in 1990, Atlantic held almost 50% of the world GDP against 40% by Asia-Pacific. Since then, there was a decreasing tendency for the Atlantic curve, and naturally the opposite evolution of the Asia-Pacific curve. Hence, since

2012, Asia-Pacific region represents more than 50% of world GDP, while the Atlantic only held in 2018 a few more than 30%.

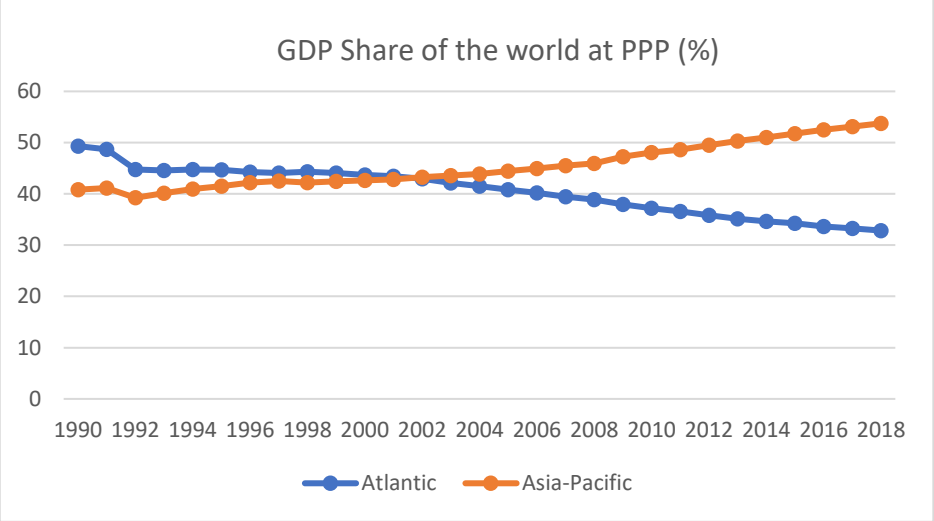

Figure 3- GDP share of world at PPP. Author's elaboration, using IMF data

In 2018, the top 10 economies are also different when measured at PPP. That is quite evident in table 8, where Indonesia appears as one of the most important economies, while Italy disappears. On the other hand, Atlantic (France, Germany, Brazil and United Kingdom) and Asia-Pacific (China, Japan, Indonesia and India) have both 4 of the most important economies, plus US (considered in both areas). Comparing with 1990, there was one more exclusively Atlantic economy, Italy and only two Asia-Pacific economies (Japan and China), plus US and Mexico. A feature that shows that, similarly to GDP at current prices, Asian-Pacific economies are becoming the main top economies.

Considering the evolution over the period in analysis, a special attention should be paid to the fact that China´s share of the world GDP at PPP was about 19% in 2018 (Figure 5), while in 1990 it represented just 4% of the same indicator (Figure 4). This economic achievement was also reported in the literature review. On the other hand, United States are losing its share of the world GDP (from 22% in 1990 to 15% in 2018), so significantly that they became second world economy. Besides that, major exclusively Atlantic economies represented in 1990 22% of world GDP and in 2018 its value was only 10%, while Asia-Pacific major exclusively economies represented in 1990 16% and in 2018 its value is 34%, twice more.

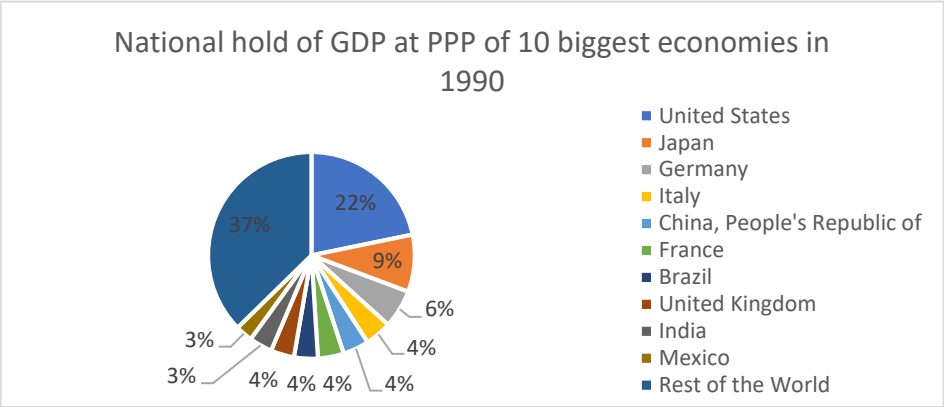

Figure 4- National hold of GDP at PPP of 10 biggest economies in 1990. Author's elaboration, using IMF data

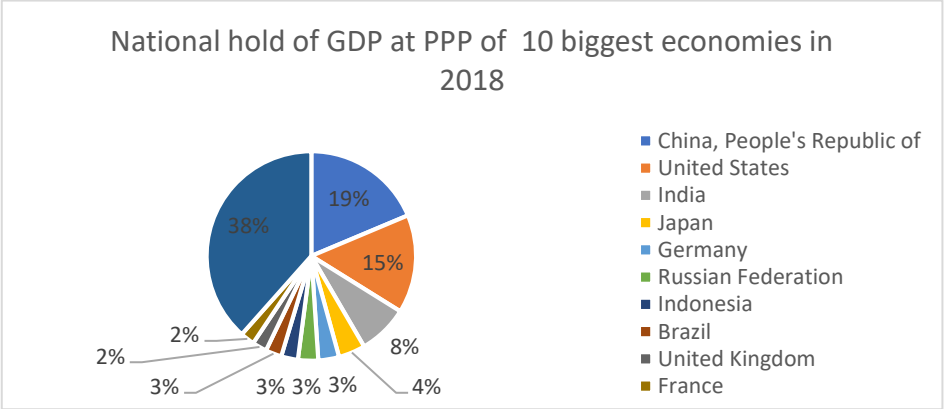

Figure 5- National hold of GDP at PPP of 10 biggest economies in 2018. Author's elaboration, using IMF data

The literature review highlighted that economic growth is not necessarily followed by economic development. In this context, Table 9 shows that the 2018 world major economies are not the ones with higher value of GDP per capita measured at PPP. Yet, in the top 10 economies there are 4 Atlantic economies (Luxemburg, Ireland, Norway and Switzerland) and two Asian-Pacific countries (Qatar and Singapore). On the other hand, these data show that all biggest Asia-Pacific economies, only excluding Japan, have low values of GDP per capita measured at PPP. Still, China made a very significant progress over the last 28 years, ascending 55 positions in this ranking (Table 9 and 10). At the same time, all the biggest Atlantic economies, measured at GDP in PPP in 2018, are also in world top 30 countries regarding GDP per capita, except for Brazil (Table 9).

3.2.2-Manufacturing production

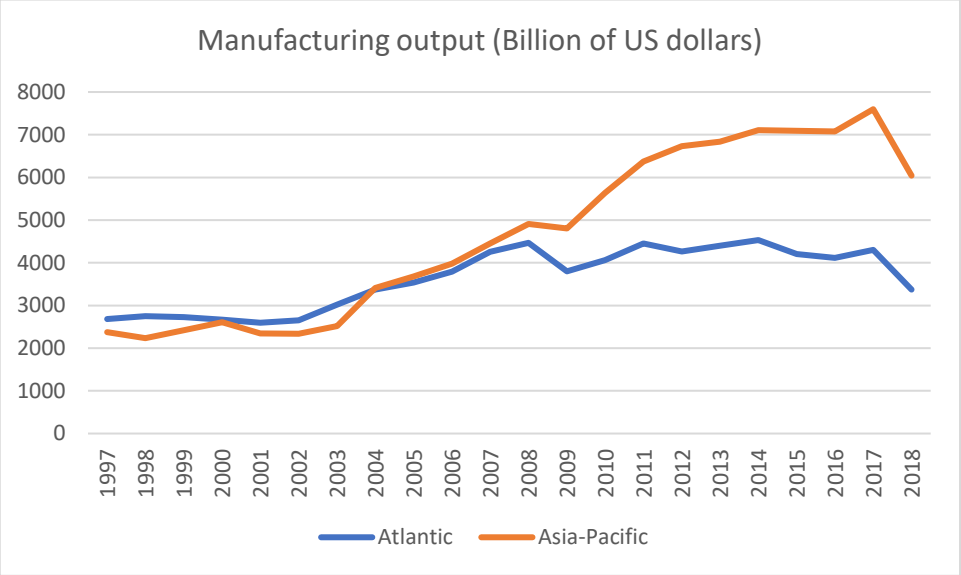

Figure 6- Manufacturing output (Billions of US dollars. Author's elaborations, using World Bank data

In 2018, Asia-Pacific produced 6000 billion of dollars in manufacturing output and it was the largest manufacturing region of the world, contrasting to the situation in the beginning of our analysis (figure 6). In fact, Asia-Pacific has been increasing its value since 1997[5], while Atlantic´s manufacturing output decreased since 2008, probably due to 2008 financial crises. The 2018 drop can be related, in its turn, to the fact that US value for that year was not available in the data set.

If we look now to individual economies (table 11) in 2017[6] China was the largest manufacturing economy, followed by United States and Japan. Besides, in top 10, there were 4 exclusively Asia-Pacific economies (China, Japan, Republic of Korea and India) and 5 Atlantic economies (Germany, Italy, France, United Kingdom and Brazil). Table 12 shows that in 1997 US was the largest manufactured producer and there were three exclusively Atlantic economies in top (Luxemburg, Cyprus and Estonia) while Asia-Pacific only count with two (Jordan and Kazakhstan).

3.2.3-Labour force

According to figure 7, Asia-Pacific holds almost 60% of world labour, while Atlantic only holds about 20%, with these values almost constant during the period of analysis for both

[5] We consider 1997 as the first year, because of the lack of data in the begging of the period. Note that China data was only available since 2004

[6] In this case we will consider 2017 as the last year, because United States value hasn't available in 2018.

regions. If we consider individual economies, represented in table 13, the top 10 labour force countries are predominately from Asia-Pacific either in 2018 and 1990.

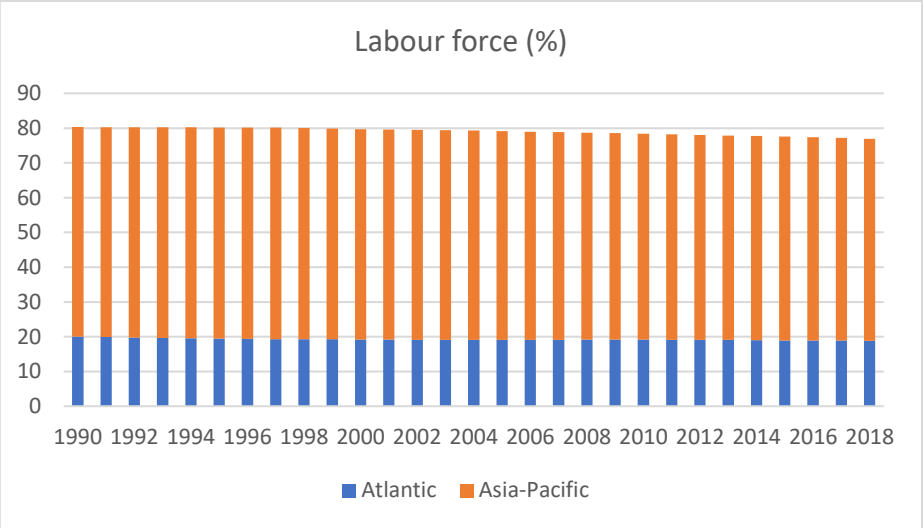

Figure 7- Labour force (%). Author's elaboration, using World Bank data

3.2.4-Finance

In 2015, Atlantic countries had a debt more than 60% of their GDP, while for Asia-Pacific countries was on average of almost 50% of their GDP. As it is visible on Figure 8, Atlantic index debt was higher that the Asia-Pacific during all period, expect for the years 1999 to 2001. The period 2001-2007 was characterized for a decreasing debt in both regions, that lasts until 2008 for Asia-Pacific. From that date, both regions increased their debt as percentage of GDP, however with a large variation in the case of Atlantic.

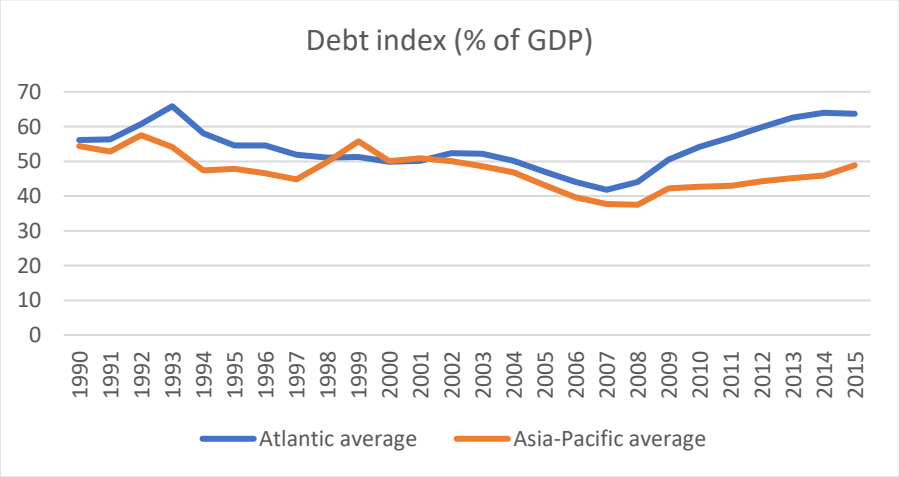

Figure 8- Debt index (% of GDP)- Author's elaboration, using IMF data

Figure 9 shows that, on average, Asia-Pacific saves more as percentage of their GDP than the Atlantic. Although that difference has become sharper over the years, most recently it

decreased. Therefore, in 2018, on average, Asia-Pacific saved more than 25% of their GDP, compared with 22% for Atlantic.

Finally, from table 14, we conclude that, in 2018, the most powerful economies when measured at GDP PPP are not in top 10 countries with higher levels of saving. Despite that, the better placed economies, like China, India and Indonesia, belong to the Asia-Pacific zone.

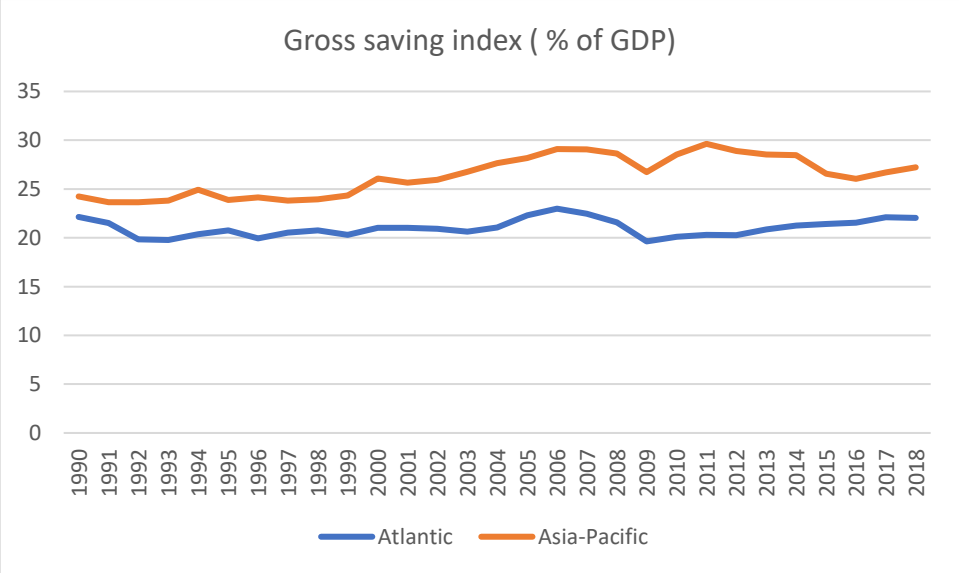

Figure 9- Gross saving (% of GDP). Author's elaboration, using World Bank data

3.2.5-Trade (Merchandise and Services)

Atlantic has four times more regional trade agreements than Asia-Pacific does, as illustrated by table 15. One reason that can explain this big difference is the number of trade agreements involving the European Union, as each one of its Member States has 44 regional trade agreements.

In this context, starting to consider trade of goods, in 2018 (table 16) China exports represented 13% of the world exports and the United States were ranked in a distance second place, representing almost 9%. Although there are more Atlantic than Asian-Pacific countries in the top 10 world exporters, it can be highlighted that Asia-Pacific holds a large percentage of top 10 total merchandise exports.

In 1990, the situation was quite different (table 17). The Federal Republic of Germany and the US were the largest world exporters, both with a share of almost 14%. Besides that, Atlantic countries were clearly dominant in the top 10, with a larger percentage than the Asia-Pacific, which only counted with Japan and Republic of Korea.

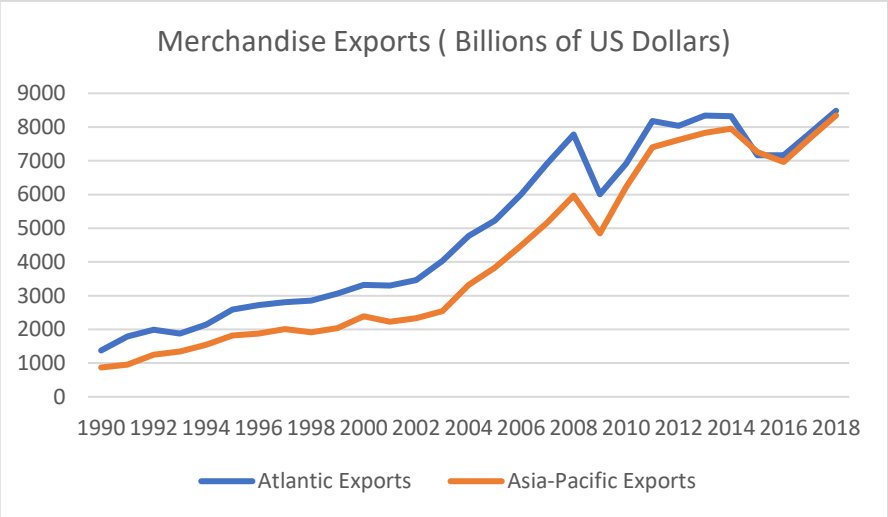

Figure 10- Merchandise Exports (Billions of US Dollars). Author's elaboration, using UN Comtrade data

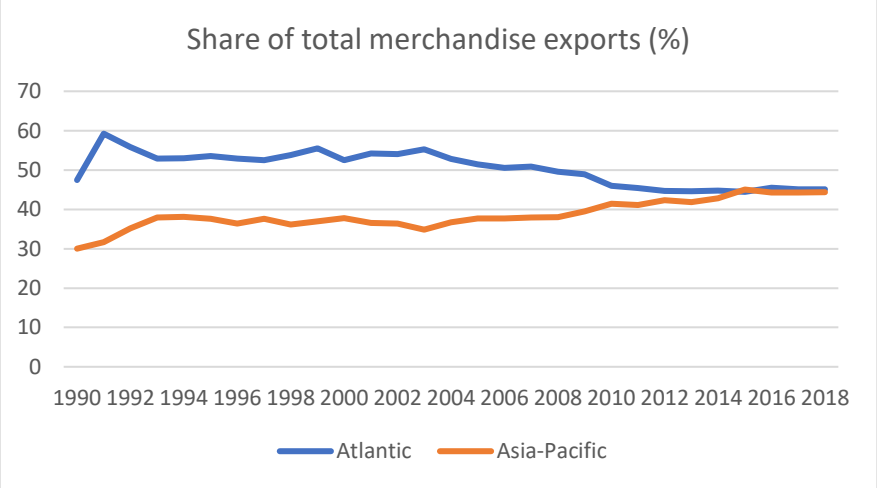

Figure 11- Share of total merchandise exports. Author's elaboration, using UN Comtrade data

According to Figure 10, in 2018 the Atlantic exports represented 8482 billion of dollars, while Asia-Pacific represented 8344 billion of dollars. During the period 1990-2018, Atlantic region exported more than the Asia-Pacific, except for 2015, which is a consequence of a faster annual average export growth rate of 8% in Asia-Pacific, compared with 6,5% of Atlantic region, as can be seen by table 18. However, there are two largest drops that should be mentioned, one in 2009, where Atlantic and Asia-Pacific exports decreased 22,85% and 18,86%, respectively, corresponding to 2008 world financial crisis, and most recently in 2015, expressed by table 18. This last one can be related with a mini recession, which causes were already discussed before.

When considering the world share of exports for both areas, as illustrated by figure 11, the Atlantic is still the major exporter zone of the globe, holding 45% of world's exports, as it was in 1990, when it held almost 50%. During the majority of the period, the Atlantic's share in world exports was constant, but since 2005 it has been showing a tendency to decrease, while Asia-Pacific's share increased during all period.

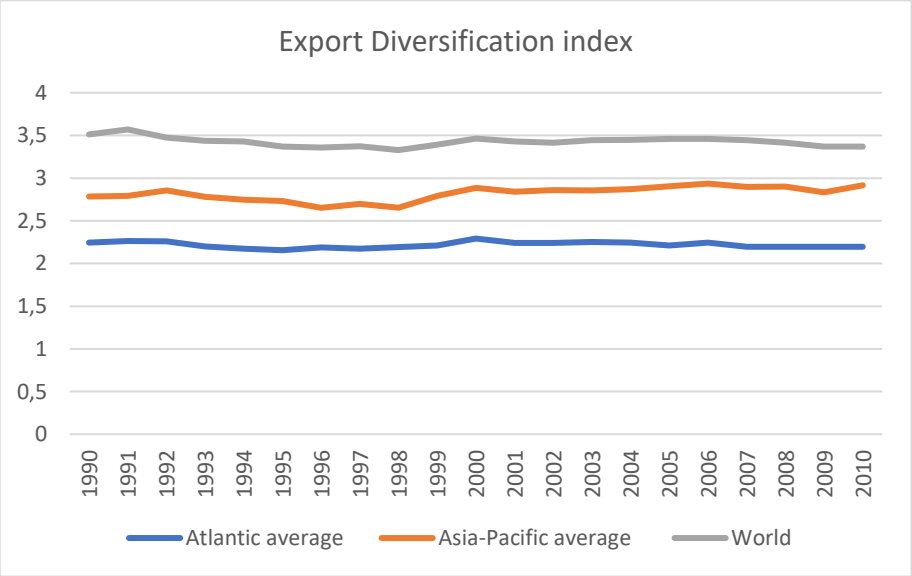

Figure 12- Export Diversification index. Author's elaboration, using IMF data

Another two important characteristics of exports are their diversification and their quality. Due to limitations of IMF data the period of analysis was shorten to 2010. Export diversification index measures the level of diversification of a country or a region, where high values corresponds to lower level of diversification. According to figure 12, the Atlantic countries have on average a lower value in this index than the Asia-Pacific countries and even the World, which means that their exports are more diversified. This feature has been mainly constant during all period of analysis. On the other hand, the Asia-Pacific countries have seen their exports losing diversity over the years. On what comes to quality of exports, figure 13 show that Atlantic during all period of analysis had higher quality exports, with a tendency to increase, common to Asia-Pacific too.

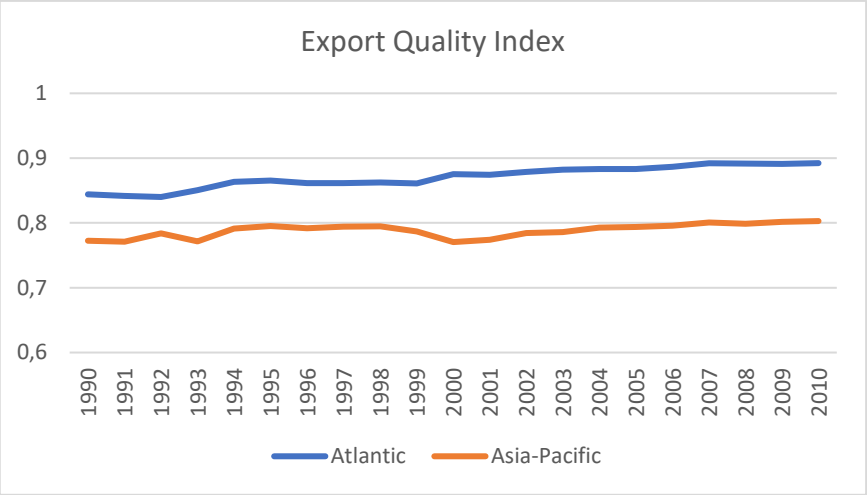

Figure 13- Export Quality index. Author's elaboration, using IMF data

Both Asia-Pacific and Atlantic export more within their region than outside[7] (figures 14 and 15). This feature is more evident in Atlantic, despite Asia-Pacific intra-trade has been growing during the period. Besides that, Asia-Pacific exports more to Atlantic than Atlantic does to Asia-Pacific.

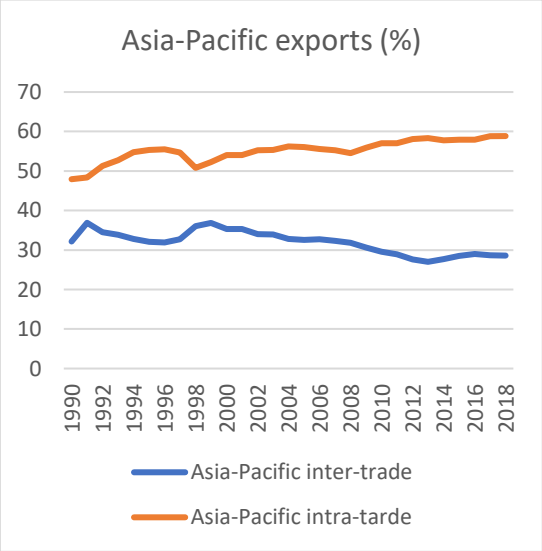

Figure 14- Asia-Pacific exports (%). Author's elaboration, using UN Comtrade data

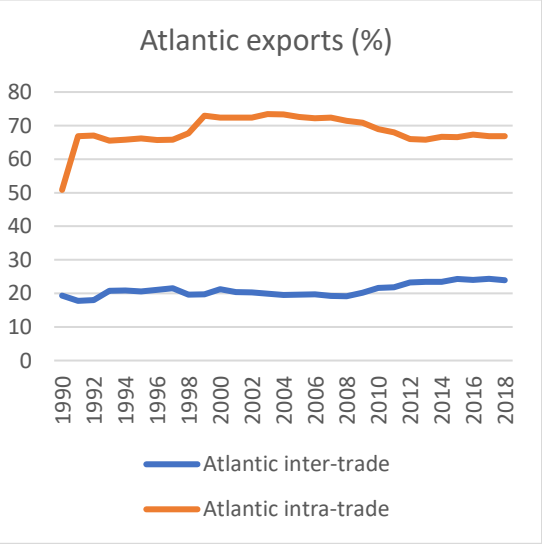

Figure 15- Atlantic exports (%). Author's elaboration, using UN Comtrade data

[7] See the Appendix 1 for the explanation of how the inter and intra-trade were calculated .

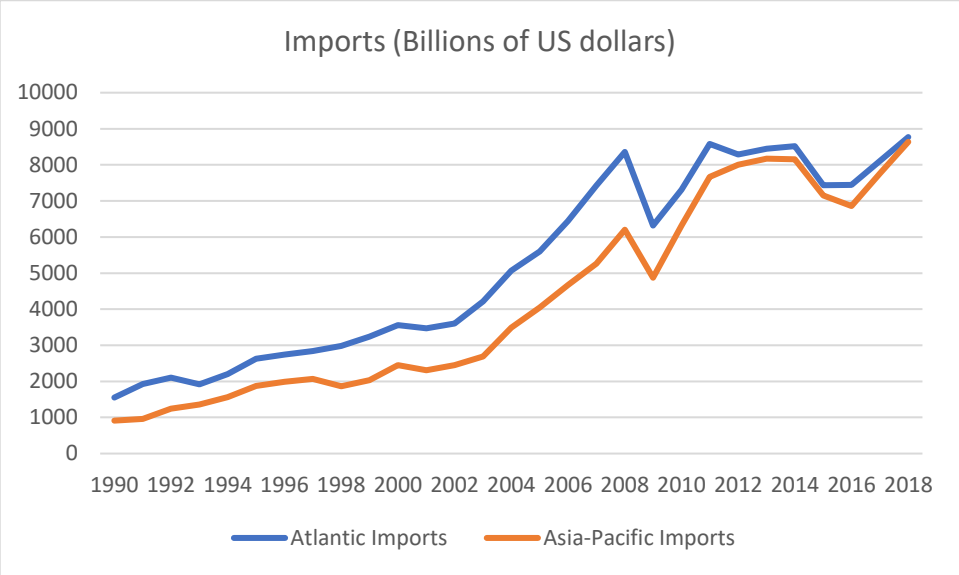

Figure 16- Imports (Billions of US dollars). Author's elaboration, using UN Comtrade data.

The evolution of Atlantic and Asia-Pacific imports (Figure 16) is quite similar to that of exports. Therefore, the key feature is that the Atlantic is since 1990 the largest world importer, although the difference to Asia-Pacific is becoming smaller since 2009. During the period in analysis, the imports of both regions had been increasing, except for 2009 and 2015, when they observed a fall higher than 21% and 12%, respectively (table 19) due to reasons already mentioned for other indicators. Figure 18 shows that Atlantic´s world import share is been decreasing over the last decades, while Asia-Pacific observed the opposite tendency. Consequently, in 2018, both regions hold a world import share near to 45% (figure 17).

At an individual level, in 2018 the major world importer is United States, holding 14% of world imports. The same happened (as expressed by Table 20) in 1990, thought the US held then a higher share. In 2018 there were as many Atlantic as Asia-Pacific economies in the top 10 of the world importers, while in 1990 this ranking was exclusively based on Atlantic countries.

Similarly, to exports, Figures 18 and 19 show that Asia-Pacific and Atlantic import more from their region. However, Atlantic imports from Asia-Pacific had been growing over the past 28 years, so that in 2018 it represented almost 40% of their total imports. On the other hand, Asia-Pacific imports from Atlantic are dropping all over the period, and in 2018 represented

less than 30%.

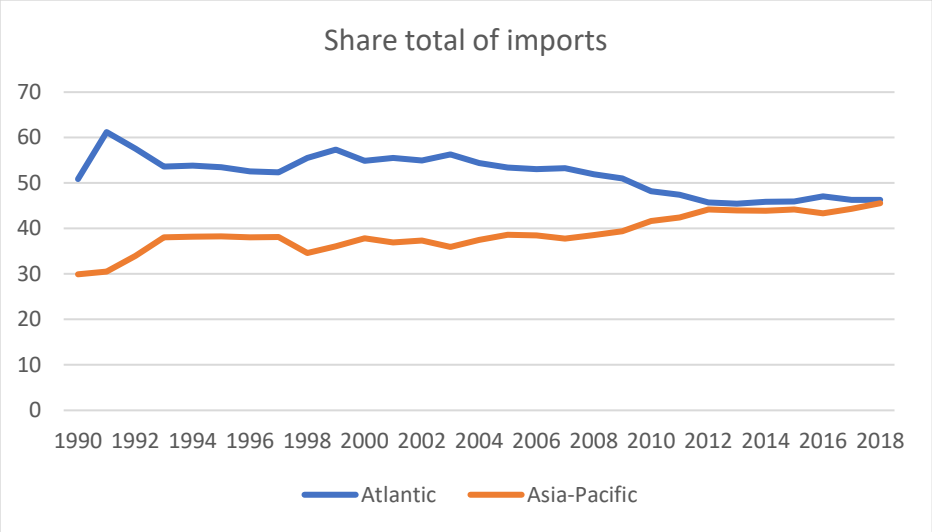

Figure 17- Share of total imports. Author's elaboration, using UN Comtrade data

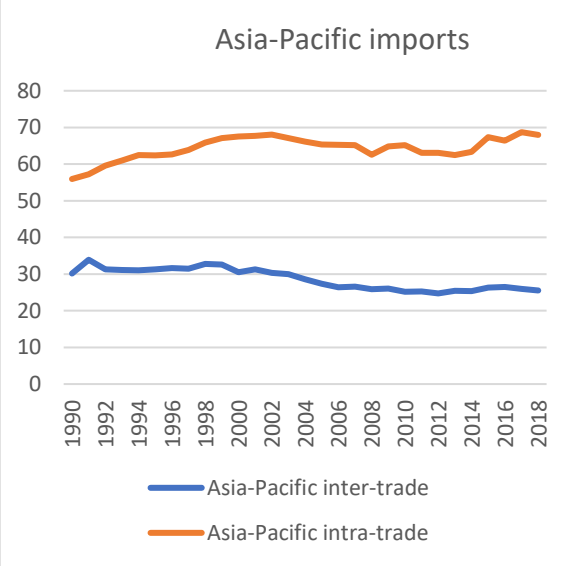

Figure 18- Asia-Pacific imports. Author's elaboration, using UN Comtrade

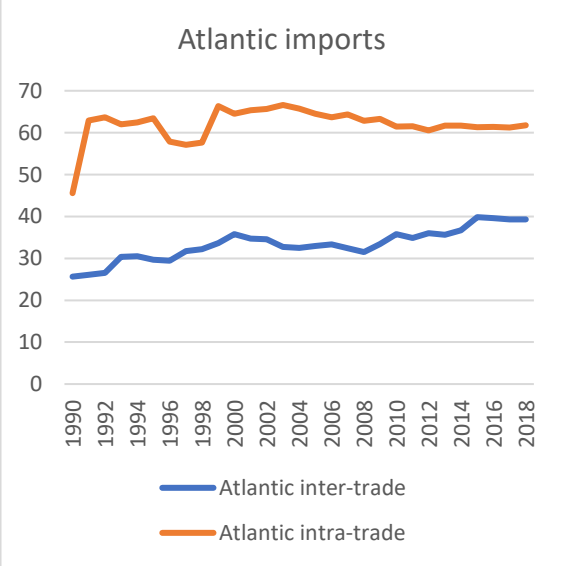

Figure 19- Atlantic imports. Author's elaboration, using UN Comtrade data

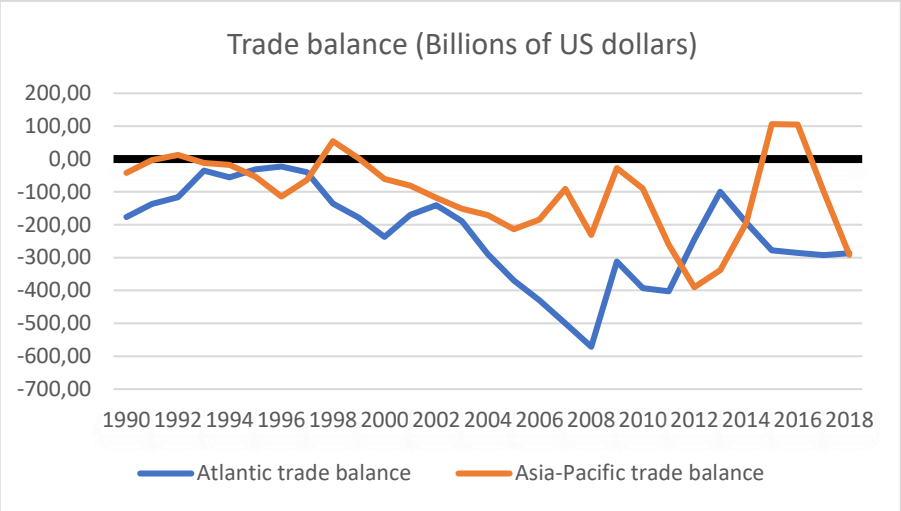

Figure 20- Trade balance (Billions of US dollars). Author's elaboration, using UN Comtrade data

Analysing the figure 20, we can conclude that trade balance of both regions was unstable. While Asia-Pacific presents a trade deficit almost during all period, Atlantic does not have any single year with a positive value. In fact, it negative value has most of the times higher than Asia-Pacific's, except for 1995-97 and 2012-14. The coverage rate (table 21), that aims to measure a country's or region competitiveness, indicates not only the same picture, but also tells that imports of both regions were bought through external financing. Furthermore, by analysing trade openness, also in table 21, we conclude that Atlantic is more dependent on trade than Asia-Pacific and that difference has been growing over the period, so that in 2018 its trade openness was about 40%, almost twice than the value for Asia-Pacific. During the period the value of this indicator increased in both regions, showing that they are increasingly vulnerable to external shocks.

Regarding services, Atlantic economies are the majority within the top 10 of services exporters either in 2018 or 2005[8] (table 22). On the other hand, Asia-Pacific was able to introduce two more countries -India and Singapore - in 2018´s top 10. Another thing we need to mention is that top 4 exporter economies did not change from the beginning to the end of the period. That is the case for the United States, United Kingdom, Germany and France, that jointly hold a share higher than 30% in 2018. Over the period in analysis, these four countries not only increased their value, but also their ratio to GDP, as it happened with every single economy included in top 10 both in 2005 and 2018. Besides, it is particularly relevant that

[8] Because of WTO only had data since 2005, we had to restrict the period of analysis to 2005-2008

exports of services represent in Ireland more than 50% of its GDP in 2018 as well as Singapore, where it holds 32% of GDP. One more thing to highlight is that China who was in 2018 the major world merchandise exporter, with a share of 13%, in this context is only ranked in the 5th place, with a share of 4,5% of world exports at the same time as its exports of services represent about 1% of its GDP.

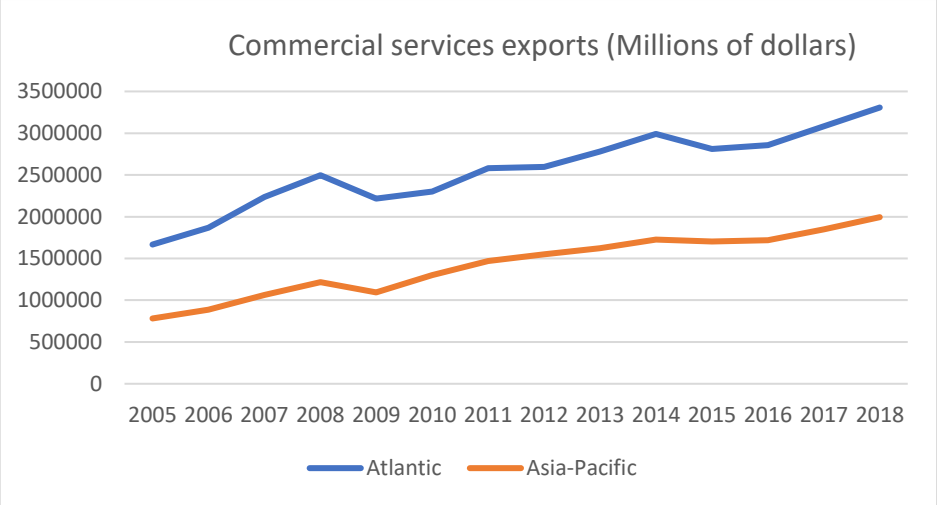

Figure 21- Commercial services exports (Millions of dollars). Author's elaboration, using WTO data

In this scope, Figure 21 confirms what we suspected when analysing table 22, that is Atlantic is by far the largest commercial services exporter region. In 2018, its total exports totalize more than 3300000 million of dollars, while Asia-Pacific totalizes almost 2000000 million of dollars. Although this value has been increasing since 2005 in both regions, when we look to figure 22, we see that Atlantic's share is decreasing while Asia-Pacific is increasing. Thus, in 2005, Atlantic controlled 62% of world commercial services exports against 56% in 2018%, and on the other hand, Asia-Pacific´s share of world commercial services exports raises from 29% to 34%, between 2005 and 2018.

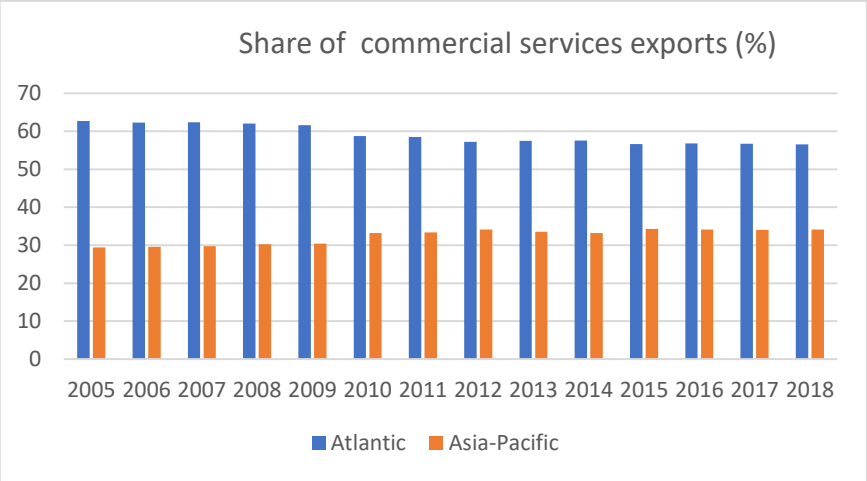

Figure 22- Share of commercial services exports. Author's elaboration, using WTO data

Concerning the top 10 largest commercial services importers (Table 23), we conclude that both in 2005 and in 2018 there were more Atlantic economies than Asia-Pacific's. Similarly, to what happens in services exports, Asia-Pacific add 2 more economies comparing with 2005: India and Singapore. The United States are the major importer in both years, holding about 10% of world commercial service imports. Over the period, the US not only increased their value of services imports, but also their ratio to GDP. It is quite relevant that China is ranked in the second place, really near to US, holding 9,4% of world commercial services imports, what compares with its 8th place in 2005, with a share of 3% Ireland and Singapore are the economies where the services imports ratio is bigger, 56% and 32% respectively, as it happened in exports.

The key features in commercial services imports, (figures 23 and 24), are identical to those for commercial services exports. Firstly, the Atlantic is the largest commercial services importer since 2005, so that in 2018 its imports represented more than 2500000 million of US dollars, while the Asia-Pacific's value was 2000000 million of US dollars. Secondly, the share of Atlantic commercial services imports is decreasing over the period, while Asia-Pacific is increasing.

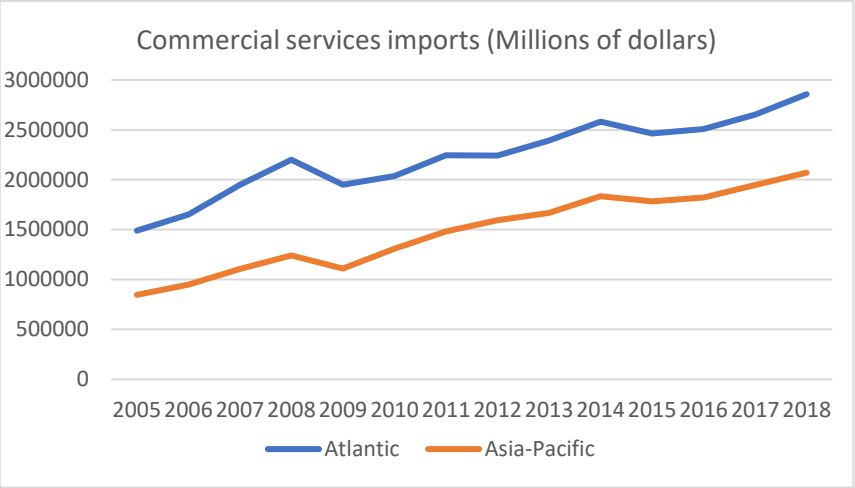

Figure 23- Commercial services imports (Millions of dollars). Author's elaboration, using WTO data

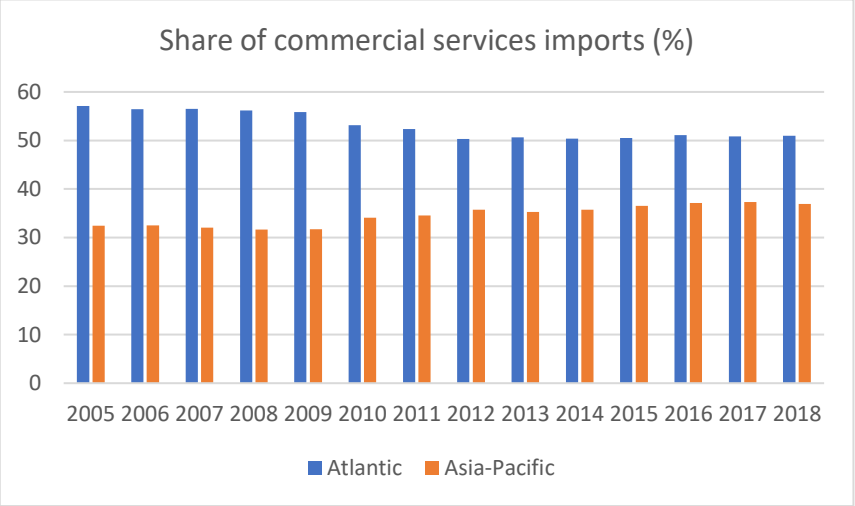

Figure 24- Share of commercial services imports. Author's elaboration, using IMF data

3.2.6-Foreign Direct Investment

Concerning Foreign Direct Investment (FDI), the United States were the main world receptor both in 1990 (24% of total inflows) and in 2018 (19%). In Table 24, we can also see that. China is ranked in a distance second place, if individually considered, but jointly with Hong Kong its world share in FDI inflows are similar to that of USA. This is particularly relevant taking in account that, in 1990 China did not even appear in the top 10 inflow's economies (Table 25), which seems that over the past 28 years this country attracted more and more FDI. Another geographical change (tables 24 and 25) is that the most important inflow's economies are now concentrated in Asia-Pacific, while in 1990 they were concentrated on Atlantic.

The same feature is more evident in Figure 25. In 2018 Asia-Pacific attracted more than 750000 million of US dollars in FDI, while Atlantic FDI inflows totalized more than 400000 million of US dollars. These values corresponded to a share of 58% for Asia-Pacific against an Atlantic share of 33% in 2018 (figure 26). Generally, Atlantic had attracted more FDI than Asia-Pacific during almost all period, except for years 2008, 2013-2014 and 2017-2018. In 2008, the global financial crisis affected negatively the Atlantic economies, and in that region FDI decreased 45% when compared to the previous year. On the other hand, Asia-Pacific observed a slowdown in 2008 FDI inflows, but it was only in the following year that its FDI inflows reduced by 31%. In 2017 and 2018 Atlantic FDI total inflow was reduced by 32% and 34% (table 26), respectively, which can be the result of political instability, geopolitical tensions and commercial war in Europe and North America. Asia-Pacific continued with positive FDI inflows, despite its slowdowns.

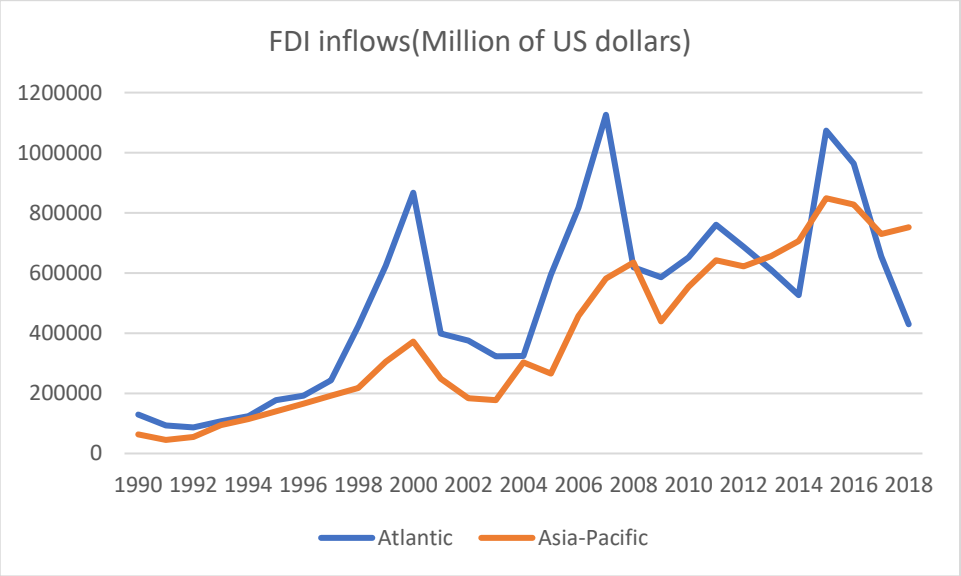

Figure 25- FDI inflows (Millions of US dollars). Author's elaboration, using UNCTAD data

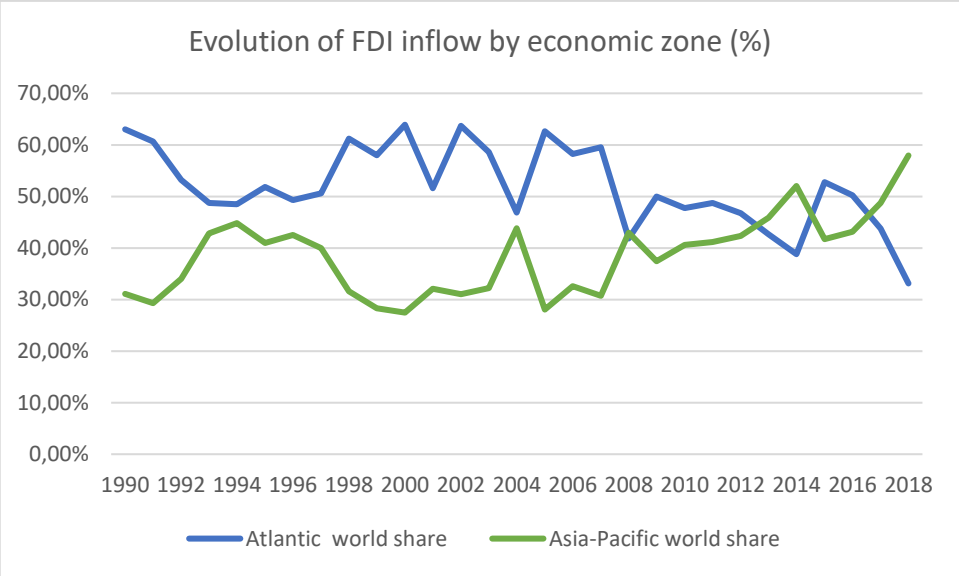

Figure 26- Evolution of FDI inflow by economic zone. Author's elaboration, using UNCTAD data

Concerning outflows (table 27), Japan is the major investor abroad. In 2018, it represented 14,1% of world flows and 2,6% of the country´s GDP at PPP, while China was ranked second, holding 13% of world's FDI outflows. In the top 10 of investors outside its borders, the Atlantic economies tend to prevail, differently to what happen with FDI inflows. At the same time (table 28) New Zealand was the major world FDI investor in 1990, with an investment abroad equivalent to 99% of its GDP, that represented about 20% of world's total FDI outflows. In that year, Germany was ranked second and Australia third, while China was not in this top 10.

On the other hand, Figure 27 show us that Atlantic was the most important foreign investor until 2011, even during 2008 financial crisis. That is also expressed by Figure 28, with the Atlantic´s share of FDI outflows was always superior to 50% from 1990 to 2011. After being surpassed from 2012, the Atlantic region was able to overtake again Asia-Pacific on years 2015 and 2016. However, in the last two years of the period, Asia-Pacific has overtaken again Atlantic's investment abroad, despite the decreasing tendency for both areas. The underlying reason has already been discussed.

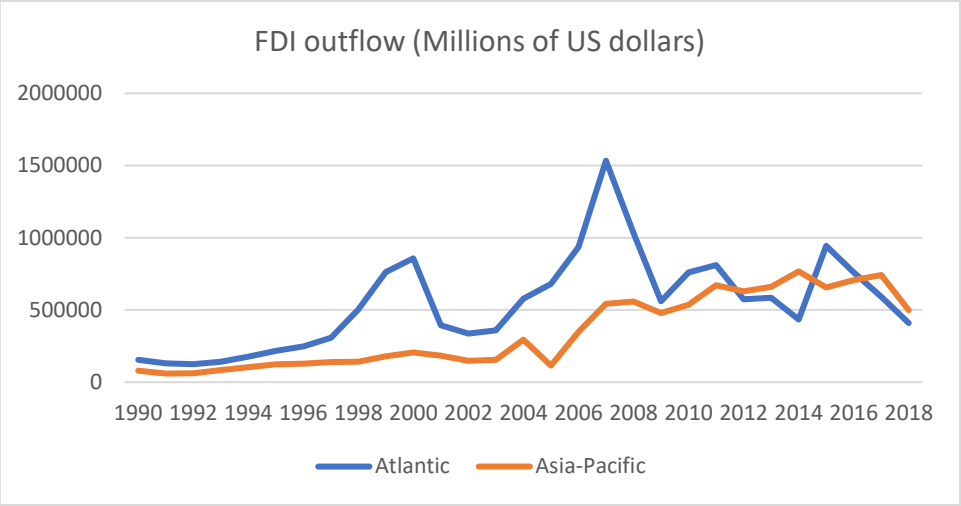

Figure 27- FDI outflow (Millions of US dollars). Author's elaboration, using UNCTAD

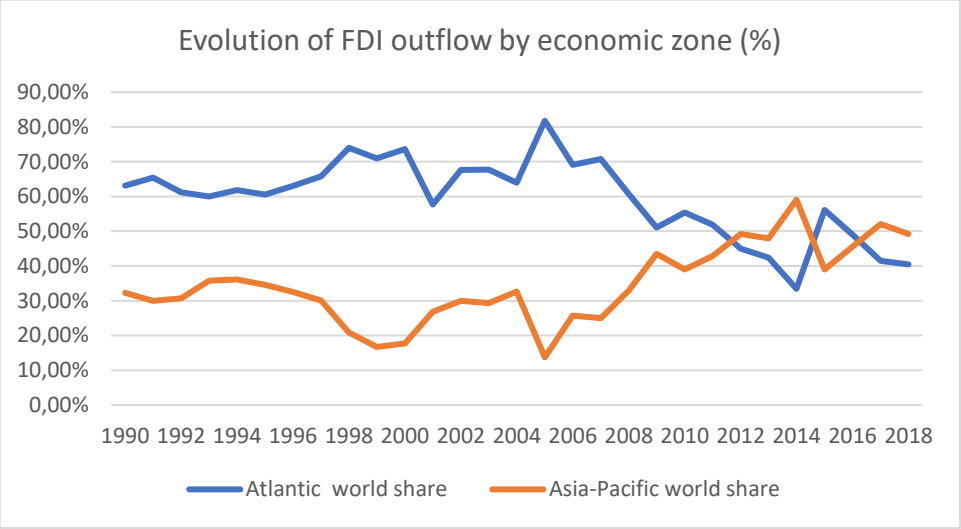

Figure 28- Evolution of FDI outflow by economic zone (%). Author's elaboration, using UNCTAD data

In 2018, 57 of the world's top 100 non-financial MNEs, ranked by foreign assets, belong exclusively to Atlantic zone (table 29). Asia-Pacific only accounted for 22 companies in this top. The other 21 firms were from United States and Canada, which have doble coastline (Pacific and Atlantic), and because of it could not be exclusively incorporated in one of these zones. However, these data highly demonstrate that Atlantic is the area who concentrates the majority of world's top non-financial MNEs.

On the other hand, if we analyse the 2018 brand value report, made by Brand Finance (2018), the situation is quite different. In the ranking of table 30, in top 7 there are 3 exclusive Atlantic economies (Germany, France and United Kingdom) that account for 16% of total world's total brand value; Asia-Pacific counts with 2 exclusive economies (China and Japan), but they represented 22% of word's total., more than the Atlantic. In the world top 100 of

the most value brands (table 31), the United States is the most representative country. Atlantic only has 20 exclusively economies while Asia-Pacific has 37 economies in this ranking.

3.3-Politic analysis

3.3.1-Hard and Soft power

Atlantic had since 1990 and until 2010 a higher military expenditure than Asia-Pacific. From that date on, Asia-Pacific had surpassed Atlantic's budget, so that in 2018 it represents almost 900 billion of dollars (while Atlantic only reached 700 billion of dollars), as expressed by figure 41 on annexes. If we look now to figure 29 below, we see that since 1990 Atlantic shows a decreasing tendency, while Asia Pacific curve presents the opposite. In fact, in 2018 Asia-Pacific controlled over 50% of world's military expenditure, against 40% of Atlantic share.

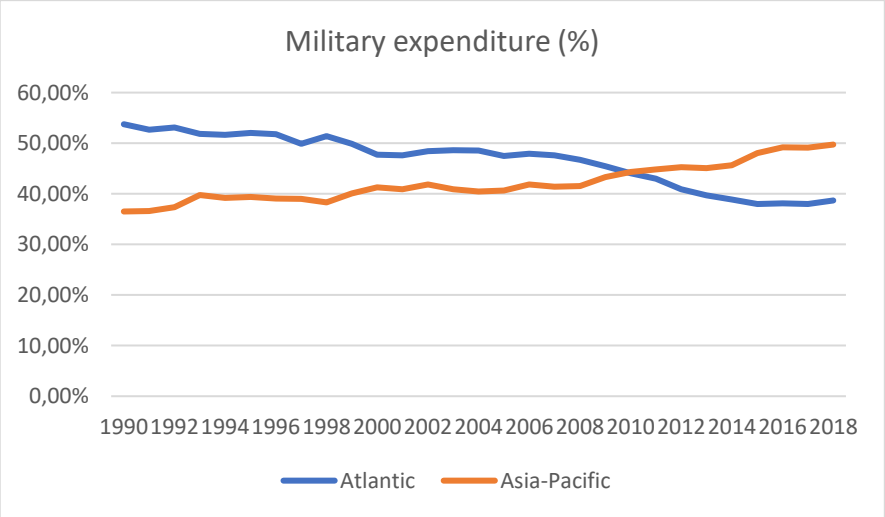

Figure 29- Military expenditure (% GDP). Author's elaboration, using World Bank data

Table 32 shows us the major investors on military capability. United States, as seen in the literature review, is the country with higher investment either in 2018 or 1990. However, its military expenditure as % of GDP decreased, a tendency that is identical for all countries of top 10 in 1990 and 2018. One other thing to mention is that the number of exclusively Atlantic top 10 economies decreased, when we compare the beginning with the end of the period. On the other hand, the number of top 10 Asian-Pacific economies increased in this period of analysis.

When it comes soft power, in order to measure it, we will consider an index published by Portland that is composed by six categories (Digital, Culture, Enterprise, Engagement, Education and Government), presented in table 33. As this is a recent index it has only data since 2015, so we will only analyse the period 2015-2018.

On annexes, Figure 42 shows that in 2018 the top 3 economies in soft power index were exclusively Atlantic, while in 2015 it included United States, which belongs to both areas of analysis. In fact, the top 10 has more exclusively Atlantic than exclusively Asia-Pacific economies both in 2015 as in 2018. This is even true for all ranking, as in 2015 there were 7 exclusively Asia-Pacific economies while in 2018 this number was only 5. Despite this decrease, Japan and China were able to improve their score on the ranking. Yet, Japan is the first exclusively Asia-Pacific economy, while China is the last.

Looking now into figure 43, on annexes, we see that United States is the number one country in education, culture and digital category. There are two exclusively Atlantic economies that stand out regarding engagement and government (France and Sweden, respectively) and on the other hand, Singapore is the country which higher score in terms of enterprise.

There's also an additional point related to universities. Michael Cox (2012) said that one of West strengths, especially the US, was on academy. That is illustrated by table 34, where according to QS top universities, in 2018 United States had only 17 universities in top 100 (while according to Cox (2012), it had 58 in 2011). The top 10 is composed by five US universities, four universities from United Kingdom and one from Switzerland, which shows an Atlantic concentration. However, in top 100 there are as many exclusively Atlantic economies as exclusively Asia-Pacific economies: 30, to be exactly. In 2011, according to Cox, Asia had only 13 universities in top 100, with China accounting for only 5 (including Hong Kong). For the next 7 years, what seems to have contributed for this increase is no longer only China, that now has 6 universities in top 100 (plus 4, if we include Hong Kong), but also Australia that has 7 universities in the world's top. Australia is a country that is associated with the West and, therefore, not included in Asia as a region. Thus, including this country in Asia-Pacific region, it strengthens its scores.

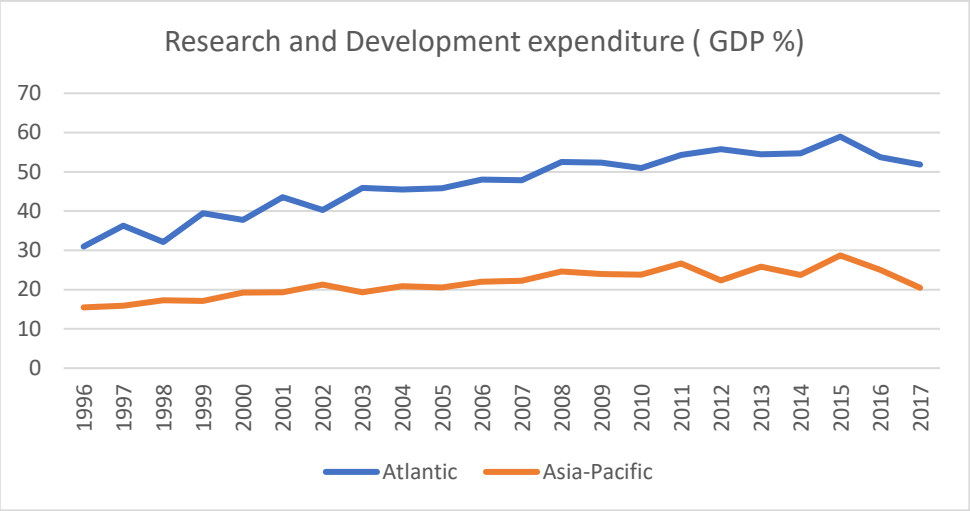

Figure 30- Research and Development expenditure (GDP %). Author's elaboration, using World Bank data

Regarding innovation, all Atlantic countries spent together in 2017 more than 50% of their GDP in Research and Development (R&D), while Asia-Pacific countries didn't hold more than 20% of their GDP for the same year (as expressed by figure 30). Although this value had been increasing since 1996, especially in Atlantic, after 2015 it is visible on the figure above a decreasing tendency, more pronounced in Asia-Pacific. In this context, table 35 shows that although the first two economies with higher expenditure levels in R&D are from Asia-Pacific (Israel and Republic of Korea), the top 10 economies are mainly Atlantic.

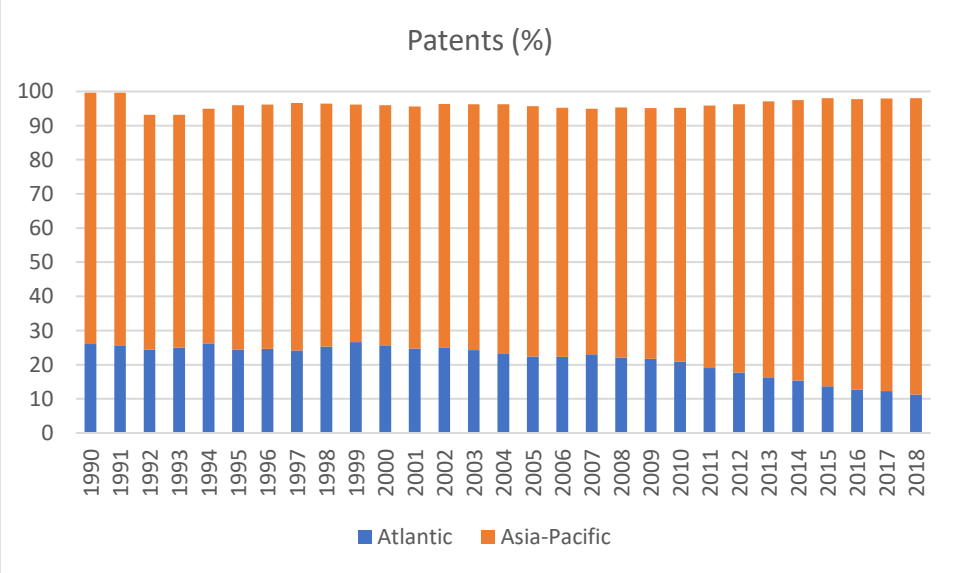

Figure 31- Patents (%). Author's elaboration, using World Bank data

Despite Atlantic being the region with more spends in R&D, it isn't the region that possesses most patents. Effectively, according to figure 31, Asia-Pacific is by far the region with more patents registered since 1990, and in 2018 its superiority was even bigger, counting with 86% of world copyrights. At economic level, it is evident on table 36 that in 1990, 7 of the top 10 economies with more patents were Atlantic, plus US (belonging to both regions). In 2018, there were several changes as the Atlantic countries on this ranking was reduced to 4 (Germany, France, United Kingdom and Italy) and the top 3 was constituted by China and Japan, two exclusives Asia-Pacific economies, and United States, which belongs to both areas.

3.3.2-Global governance

One more relevant thing to focus in this context is the governance of global institutions. Thus, data on table 37 suggest that during the period 1990-2018, top jobs in the UN[9] and its agencies were filled by more citizens from the Atlantic economies than from Asia-Pacific, the only exceptions coming from IMO, UNIDO, WTO and the WIPO. As usual, the Presidency of the World Bank was mainly American, and the Presidency of the IMF was mainly European.

Although the UN data of revenue by government donor are limited to 2010-2018 period, as illustrated in table 38, we can conclude that over these eight years, both regions have increased the amount donated, with the Atlantic countries contributing with almost 44%, that is twice the amount of Asia-Pacific countries.

3.3.3-Population and World's mega cities

According to figure 44, on annexes, Asia-Pacific region counts with 4 billion of people, while Atlantic population totalizes almost 1,5 billion in 2018. Asia-Pacific has higher population than Atlantic since 1990, being the region that concentrates some of the most populous countries, such as China, India, Indonesia, Pakistan and Japan (as expressed by table 39). In fact, for 28 years the Asia-Pacific population grew at an annual average of 1,22%, while the Atlantic population grew at 1,14%, according to table 40. Figure 32 below confirms these tendencies, showing that since 1990 Asia-Pacific holds more than 50% of world population, while Atlantic only holds near 20%. However, these two regions are losing share in the world population, especially in the case of Asia-Pacific.

[9] It was not considered International Fund for Agricultural Development (IFAD) and Universal Postal Union (UPU), due to of lack of information regarding its former Presidents in the period of analysis.

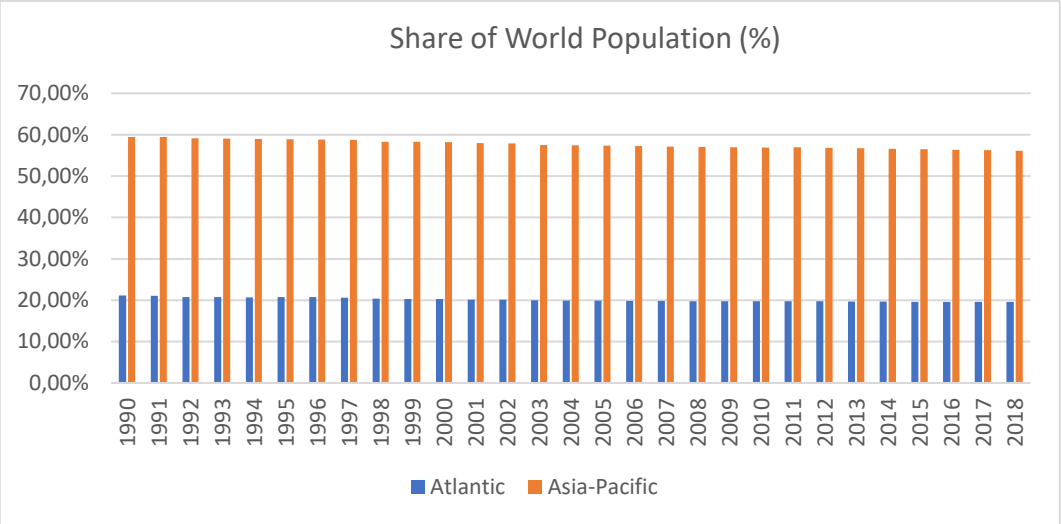

Figure 32-Share of World Population. Author's elaboration, using IMF data

On the other hand, Tables 41 and 42 show that world's megacities are more and more concentrated in the Asia-Pacific region as well as in the global south. Although our analysis is focused on 1990-2018 period, table 41 provides information since 1955. In that year, the world megacities were concentrated on Atlantic, however since 1995 Atlantic only hold 3 world megacities that were mainly in the South Atlantic. In other words, largest cities like New York, London or even Paris were replaced by southern Atlantic cities like São Paulo, Mexico City and Lagos, and in 2018, Cairo appeared on the top, replacing Lagos. In this context, it is predicted that three Atlantic mega cities (Cairo, Mexico City and São Paulo) will remain in 2030, despite they will be falling to the last positions of the ranking. It can also be mentioned that Asian-Pacific accounts for the majority of world megacities, especially in what comes to Asia, with cities located in India, China and Japan. In 2018 the top 3 were only Asian-Pacific cities (Tokyo, Deli and Shangai) while Deli, the capital of India, is predicted to be the most populous city about 2030.

3.3.4-Human Development Index[10]

Atlantic has, on average, a higher human development index (HDI) than Asia-Pacific since 1990. In 2018, according to figure 33, Atlantic HDI average was 0,813 while Asia-Pacific was 0,749. According to HDI 2018 criteria, a high development index corresponds to the interval

[10] The Human Development Index (HDI) measures a country achievement in economic and social dimensions by using three key dimensions: a long and healthy life (measured by life expectancy at birth), knowledge (measured by expected years of schooling and mean years of schooling) and a decent standard of living (GNI per capita). (Human Development Index (HDI) | Human Development Reports. (n.d))

[0,75;0,892[, which means that both regions have high human development. Looking now to top 10 economies in 1990 and 2018, as represented by table 43, we see than in the beginning and in the end of the period in analysis, exclusively Atlantic economies represent the majority of top HDI, that can be even considered very high human development countries, because their value is higher than 0,892. Yet, in 2018, there are three Asia-Pacific economies in the top 10 (as expressed in table 43): Hong Kong, Australia and Singapore.

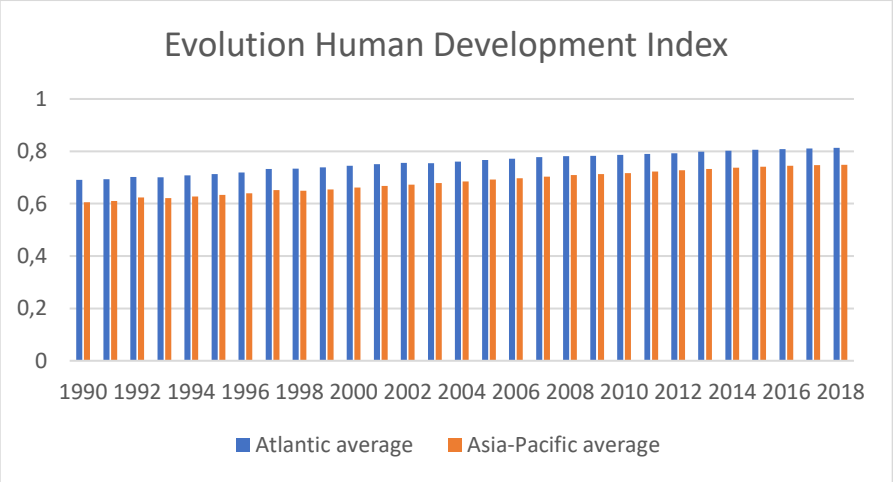

Figure 33- Evolution of Human Development Index. Author's elaboration, using United Nations data

3.3.5-Pollution

According to figure 45, on annexes, Atlantic pollutes more than Asia-Pacific. In 2017, Atlantic CO_2 emissions totalized more than eight billion tonnes, while Asia-Pacific did not reach 7 billion tonnes. Moreover, both regions have increased their annual $C0_2$ emissions, when we compare with 1990 values. Despite this evolution, their world share has been diminishing, according to figure 34 below, so that in 2017 Atlantic held 22,43% of world $C0_2$ emissions while Asia-Pacific held 18,56 %. One more thing to mention is that the biggest world polluter in 2017 is Germany, an Atlantic economy, although there are more exclusively Asia-Pacific economies than exclusively Atlantic economies in the top 10 (as expressed by table 44).

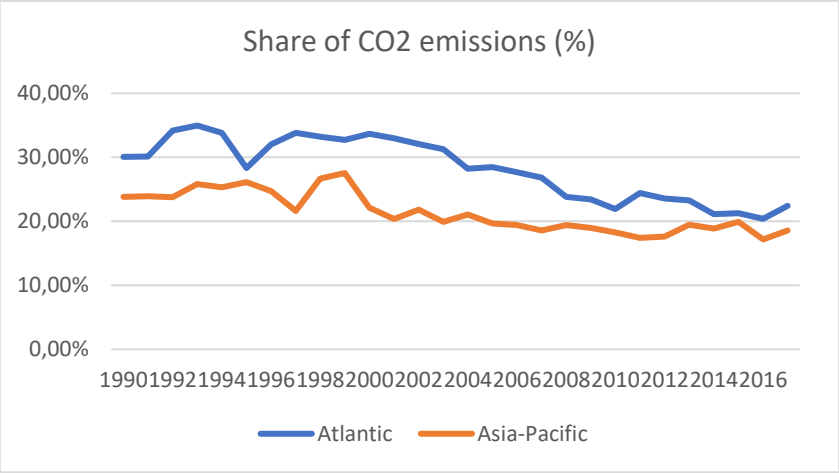

Figure 34- Share of C02 emissions (%). Author's elaboration, using Our World in Data

3.4- Energetic analysis

According to figures 35 and 36, Asia-Pacific is the region which consumes more petroleum, since 2001, and dry natural gas, since 2010, expect for 1990. Indeed, in 2017[11] Asia-Pacific accounted for almost 40% of petroleum and dry natural gas world consumption, respectively, while Atlantic share was around 30% in both cases. On the one hand, both regions present a decreasing trend in petroleum consumption, even though much more pronounced for Atlantic, while, on the other hand, in dry natural gas consumption Asia-Pacific presents an increasing tendency, while Atlantic's presents the inverse.

At individual level, United States is the major world consumer of petroleum and natural gas in 1990 and 2017 (tables 45 and 46, respectively). On petroleum consumption, despite Atlantic and Asia-Pacific having both three economies in top 10 (Brazil, Germany and France, for Atlantic and China, Japan and South Korea for Asia-Pacific) the number of Atlantic economies has decreased from 1990. On natural gas, Atlantic has two economies in top 10 (Germany and United Kingdom), as well Asia-Pacific (China and Japan), and these last ones are better ranked that the former. In 1990, the top 10 was consisted of three economies of each region, that are Germany, Argentina and Belgium in Atlantic, and Japan, Indonesia and China in Asia-Pacific.

[11] 2017 was the last available year in the dataset

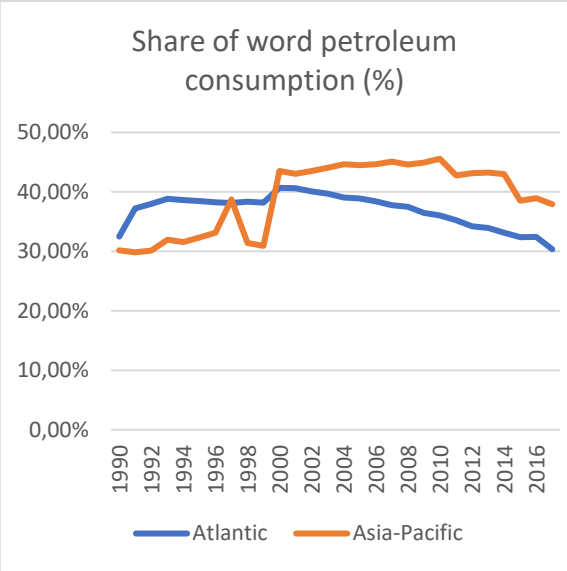

Figure 35- - Share of World Petroleum consumption (%). Author's elaboration, using EIA data

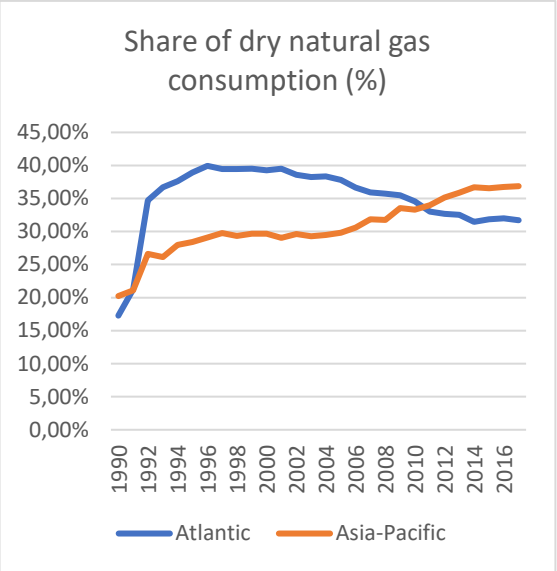

Figure 36- Share of dry natural gas consumption (%). Author's elaboration, using EIA data

Figures 37 and 38 show that, Asia-Pacific is the region which produces more petroleum, since 2008, despite its share in 2018 being very similar to Atlantic's, and natural gas, since 2009. In fact, in 2017, last available year on natural gas, Asia-Pacific account with 34% of world's natural gas production, while Atlantic share was 27%. Asia-Pacific presents a tendency to continue to increase the production of these two types of energy, while Atlantic shows a tendency to stabilize the production of petroleum and reduce it for natural gas.

Also, in this context, Table 47 shows the biggest petroleum producers in 2018, showing that United States was the largest producer, followed by Russia and Saudi Arabia, that don't belong to neither of the regions considered in this analysis. However, Canada is in fourth place, a country that, as US, belongs to both regions, followed up by China (an Asia-Pacific economy). The only exclusively Atlantic economy is Brazil, which is ranked 9th largest producer, comparing with 1990, a year in which there wasn't any exclusively Atlantic economy on top 10, and China was the only exclusive Asia-Pacific country. On the other hand, Table 48 shows that in 2017 the largest world producer of dry natural gas was United States as well in 1990. In 2017, there were three exclusively Asia-Pacific economies (Qatar, China and Australia) and two exclusively Atlantic economies (Norway and Algeria) in top 10, which is a lower number for this last region, comparing with 1990.

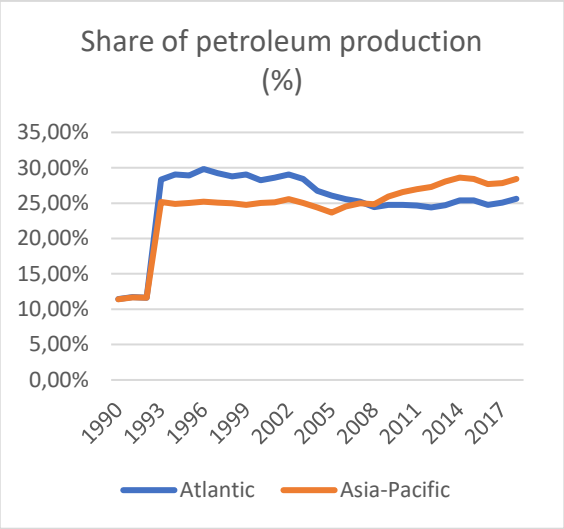

Figure 37- Share of petroleum production (%). Author's elaboration, using EIA data

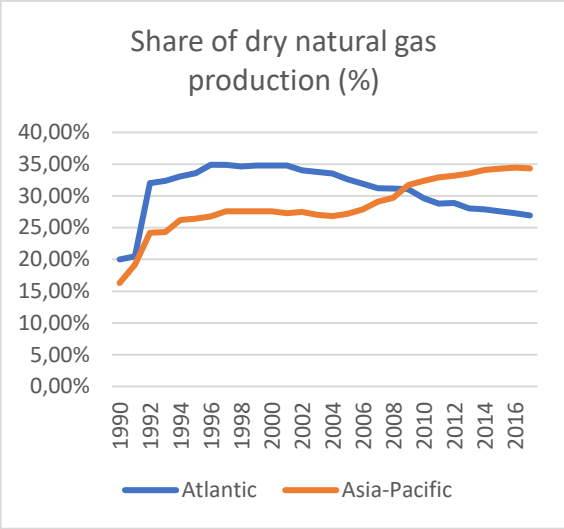

Figure 38- Share of dry natural gas production (%). Author's elaboration, using EIA data

On reserves, in 2018 Asia-Pacific is the region which possesses more crude and natural gas reserves, as expressed by figures 46 and 47 on annexes. However, in what comes to crude, in 2018 both regions hold together no more than 24% of world share, which suggest that the countries with higher crude reserves aren't from these regions. Table 49 proves it, showing that countries such as Venezuela, Saudi Arabia, Iran, Iraq, Kuwait, United Arab Emirates and Libya possesses the largest crude reservations, while table 50 represents major crude reservations economies within its regions. Therefore, the major conclusions are that Canada is the country in both regions with higher crude reservations (even with 50% of adjustment); and except for Nigeria, all Asian-Pacific top 10 countries have more crude reservations than Atlantic ones, including China. The same feature happens to natural gas, Table 51 show that the two countries which have more reserves (Russia and Iran) were not included neither in Atlantic nor Asia-Pacific, which justifies why these two regions together don't hold more than 35% of world share. Yet, in 2018, besides United States, there are 2 exclusively Asia-pacific economies (Qatar and China) and two Atlantic economies (Nigeria and Algeria).

When it comes to trade, since 1990 is quite visible on figure 39 that Atlantic exports more crude oil than Asia-Pacific. However, this difference is getting shorter, as Atlantic share is decreasing and Asia-Pacific's is increasing, so that.in 2016, Atlantic's share represented less than 20% of world's crude oil exports. One of the reasons behind this evolution is that important energetic countries are not considered in our geographical analysis, such as Saudi

Arabia, Russia, Iraq, United Arab Emirates, Kuwait, Iran, Venezuela and Angola. As explained in the beginning of this chapter, these countries are the largest exporters of oil (as expressed by table 52) but they have not been considered because they lack data on trade. For this reason, we have represented in table 53 the largest exporters of crude oil for both regions in 2016, concluding that the three first countries of Atlantic exports more than the three first countries of Asia-Pacific and the last countries of Asia-Pacific exports more than Atlantic's last positions.

On the other hand, Asia-Pacific imports much more than Atlantic, since 1990. This is quite evident in figure 40, showing that in 2016 Asia-Pacific share of crude oil imports was 28% (against 18% of Atlantic). This feature is in line with table 54, according to which the four major crude oil importers are Asian-Pacific economies (China, India, Japan and South Korea). China leads this ranking. contrasting with 1990 when Japan was the major world crude oil importer, where there are only three Asian-Pacific economies (Japan, Singapore and South Korea) in top 10, neither of them in the first places. Yet, as illustrated by table 55, in 2016 there were still 5 Atlantic economies (Germany, Spain, Italy, France and Netherlands) in major crude oil importers, two countries less than 1990 (United Kingdom and Brazil). In fact, Brazil switched in 28 years from one of the largest importers of crude oil to being one of its largest exporters.

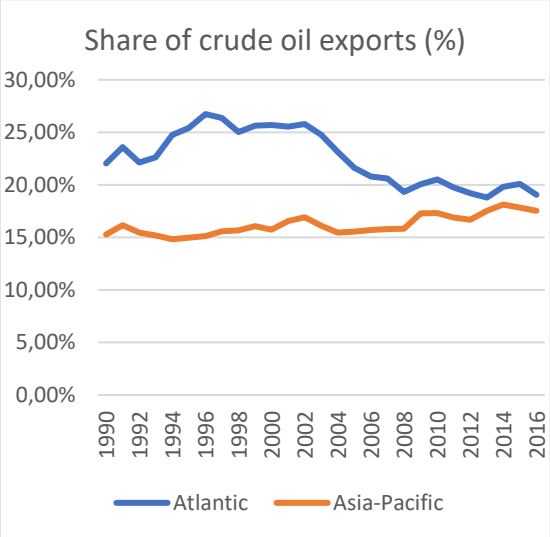

Figure 39- Share of crude oil exports (%). Author's elaboration, using EIA data

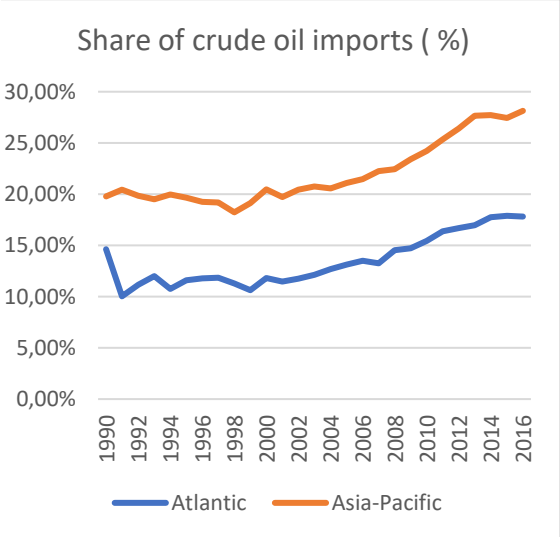

Figure 40- Share of crude oil imports (%). Author's elaboration, using EIA data

Finally, in the context of renewable energy, in 2018, Asia-Pacific generated more than 50% of world renewable energy, with a tendency to continue to increase, while on the other hand, Atlantic share had been decreasing, despite its dominance over the period (figure 48 on annexes). One important feature lies on the top renewable energy producers in 2018 and 1990, presented in table 53. Thus, in 2018, the country who generated more renewable energy was China, while in 1990 the leader was US. However, when comparing 2018 to 1990, we conclude that there are more Atlantic economies in top 10. In fact, in 2018 ranking, there are six economies exclusively Atlantic (Germany, UK, Brazil, Spain, Italy and France) versus three from Asia-Pacific (China, India and Japan), plus US that belongs to both areas.

3.5- Strengths and Weaknesses analysis

Focusing in the end of the period and based in our previous descriptive analysis, we will now try to determine the strengths and weaknesses of each region. Our initial objective was to do a SWOT analysis, however as to a large extent we expected to have the opportunities of the Atlantic being a large part of the threats of Asia-Pacific and vice-versa (due to the fact that together they account for a large part of the world economy, political power and energy production and consumption), we decided to only focus on the "SW" .

Atlantic's Strengths	Atlantic's Weaknesses
• More economies in top 10 GDP current prices • Region with more economies in top 10 GDP per capita, which biggest economies are in top 30 • Region with major manufacturing producers' countries • Merchandise Exports leader • Decreasing merchandise imports share • Services Exports leader region, concentrating the biggest exporter countries • More export diversity and quality of goods • Region with the most important outward investor countries • Region with most trade agreements • Region with highest HDI value • Region with more top non-financial MNEs • Region with highest expense on R&D • Region with better classified countries on soft power ranking • Region with more leaders in UN agencies • Main contributor for UN budget • Region with more crude oil exports and with less crude oil imports	• Smallest region when measured at GDP current prices and GDP PPP • Decreasing tendency of world's GDP PPP share • Major Atlantic exclusively economies only represent 10% of world´s GDP PPP • Region with lowest population, lowest labour force and less mega cities • Region with the largest debt and lower gross saving • Merchandise Imports leader • Largest trade deficit region, with the highest dependency on international trade • Services Imports leader region, with tendency to decrease, concentrating the largest importer countries • Region with a smaller number of patents and less valuable brands • Decreasing FDI outflows and inflows • Highest CO_2 emissions, with a tendency to decrease

Table 2- Atlantic's Strengths and Weaknesses

Asia-Pacific Strengths	**Asia-Pacific Weaknesses**
• Largest economic zone when measured in GDP at current prices and GDP at PPP, with a tendency to continue to increase its GDP PPP share • Asia-Pacific exclusively economies represent 34% of World's GDP at PPP, with two economies in top 3 GDP current prices and GDP PPP • Highest manufacturing production region • Region with highest labour force, population and more megacities • Main saver region • Increasing merchandise exports share, already similar to Atlantic • Region whose largest exporters control a higher world's share • Region that attracts more FDI, with tendency to increase • Region that concentrates the most important FDI inflows countries • Major foreign investor region • Region with more patents and most valuable brands • Region with highest expenditure on hard power indicators • Decreasing CO_2 emissions • Main petroleum and natural gas producer region • Region with more natural gas reserves and crude reserves • Leader on renewable energy production	• Region with less economies in top 10 GDP per capita ranking • Exports dependency of the Atlantic market • Trade deficit • Increasing tendency of goods and services imports • Region with less economies in top 30 soft power index • Region with less trade agreements • Decreasing tendency of FDI outflow • Major petroleum and natural gas consumer region Main crude oil importing region

Table 3- Asia-Pacific Strengths and Weaknesses

4- Conclusion

This dissertation aimed to discuss whether if the 21st century will be Atlantic or Asia-Pacific century. In order to do so, in a first moment, we collected all information already debated in the literature and, therefore, identified the main features to run our empirical analysis.

In the literature review, we have discussed the economic growth of Asian and Pacific countries that established the debate of an economic (and power) shift from the West to this part of the globe. First, it was the Japan economic miracle, immediately followed by Asian tigers, that attracted the attention for a possible 21st Pacific century. However, when the 1997 Asian financial crises affected these economies, the attention was focused on China and, later, on India, in what was called an Asian Century. However, this view is non-consensual among researchers, and the matter of hard and soft power, energetic problems and lack of Asian unity, led to a believe that it is not possible to claim an Asian Century only based on economic matters. Because of that, alternative global scenarios are being discussed, and a special focus is given to Atlantic. In fact, despite not being anymore the centre of world economy, it still has economic, commercial and political importance. Furthermore, this region is increasing its relevance on energetic field.

Thus, the objective of this dissertation was to give a different perspective of this problem. Instead of studying West versus Asia, as others already did, our goal was to contrast the Atlantic with Asia-Pacific and, also considering the emerging South Atlantic countries, whether the Atlantic (and the West) would prevent from losing its centrality or could even revert it, turning the 21st century an Atlantic century (instead of an Asia-Pacific one). Therefore, after presenting the major investigation features in the literature review, we studied its evolution through the period of 1990-2018 and tried to identify the major economics, politics and energetics trends (including their interactions) on these areas.

One of our major conclusions is that Asia-Pacific economy is bigger than Atlantic's since 2012 at GDP current prices and since 2002 when measured at GDP PPP. Indeed, the difference is more pronounced in this last indicator, as Asia-Pacific controls more than 50% of world GDP (while Atlantic's only controls 30%) with a continued tendency to increase (the opposite for the Atlantic). Besides that, Atlantic's exclusively major economies in world top 10, despite being in equal number of Asia-Pacific's, measured at GDP PPP, do not hold more than 10% of world GDP in 2018, while Asia-Pacific's holds 34%. Plus, Asia-Pacific has two

of the main world economies, China and India. When we take GDP per capita, the Atlantic performs better than Asia-Pacific. It has not only more economies in the world top 10, but also its biggest economies are better positioned. In terms of development, the Atlantic presents also a higher HDI value, even though Asia-Pacific is already being considered a high human developed region.

On the other hand, the Atlantic is the region with more commercial trade agreements. On merchandise trade, it remains the leader on merchandise exports, despite Asia-Pacific closest values and increasing tendency. However, it is also the main merchandise imports region, even though it shows a tendency to decrease. During all period, the Atlantic presented a trade deficit (feature also shared during almost period by Asia-Pacific) and it is the region with higher dependency on international trade.

Focusing on FDI, in 2018 the Asia-Pacific was not only the region which attracted more FDI, but also the main source of FDI. Nonetheless, the Atlantic countries tend to prevail as a majority in the world top 10 of FDI outflows, differently to what happens with FDI inflows. Indeed, the Atlantic shows a decreasing trend both in FDI inflows and outflows, while the Asia-Pacific only shares this feature with FDI outflows.

In what comes to the political field, the Asia-Pacific is the region that invests the most in hard power, contrary to what the literature review had pointed. In terms of soft power, the Atlantic countries present better results. This is not new, since the literature review already pointed it as one of the West strengths. Although the West is not the synonym of Atlantic, we have to acknowledge that the Atlantic aggregates many Western countries, except for Australia and New Zealand. One of our main findings is that the Atlantic has many top-ranking universities as Asia-Pacific. Another key finding is that the Asia-Pacific, despite not investing as much as the Atlantic in R&D, is the region that possesses more patents as well as more valuable brands, while the Atlantic has more companies in the world top 100 of non-financial firms. Besides that, the Atlantic is the geographic zone with more leaders in UN agencies and the major contributor for UN budget. On the other hand, Asia-Pacific is the region with highest labour force, population and number of world megacities.

On energetic matters, the Atlantic is the region that exports more crude oil and imports less. Otherwise, Asia-Pacific is the region that produces more petroleum and natural gas, with more natural gas and crude reserves and with highest renewable energy production. These

last features, what go contrary to what the literature review had pointed, should not be taken as a proof fact that Atlantic can be the centre of the energetic economy. This inconsistency is mainly due to the countries considered for the Atlantic. For example, Venezuela, Angola, important Atlantic producers' countries were not considered due to lack of data on merchandise trade. For the same reason, many important energetic Asian countries such as Saudi Arabia, Iran and United Arab Emirates were not included in our study. The exclusion of these countries is more evident in the section dealing with production and reserves, so that it is one of the main limitations on the analysis around energy matters.

Other limitation come from the restriction of the temporal perspective, due to lack of data in some indicators and about some countries in the beginning of the period due to political changes in Europe after the fall of the Berlin wall, both of them pointed in the methodological options. Besides that, another limitation lies on the geographic determination of the regions, in particular the 50% adjustment to double coast countries. United States is together with the European Union at core of Atlantic economy, as discussed in the literature review (Hamilton and Quinlan, 2019), so that the adjustment ends up penalizing Atlantic, and benefiting Asia-Pacific.

Taking together the main results of our analysis and the above-mentioned limitations, we can now try to answer our main question: Is the 21st century an Atlantic or Asia-Pacific century? Through our economic analysis, it seems that the inclusion of South Atlantic countries is not enough to prevent the Atlantic to lose economic centrality. In fact, the data points to a better position for the Asia-Pacific, because of the dimension of its economy, as well as being the main receptor and source of FDI, and the region with the highest labour force. Besides that, despite not being leader on merchandise exports, it seems very likely, considered the most recent data, that this region will reach this status in the next years. It is also the region that concentrates more world megacities, which invest the most on hard power and it has more valuable brands and more innovation patents.

However, in our view, these strengths are not enough to consider the 21st century as an Asian-Pacific one. Indeed, the Atlantic is still the leader in merchandise and services trade, it has more influence in UN agencies, it spends more on R&D, it has more MNEs in the world top 100 and it is better positioned in GDP per capita and HDI. Because of that, our answer is that there is some relevant probability that we are entering an Asia-Pacific century, but that

will depend on it will be capable of getting even stronger in economic terms whether it will be able to overcome its weaknesses, mainly in the political field.

Yet, the fact that we may enter in an Asian-Pacific century is also affected by external events, that can go beyond the economic causes themselves (e.g.: financial crises). The biggest threat that could change this situation and accelerate the entry into an Asian-Pacific Century is the fact that nations like China are starting to affirm its political status worldwide. The current pandemic crisis may also determine another push for this.

Despite our dissertation only focus 1990-2018, and, therefore, the data doesn't reflect this new scenario, there is no doubt that Covid-19 is affecting the global economy and how global power is distributed. In this context, Summers (2020) considers the pandemics as the turning point to entering in an Asian Century. This new virus highlights the need for a rebalancing of global supply chains to more regional ones (Cox, Watkins &Yueh, 2020). Indeed, countries are searching for diversification of their supply chains away from China (Chellaney, 2020). On the other hand, China is taken advantage of this period, for making political moves such as taking Hong Kong autonomy, police the waters of Senkaku Islands and border disputes in India. According to Chellaney, these moves were created to divert the world attention from a possible China's culpability in the Covid-19 spread. Besides that, Sino-American relations are getting worse, as US blames China for the Covid-19 novel, and there are also rising tensions in the South China Sea (Mastro, 2020).

Our dissertation can be considered as a starting point for this discussing, so that future investigation of this theme could include: 1) Studying if this new coronavirus has effect on economic, politics and energetic field, and if so, in order to give advantage to the Atlantic or the Asia-Pacific; 2) Instead of using a 50% adjustment, it would be interesting if the double coast problem was solved based on statements of foreign policy, and deciding, on that basis, whether those countries are more oriented to Atlantic or Asia-Pacific; 3) Complement the conclusions of the quantitative analysis done in this dissertation with qualitative data, that could come, for instance, through the implementation of a query, with questions regarding the major trends in the literature review, done to specialized persons (that for example work at international organizations and have contact both with the Atlantic and Asia-Pacific) ; 4) Create a composite index that would include a large number of the indicators that we considered, allowing for another point of view over our investigation question.

5-Appendices

5.1-Appendice 1.

Canada, Colombia, Mexico and United States will suffer an adjustment of 50%, because they are considered both in Atlantic and in Asia-Pacific. This adjustment is particularly tricky in intra-trade and inter-trade. To construct Atlantic and Asia-Pacific and Atlantic intra-trade we are going to face two main situations:

1) $China\ Exports = China_{Asia-Pacific\ intra-exports} + China_{Asia-Pacific\ inter-exports}$, where there are two specific situations:

   $i)\ China - US\ export = China - US_{intra-exports} + China - US_{interexports,}$, which means a 50% adjustment

   $ii)\ China - Japan\ Exports = China - Japan_{intra-exports}$

2) $USA\ exports = USA_{Atlantic\ intra-exports} + USA_{Atlantic\ inter-exports} + USA_{Asia-Pacific\ intra-\ exports} + USA_{Asia-Pacific\ inter-exports}$, where $USA_{Atlantic\ intra-exports} = USA_{Asia-Pacific\ inter-exports}$ and $USA_{Asia-Pacific\ intra-exports} = USA_{Atlantic\ inter-exports}$

   i) USA- China Exports= $USA - China_{Asia-Pacific\ intra-exports} + USA - China_{Atlantic\ inter-exports}$, which means a 50% adjustment

   ii) USA- Canada Exports = $USA - Canada_{Atlantic\ intra-exports} + USA - Canada_{Asia-Pacifc\ intra-exports} + USA - Canada_{Atlantic\ inter-exports} + USA - Canada_{Asia-Pacific\ inter-exports}$, where $USA - Canada_{Atlantic\ intra-exports} = USA - Canada_{Asia-Pacific\ inter-exports}$ and $USA - Canadra_{Asia-Pacific\ intra-exports} = USA - Canada_{Atlantic\ inter-exports}$, which means a 25% adjustment

Situations 1 happens to all countries with no doble coastline and situation 2 happens to all countries with double coastline. This logic is valid to imports too.

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7-Annexes

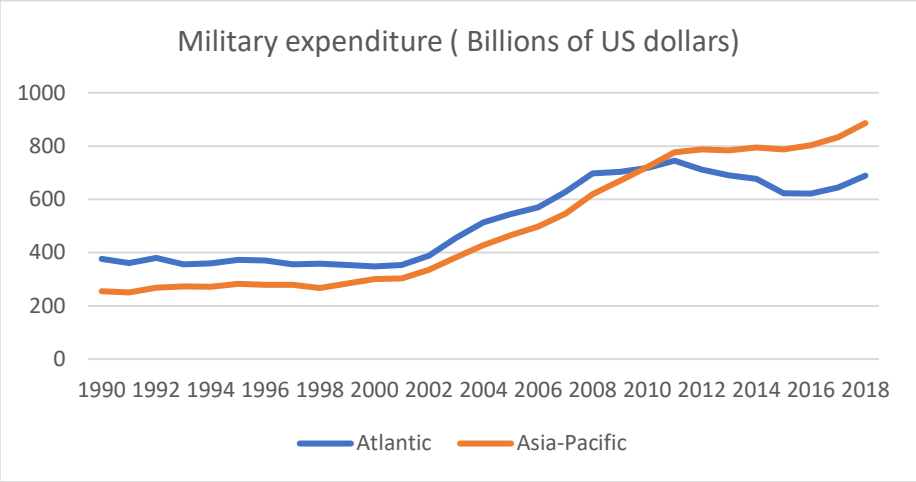


Figure 41- Military expenditure (Billions of US dollars). Author's elaboration, using World Bank data

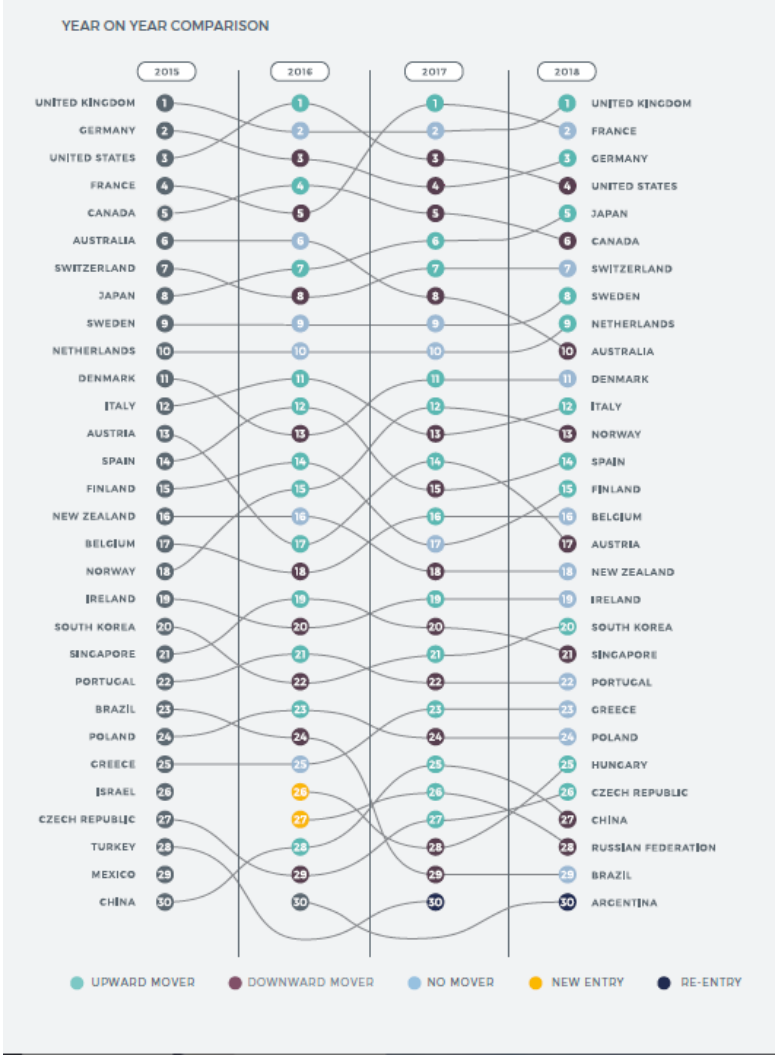


Figure 42-Soft Power Ranking. Source: Portland

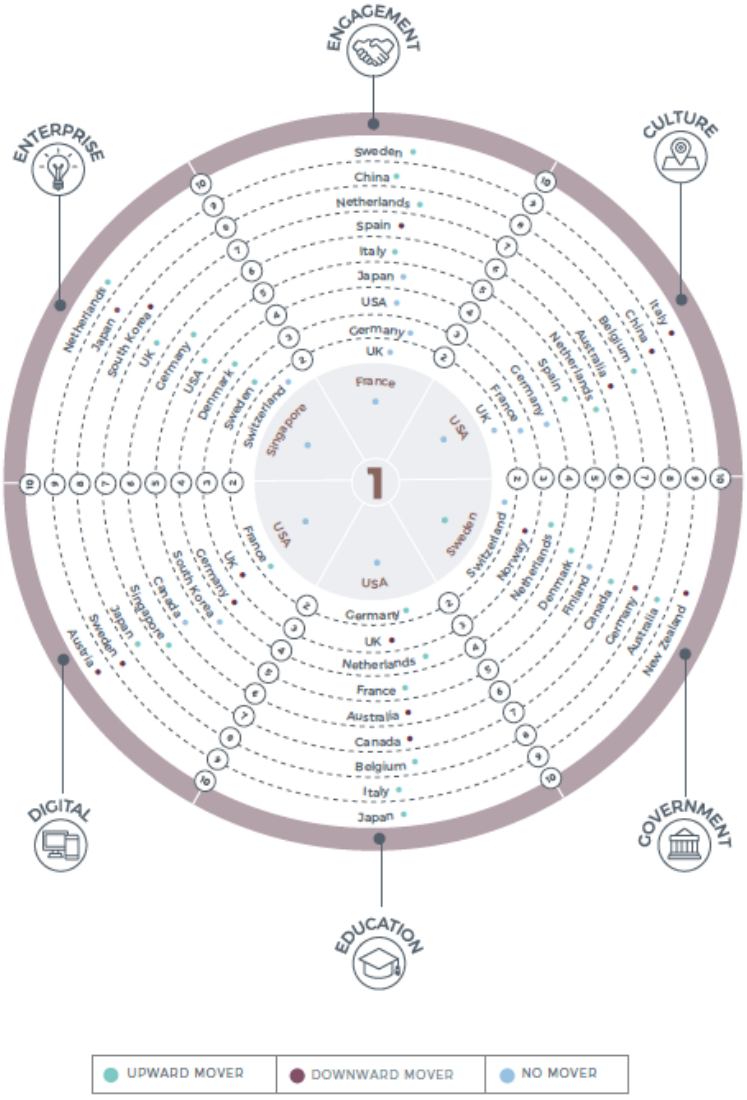


Figure 43 – Top 10 countries regarding each area of soft power. Source: Portland

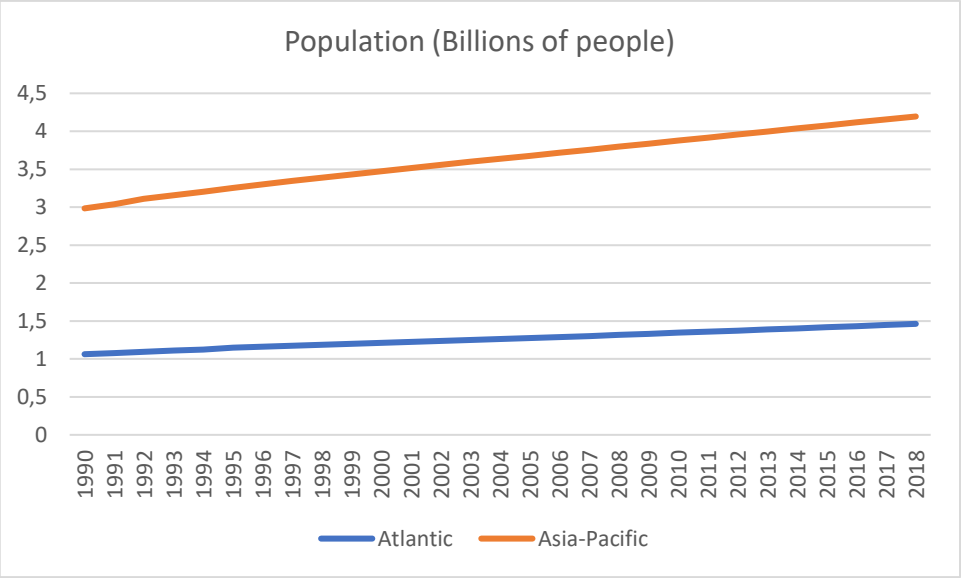


Figure 44-- Population (Billions of People). Author's elaboration, using IMF data

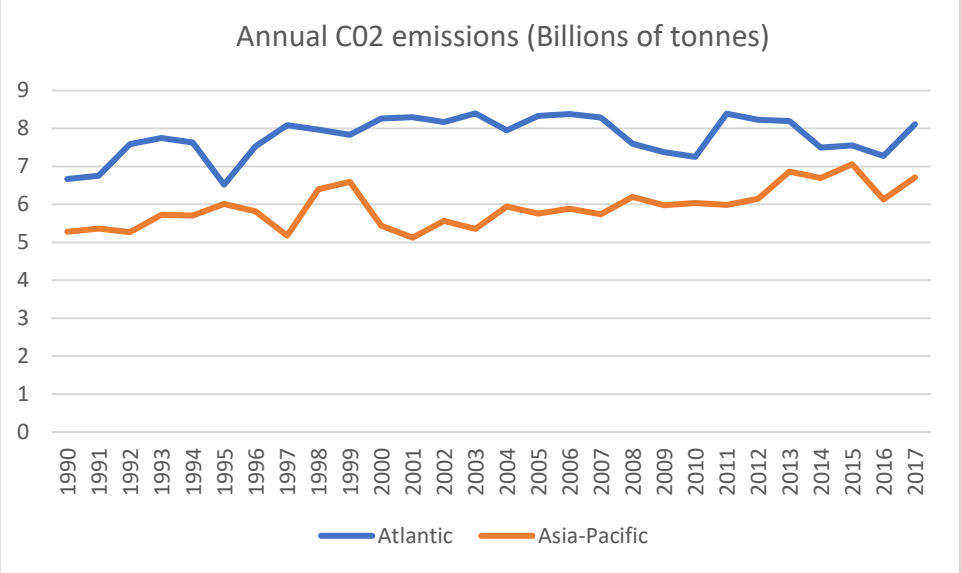


Figure 45 Annual CO_2 emissions (Billions of tonnes). Author's elaboration, using Our World in Data

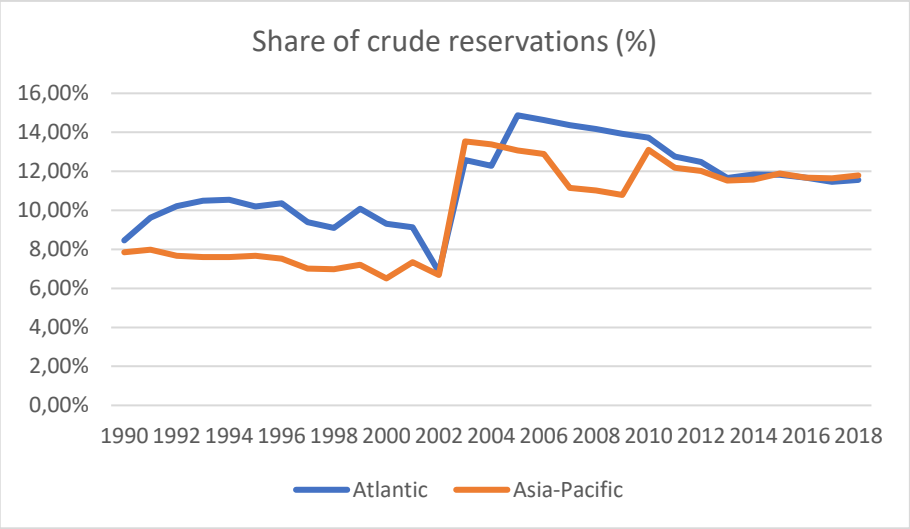


Figure 46- Share of crude reservations (%). Author's elaboration, using EIA data

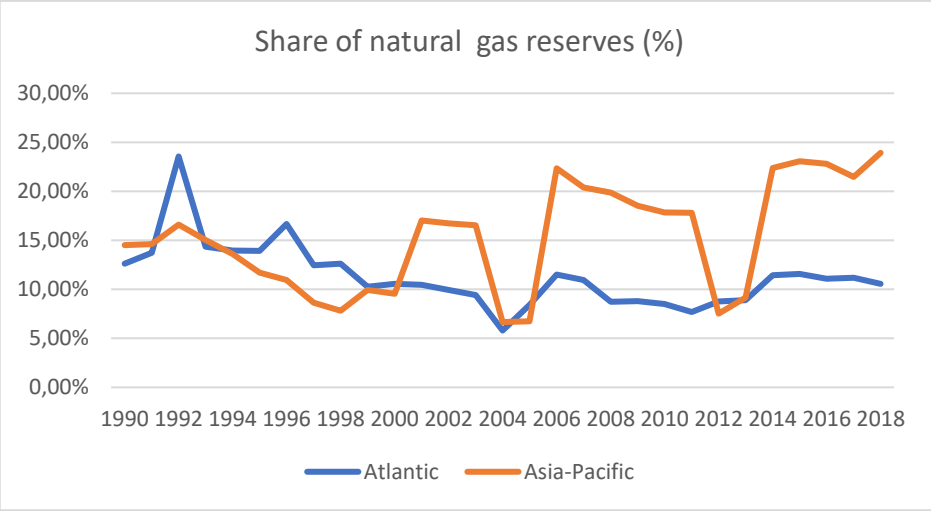


Figure 47- Share of natural gas reserves (%). Author's elaboration, using EIA data

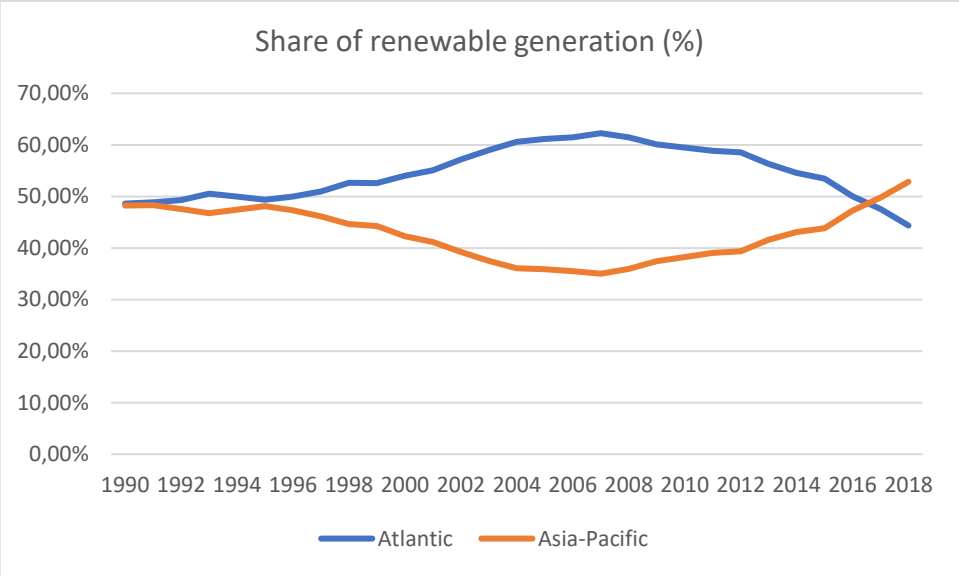


Figure 48- Share of renewable generation. Author's elaboration, using BP data

GDP current Prices indicators	Value
Annual Growth rate 1990-2018 Atlantic (%)	3,8%
Annual Growth rate 1990-2018 Asia-Pacific (%)	5,6%
Variation of 2009- 2008 Growth rate Atlantic (%)	-8,1%
Variation of 2009- 2008 Growth rate Asia-Pacific (%)	0,5%
Difference 2018 Atlantic - Asia-Pacific GDP (Billions of US dollars)	-6829,713
2018 Atlantic GDP Billions of U.S dollars	35317,815
2018 Asia-Pacific GDP Billions of U.S dollars	42147,528

Table 4- GDP current prices indicators (%). Author's elaboration, using IMF data

Top 10 biggest economies in 2018 at GDP current prices	
Country	**Value** (Billions of U.S. dollars)
United States	20580,25
China, People's Republic of	13368,07
Japan	4971,78
Germany	3951,34
United Kingdom	2828,83
France	2780,15
India	2718,73
Italy	2075,86
Brazil	1867,89
Korea, Republic of	1720,49

Table 5- Top 10 biggest economies in 2018 at GDP current prices. Author's elaboration, using IMF data

Top 10 biggest economies in 1990 at GDP current prices	
Country	**Value** (Billions of U.S. dollars)
United States	5963,13
Japan	3132,82
Germany	1598,64
France	1272,43
United Kingdom	1191,02
Italy	1171
Russian Federation	1045,46
Canada	596,08
Iran	575,27
Spain	534,33

Table 6- Top 10 biggest economies in 1990 at GDP current Prices. Author's elaboration, using IMF data

GDP at PPP indicators	Value (%)
Annual growth rate Atlantic GDP 1990-2018	4,2
Annual growth rate Asia-Pacific GDP 1990-2018	6,7

Table 7- GDP at PPP indicators. Author's elaboration, using IMF data

Top 10 economies in 2018 at GDP PPP		**Top 10 economies in 1990 at GDP PPP**	
Country	**Value** (Billions of International dollars)	**Country**	**Value** (Billions of International dollars)
United States	20580,25	United States	5963,13
China	13368,07	Japan	3132,82
Japan	4971,77	Germany	1598,64
Germany	3951,34	France	1272,43
United Kingdom	2828,83	United Kingdom	1191,02
France	2780,15	Italy	1171
India	2718,73	Russian Federation	1045,46
Italy	2075,86	Canada	596,08
Brazil	1867,81	Iran	575,27
Korea, Republic	1720,49	Spain	534,33

Table 8- Top 10 biggest economies in 2018 and 1990, measured at GDP PPP. Author's elaboration, based on IMF data

Top 10 economies in 2018 at GDP per capita		
	Country	Value (PPP, International dollar per capita)
1º	Qatar	129638,4
2º	Macao SAR	115913,1
3º	Luxembourg	106371,8
4º	Singapore	101386,8
5º	Ireland	79617,06
6º	Brunei Darussalam	78350,31
7º	Norway	74357,05
8º	United Arab Emirates	69222,48
9º	Kuwait	66652,39
10º	Switzerland	65009,82
(…)		
78º	China, People's Republic of	18116,05
12º	United States	62868,92
126º	India	7858,692
31º	Japan	44246,37
19º	Germany	52385,74
55º	Russian Federation	28797,2
101º	Indonesia	13234,1
84º	Brazil	16146,09
29º	United Kingdom	45740,76
28º	France	45893,05

Table 9- Top 10 economies in 2018 at GDP per capita. Author's elaboration, using IMF data

Top 10 economies in 1990 at GDP per capita		
	Country	Value (PPP, US dollar per capita)
1º	United Arab Emirates	70403,18
2º	Brunei Darussalam	56147,89
3º	Qatar	46369,11
4º	Luxembourg	37011,66
5º	Switzerland	30485,29
6º	Saudi Arabia	29618,58
7º	Norway	28040,21
8º	Bahrain	25500,07
9º	Kuwait	24825,29
10º	Libya	23920,02
(…)		
133º	China, People's Republic of	978,295
11º	United States	23847,98
125º	India	1169,183
20º	Japan	19861,49
16º	Germany	20771,83
36º	Russian Federation	13407,4
94º	Indonesia	2891,889
56º	Brazil	6960,74
28º	United Kingdom	17508,69
24º	France	19604,56

Table 10- Top 10 economies in 1990 at GDP per capita. Author's elaboration, using IMF data

Top manufacturing economies in 2017	
Country	Value (Billions of US dollars)
China	3558,40
United States	2173,32
Japan	1007,33
Germany	751,91
Korea, Rep.	422,06
India	394,40
Italy	292,57
France	258,47
United Kingdom	239,43
Brazil	216,44

Table 11- Top 10 manufacturing economies in 2017. Author's elaboration, using World Bank data

Top manufacturing economies in 1997	
Country	Value (Billions of US dollars)
United States	1 379, 89
Jordan	1 034, 02
Cyprus	447 ,46
Faroe Islands	236, 20
Iran, Islamic Rep.	229, 20
Estonia	213, 20
Kazakhstan	134, 42
Bahrain	114, 98
Bermuda	106 ,43
Luxembourg	101, 10

Table 12- Top 10 manufacturing economies in 1997. Author's elaboration, using World Bank data

Top 10 labour economies in 2018		Top 10 labour economies in 1990	
Country	Value (Millions of People)	Country	Value (Millions of People)
China	786	China	641
India	512	India	318
United States	165	United States	128
Indonesia	132	Russian Federation	76
Brazil	105	Indonesia	73
Russian Federation	74	Japan	64
Pakistan	73	Brazil	60
Bangladesh	69	Germany	39
Japan	67	Bangladesh	34
Nigeria	61	Vietnam	33

Table 13- Top 10 labour economies in 2018 and 1990. Author's elaboration, using World Bank Data.

Top 10 GDP PPP economies ranked by gross saving as % of GDP in 2018		
Placed on ranking	Country	Gross saving (% of GDP)
5	China	46,25
119	United States	18,58
36	India	30,94
50	Japan	28
43	Germany	29,34
40	Russian Federation	30,19
31	Indonesia	31,63
144	Brazil	14,43
148	United Kingdom	13,43
83	France	22,90

Table 14- Top 10 2018 GDP(PPP) economies ranked by gross saving % of GDP in 2018. Author's elaboration, using World Bank data

Number of Regional Trade Agreement (RTA) by region	
Region	Value (Nº of RTA)
Atlantic	1368
Asia-Pacific	350
EU Member state	44

Table 15- Number of Regional Trade Agreement by region. Author's elaboration, using WTO data

Top 10 world's exporter economies in 2018		
Country	Value (Billions of US Dollars)	Share of world exports (%)
China	2 494	13,26
USA	1 665	8,85
Germany	1 562	8,31
Japan	738	3,93
Rep. of Korea	604	3,22
China, Hong Kong SAR	569	3,03
France	568	3,02
Netherlands	555	2,96
Italy	549	2,92
United Kingdom	490	2,61

Table 16- Top 10 world's exporter economies in 2018. Author's elaboration, using UN Comtrade data

Top world's exporter economies in 1990		
Country	Value(Billions of US dollars)	Share of world exports (%)
Fmr - Fed. Rep. of Germany	398	13,74
USA	392	13,55
Japan	286	9,90
France	209	7,24
United Kingdom	185	6,40
Italy	168	5,81
Netherlands	131	4,54
Canada	126	4,38
Belgium-Luxembourg	118	4,08
Rep. of Korea	65	2,24

Table 17- Top 10 world's exporter economies in 1990. Author's elaboration, using UN Comtrade data

Export indicators	Value (%)
Atlantic exports growth rate 1990-2018	6,5
Asia-Pacific exports growth rate 1990-2018	8,1
Atlantic variation 2008-2009	-22,85
Asia-Pacific variation 2008-2009	-18,86

Table 18- Exports indicators. Author's elaboration, using UN Comtrade data.

Import variation of select years (%)	2009	2015
Atlantic Importation variation	-24,39	-12,6
Asia-Pacific Importation variation	-21,43	-12,3

Table 19- Import variation of select year (%). Author's elaboration, using UN Comtrade data.

Top 10 importer economies in 2018			Top 10 importer economies in 1990		
Country	Value (Billions of US dollars)	World share (%)	Country	Value (Billions of US dollars)	World share (%)
USA	2 611	13,8%	USA	517	17,0%
China	2 134	11,3%	Fed. Rep. of Germany	342	11,2%
Germany	1 292	6,8%	Japan	234	7,7%
Japan	748	3,9%	France	233	7,6%
United Kingdom	671	3,5%	United Kingdom	224	7,4%
France	659	3,5%	Italy	180	5,9%
China, Hong Kong SAR	627	3,3%	Netherlands	125	4,1%
Rep. of Korea	535	2,8%	Belgium-Luxembourg	120	3,9%
India	507	2,7%	Canada	116	3,8%
Italy	503	2,7%	Spain	87	2,9%

Table 20- Top 10 importer economies in 2018 and 1990. Author's elaboration, using UN Comtrade data

Trade indicators (%)	1990	2018
Atlantic trade openness	21,67	39,2
Asia-Pacific trade openness	15,94	23,32
Atlantic ratio of exports to GDP	10,18	19,28
Asia-Pacific ratio of exports to GDP	7,78	11,46
Atlantic ratio of imports to GDP	11,49	19,93
Asia-Pacific ratio of imports to GDP	8,16	11,86
Atlantic coverage rate of imports by exports	88,61	96,73
Asia-Pacific coverage rate of imports by imports	95,38	96,63

Table 21- Trade indicators. Author's elaboration, using UN Comtrade and IMF data

Services top 10 exporter economies 2018				Services top 10 exporter economies in 2005			
Country	Value (Millions of US dollars)	Ratio to GDP(PPP)	World share (%)	Country	Value (Millions of US dollars)	Ratio to GDP (PPP)	World share (%)
United States	828428	4,025354	14,17	United States	375697	1,825522	14,14
United Kingdom	376157	12,37834	6,44	United Kingdom	236866	7,794637	8,91
Germany	331156	7,625212	5,67	Germany	159418	3,670765	6,00
France	291494	9,813192	4,99	France	156700	5,275331	5,90
China	266841	1,055593	4,57	Netherlands	119884	12,35235	4,51
Netherlands	242489	24,98506	4,15	Japan	102029	1,822936	3,84
Ireland	205732	52,88482	3,52	Spain	92174	4,939744	3,47
India	205108	1,956161	3,51	Italy	92048	3,83576	3,46
Japan	192006	3,430541	3,28	China	78469	0,310415	2,95
Singapore	184015	32,18807	3,15	Switzerland	66356	12,03097	2,50

Table 22- Services top 10 commercial exporter economies in 2018 and in 2005 ranked by its value in Millions of dollars . Author's elaboration, using WTO data

Services top 10 importers economies in 2018				Services top 10 importers economies in 2005			
Country	Value (Millions of US dollars)	Ratio to GDP (PPP) (%)	World share (%)	Country	Value (Millions of US dollars)	Ratio to GDP (PPP)	World share (%)
United States	559213	2,72	9,98	United States	306255	1,48	11,7
China	525040	2,08	9,37	Germany	209867	4,83	8,0
Germany	351455	8,10	6,27	United Kingdom	174139	5,73	6,7
France	256773	8,64	4,58	Japan	139030	2,48	5,3
United Kingdom	235339	7,74	4,20	France	134051	4,51	5,1
Netherlands	228851	23,58	4,08	Netherlands	102432	10,56	3,9
Ireland	218083	56,06	3,89	Italy	94795	3,95	3,6
Japan	200047	3,57	3,57	China	83971	0,33	3,2
Singapore	186956	32,70	3,34	Ireland	73500	18,90	2,8
India	176583	1,68	3,15	Canada	65159	3,54	2,5

Table 23 - Services top commercial importers economies in 2018 and 2005 ranked by its value (Millions of US dollars). Author's elaboration, using WTO data

Top 10 FDI inflow's economies in 2018			
Country	Value (Millions of US Dollars)	Ratio to GDP (PPP) (%)	World Share (%)
United States	251814	1,22	19,4
China	139043,49	0,55	10,7
Hong Kong, China	115661,93	24,07	8,9
Singapore	77646,13	13,58	6,0
Netherlands	69658,52	7,18	5,4
United Kingdom	64486,78	2,12	5,0
Brazil	61223,01	1,82	4,7
Australia	60438,13	4,58	4,7
Cayman Islands	57383,58	n.d	4,4
British Virgin Islands	44244,38	n.d	3,4

Table 24- Top 10 FDI inflow's economies in 2018. Author's elaboration, using UNCTDA data

Top 10 FDI inflow's economies in 1990			
Country	Value (Millions of US Dollars)	Ratio to GDP(PPP) (%)	World Share (%)
United States	48422	0,81%	23,6%
United Kingdom	30461,12	3,04%	14,9%
France	16506,20	1,49%	8,1%
Netherlands	11063,32	3,50%	5,4%
Spain	10797,16	1,80%	5,3%
Belgium and Luxembourg	8046,73	3,81%	3,9%
Australia	7904,39	2,44%	3,9%
Canada	7582,28	1,35%	3,7%
Italy	6344,88	0,59%	3,1%
Singapore	5574,75	8,08%	2,7%

Table 25- Top 10 FDI inflow's economies in 1990. Author's elaboration, using UNCTAD data

FDI Inflows variation of selected years (%)	2007	2008	2009	2017	2018
Atlantic variation	37,84	-45,04	-5,36	-32,00	-34,43
Asia-Pacific variation	27,03	9,28	-30,96	-11,88	3,06

Table 26- FDI inflows variation of selected years (%). Author's elaboration, using UNCTAD

Top 10 economies FDI outflows in 2018			
Country	Value (in millions of US dollars)	Ratio to GDP (PPP) (%)	World share (%)
Japan	143161,21	2,6	14,12
China	129830	0,5	12,80
France	102421,19	3,4	10,10
Hong Kong, China	85162,34	17,7	8,40
Germany	77075,98	1,8	7,60
Netherlands	58983,23	6,1	5,82
British Virgin Islands	56019,08	n.d	5,52
Canada	50454,56	2,7	4,97
United Kingdom	49879,93	1,6	4,92
Cayman Islands	40377,81	n.d	3,98

Table 27- Top 10 economies FDI outflows in 2018. Author's elaboration, using UNCTAD data

Top 10 economies FDI outflows in 1990			
Country	Value (Millions of US dollars)	Ratio to GDP (PPP) (%)	World share (%)
New Zealand	50774,90	99,07	20,82
Germany	38302,23	2,34	15,71
Australia	30982	9,55	12,70
Greece	24234,82	17,21	9,94
Iceland	17948,18	362,15	7,36
United King-dom	14746,23	1,47	6,05
Poland	14371,94	5,72	5,89
Latvia	7613,53	n.d	3,12
Canada	7175,56	1,27	2,94
Bulgaria	6314,44	8,61	2,59

Table 28- Top 10 economies FDI outflows in 1990. Authour's elaboration, using UNCTAD data

Top 100 non-financial MNEs, ranked by foreign assets, 2018 (Millions of dollars)				
Ranking	**Corporation**	**Home economy**	**Foreign**	**Total**
1	Royal Dutch Shell plc	United Kingdom	343 713	400 563
2	Toyota Motor Corporation	Japan	300 384	468 872
3	BP plc	United Kingdom	254 533	283 144
4	Softbank Group Corp	Japan	240 305	325 869
5	Total SA	France	233 692	256 327
6	Volkswagen Group	Germany	224 191	524 566
7	British American Tobacco PLC	United Kingdom	185 974	187 330
8	Chevron Corporation	United States	181 006	253 863
9	Daimler AG	Germany	169 115	322 440
10	Exxon Mobil Corporation	United States	168 053	346 196
11	Anheuser-Busch InBev NV	Belgium	162 270	202 375
12	Apple Computer Inc	United States	153 545	365 725
13	CK Hutchison Holdings Limited	Hong Kong, China	144 891	157 337
14	Honda Motor Co Ltd	Japan	143 280	184 338
15	Vodafone Group Plc	United Kingdom	143 259	160 501
16	General Electric Co	United States	134 637	309 129
17	Siemens AG	Germany	133 891	160 800
18	Enel SpA	Italy	133 459	189 402
19	DowDuPont Inc	United States	122 998	188 030
20	Nissan Motor Co Ltd	Japan	122 276	171 097
21	Iberdrola SA	Spain	121 510	148 434
22	Nestlé SA	Switzerland	120 407	139 215
23	BMW AG	Germany	118 908	239 272
24	Bayer AG	Germany	117 977	144 590
25	Johnson & Johnson	United States	115 837	152 954
26	Amazon.com, Inc	United States	115 397	162 648
27	Microsoft Corporation	United States	114 648	258 848
28	Deutsche Telekom AG	Germany	112 360	166 447
29	Glencore PLC	Switzerland	111 197	129 113

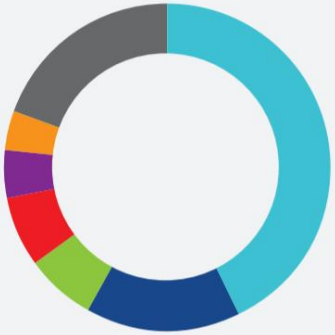
30	EDF SA	France	107 145	324 215
31	Hon Hai Precision Industries	Taiwan Province of China	106 644	110 609
32	Eni SpA	Italy	106 042	135 625
33	Takeda Pharmaceutical Company Limited	Japan	105 448	125 235
34	Telefonica SA	Spain	100 094	130 578
35	Rio Tinto PLC	United Kingdom	91 178	91 261
36	Medtronic plc	Ireland	88 435	91 393
37	Fiat Chrysler Automobiles	United Kingdom	87 365	110 915
38	Mitsui & Co Ltd	Japan	87 357	107 843
39	Samsung Electronics Co., Ltd.	Korea, Republic of	84 717	304 057
40	China COSCO Shipping Corp Ltd	China	84 419	109 044
41	Novartis AG	Switzerland	83 259	145 563
42	Nippon Telegraph & Telephone Corporation	Japan	82 633	201 274
43	Ford Motor Company	United States	79 979	256 540
44	ArcelorMittal	Luxembourg	77 897	79 562
45	Tencent Holdings Limited	China	77 594	119 824
46	Linde PLC	United Kingdom	75 863	93 386
47	Pfizer Inc	United States	74 988	159 422
48	Allergan PLC	Ireland	74 583	101 788
49	BASF SE	Germany	71 922	99 102
50	Airbus SE	France	71 735	131 896
51	Engie	France	71 437	175 981
52	Orange SA	France	69 489	110 593
53	Roche Group	Switzerland	68 941	79 777
54	International Business Machines Corporation	United States	68 772	123 382
55	Mitsubishi Corporation	Japan	68 378	149 254
56	China National Offshore Oil Corp (CNOOC)	China	67 282	173 408

57	John Swire & Sons Limited	United Kingdom	65 930	69 400
58	Enbridge Inc	Canada	64 540	122 463
59	Equinor ASA	Norway	61 606	111 863
60	Unilever PLC	United Kingdom	61 545	68 424
61	GlaxoSmithKline PLC	United Kingdom	61 120	74 329
62	State Grid Corporation of China	China	60 000	585299
63	Walmart inc	United States	59 553	219 295
64	Lafargeholcim Ltd	Switzerland	59 202	60 723
65	Christian Dior SA	France	57 744	88 471
66	United Technologies Corporation	United States	56 601	134 211
67	China National Chemical Corporation (ChemChina)	China	56 241	121 444
68	Intel Corporation	United States	56 080	127 963
69	Renault SA	France	55 240	131 665
70	Robert Bosch GmbH	Germany	55 161	95 780
71	SAP SE	Germany	55 128	58 955
72	Procter & Gamble Co	United States	54 905	118 310
73	RWE AG	Germany	54 773	91 720
74	Atlantia SpA	Italy	54 605	91 223
75	Alphabet Inc	United States	53 296	232 792
76	Mondelez International, Inc.	United States	52 429	62 729
77	Anglo American plc	United Kingdom	50 512	52 375
78	Altice Europe NV	Netherlands	50 010	51 902
79	Fresenius SE & Co KGaA	Germany	50 002	64 922
80	Sanofi	France	49 960	127 557
81	Unibail-Rodamco SE	France	48 761	73 880
82	Marubeni Corporation	Japan	48 367	61 470
83	Repsol YPF SA	Spain	48 081	69 588
84	AstraZeneca PLC	United Kingdom	47 240	60 859
85	Transcanada Corp	Canada	47 232	72 581
86	Danone Groupe SA	France	46 960	50 580
87	BHP Billiton Group Ltd	Australia	46 088	111 728

88	Johnson Controls International PLC	Ireland	45 302	48 797
89	Sony Corporation	Japan	45 051	189 416
90	Schneider Electric SA	France	44 894	48 384
91	Reckitt Benckiser Plc	United Kingdom	44 868	48 195
92	Oracle Corporation	United States	44 576	137 851
93	Air Liquide SA	France	44 270	48 066
94	National Grid PLC	United Kingdom	46 985	82 412
95	Teva Pharmaceutical Industries Limited	Israel	43 444	60 683
96	General Motors Co	United States	43 267	227 339
97	Trafigura Group Pte Ltd	Switzerland	43 056	53 801
98	China Minmetals Corp (CMC)	China	42 790	131 338
99	Tata Motors Ltd	India	42 146	50 844
100	Compagnie de Saint-Gobain SA	France	41 234	50 426
Source: UNCTAD.				

Table 29- Top 100 non-financial MNEs, ranked by foreign assets, 2018 (Millions of dollars). Source: UNCTAD

Brand Value by Country 2018



Colour	Country	Brand Value (USD bn)	% of total
	United States	2,527.7	43%
	China	911.5	15%
	Germany	409.4	7%
	Japan	407.0	7%
	France	280.2	5%
	United Kingdom	235.6	4%
	Others	1,132.8	19%
	Total	**5,904.2**	**100%**

Table 30- Brand Value by Country 2018. Source: Brand Finance

Table 31- Top 100 most valuable brands. Source: Brand Finance

Brand Finance Global 500 (USD m).

Top 500 most valuable brands 1-50

Rank 2018	Rank 2017	Brand name	Country	Brand value (USD m) 2018	% change	Brand value (USD m) 2017	Brand rating 2018	Brand rating 2017
1	3	Amazon	United States	150,811	+42%	106,396	AAA-	AAA-
2	2	Apple	United States	146,311	+37%	107,141	AAA+	AAA
3	1	Google	United States	120,911	+10%	109,470	AAA+	AAA+
4	6	Samsung	South Korea	92,289	+39%	66,218	AAA+	AAA-
5	9	Facebook	United States	89,684	+45%	61,998	AAA+	AAA
6	4	AT&T	United States	82,422	-5%	87,016	AAA-	AAA
7	5	Microsoft	United States	81,163	+6%	76,265	AAA+	AAA
8	7	Verizon	United States	62,826	-5%	65,875	AAA-	AAA-
9	8	Walmart	United States	61,480	-1%	62,211	AA+	AA+
10	10	ICBC	China	59,189	+24%	47,832	AAA+	AAA
11	14	China Construction Bank	China	56,789	+37%	41,377	AAA	AAA-
12	22	Alibaba	China	54,921	+58%	34,859	AAA-	AA+
13	11	China Mobile	China (Hong Kong)	53,226	+14%	46,734	AAA	AAA
14	13	Wells Fargo	United States	44,098	+6%	41,618	AAA-	AA+
15	20	Mercedes-Benz	Germany	43,930	+24%	35,544	AAA-	AAA-
16	12	Toyota	Japan	43,701	-6%	46,255	AAA-	AAA-
17	16	BMW	Germany	41,790	+6%	39,335	AAA	AAA-
18	28	Bank of China	China	41,750	+34%	31,250	AAA	AAA
19	New	State Grid	China	40,944	-	-	AA+	-
20	15	NTT Group	Japan	40,872	+1%	40,542	AA+	AA+
21	47	Tencent	China	40,774	+83%	22,287	AAA	AAA
22	18	T (Deutsche Telekom in Germany)	Germany	40,152	+10%	36,433	AA+	AA+
23	17	Shell	Netherlands	39,423	+7%	36,783	AAA-	AAA-
24	24	Chase	United States	38,842	+15%	33,737	AAA	AAA-
25	39	Huawei	China	38,046	+51%	25,230	AAA-	AAA-
26	33	Agricultural Bank Of China	China	37,321	+31%	28,511	AAA	AA+
27	30	Home Depot	United States	33,748	+12%	30,216	AAA-	AAA-
28	40	Volkswagen	Germany	33,670	+35%	25,014	AAA	AAA
29	29	Bank of America	United States	33,289	+10%	30,273	AAA-	AAA-
30	48	Ping An	China	32,609	+46%	22,273	AAA-	AA+
31	23	Disney	United States	32,590	-5%	34,454	AAA+	AAA+
32	19	IBM	United States	32,478	-10%	36,112	AAA-	AA+
33	38	Starbucks	United States	32,421	+27%	25,615	AAA	AAA
34	21	General Electric	United States	32,005	-9%	35,318	AAA	AAA
35	32	PetroChina	China	31,177	+7%	29,003	AA+	AA+
36	34	Citi	United States	30,783	+11%	27,674	AA+	AA+
37	25	Marlboro	United States	30,513	-6%	32,471	AA+	AA+
38	26	Coca-Cola	United States	30,378	-5%	31,885	AAA	AAA
39	37	Oracle	United States	29,634	+15%	25,878	AA	AA
40	27	Nike	United States	28,030	-12%	31,762	AAA	AAA+
41	36	Xfinity	United States	26,121	0%	26,180	AA+	AA+
42	112	Youtube	United States	25,887	+114%	12,123	AAA	AAA
43	35	Mitsubishi Group	Japan	25,280	-9%	27,653	AA-	A+
44	54	CSCEC	China	24,981	+19%	21,050	AA	AA-
45	61	McDonald's	United States	24,872	+23%	20,291	AAA+	AAA
46	42	IKEA	Sweden	24,351	+1%	24,119	AA+	AA
47	70	China Telecom	China	23,979	+36%	17,599	AA+	AA+
48	31	Sinopec	China	23,640	-20%	29,555	AA	AA+
49	100	WeChat	China	22,415	+70%	13,189	AAA	AAA-
50	66	PWC	United States	22,287	+20%	18,510	AAA+	AAA+

Top 500 most valuable brands 51-100

Rank 2018	Rank 2017	Brand name	Country	Brand value (USD m) 2018	% change	Brand value (USD m) 2017	Brand rating 2018	Brand rating 2017
51	52	Orange	France	22,206	+3%	21,526	AAA-	AAA-
52	53	Honda	Japan	22,132	+4%	21,318	AAA-	AAA-
53	60	Intel	United States	22,059	+8%	20,369	AAA	AAA
54	49	UPS	United States	22,003	-1%	22,128	AAA-	AAA-
55	45	Siemens	Germany	21,956	-5%	23,088	AAA	AAA-
56	108	Moutai	China	21,243	+73%	12,283	AAA-	AAA-
57	114	Baidu	China	21,046	+78%	11,813	AAA	AA+
58	65	Total	France	20,971	+13%	18,514	AAA-	AAA-
59	77	Deloitte	United States	20,838	+24%	16,776	AAA+	AAA
60	58	Visa	United States	20,651	0%	20,660	AAA+	AAA+
61	44	CVS Caremark	United States	20,603	-12%	23,286	AA+	AA+
62	85	Allianz	Germany	20,229	+33%	15,197	AAA-	AA
63	67	Pepsi	United States	20,035	+8%	18,470	AAA	AAA
64	79	Boeing	United States	19,936	+22%	16,333	AAA+	AAA
65	97	JD.com	China	19,623	+47%	13,377	A	A+
66	64	BP	United Kingdom	19,610	+4%	18,857	AA+	AA+
67	56	Cisco	United States	19,411	-6%	20,734	AA+	AA+
68	41	Nissan	Japan	19,376	-22%	24,768	AA+	AAA-
69	62	Nestlé	Switzerland	19,370	0%	19,416	AAA-	AAA-
70	69	Bosch	Germany	19,341	+8%	17,991	AA+	AAA-
71	107	Porsche	Germany	19,055	+54%	12,396	AAA	AAA
72	63	H&M	Sweden	18,959	-1%	19,177	AAA	AAA
73	59	SoftBank	Japan	18,928	-8%	20,621	AA+	AA
74	51	Vodafone	United Kingdom	18,744	-14%	21,831	AA+	AA+
75	96	UnitedHealth Group	United States	18,614	+39%	13,379	AA	AA
76	57	HSBC	United Kingdom	18,305	-12%	20,688	AA	AA+
77	73	FedEx	United States	18,170	+6%	17,092	AA+	AA+
78	50	Chevron	United States	18,148	-18%	22,058	AAA-	AAA-
79	43	Hyundai Group	South Korea	17,754	-24%	23,395	AA-	AA-
80	76	Johnson's	United States	17,663	+5%	16,829	AAA+	AAA
81	84	JP Morgan	United States	17,651	+12%	15,710	AA+	AA
82	90	Zara	Spain	17,453	+21%	14,399	AAA	AAA-
83	46	Ford	United States	17,294	-23%	22,432	AAA-	AAA-
84	98	EY	United Kingdom	17,130	+28%	13,357	AAA+	AAA
85	86	SAP	Germany	17,057	+13%	15,158	AA-	AA-
86	82	Fox	United States	17,007	+8%	15,814	AAA-	AAA-
87	71	Accenture	United States	16,805	-4%	17,464	AA+	AA+
88	111	LG Group	South Korea	16,796	+38%	12,196	AA+	AA
89	91	China Merchants Bank	China	16,673	+17%	14,269	AAA-	AAA-
90	89	Uber	United States	16,629	+14%	14,596	AA	AA-
91	75	au	Japan	16,626	-2%	16,919	AA+	AAA-
92	68	Dell	United States	16,356	-10%	18,186	AA-	AA
93	201	Evergrande	China	16,229	+118%	7,439	AA+	AA
94	81	Santander	Spain	16,200	+2%	15,929	AA	AA+
95	80	Walgreens	United States	15,546	-3%	15,969	AA+	AA+
96	87	American Express	United States	15,103	+1%	15,014	AA	AA+
97	106	Audi	Germany	14,951	+19%	12,546	AAA-	AAA-
98	93	NBC	United States	14,862	+8%	13,736	AAA+	AAA+
99	113	Shanghai Pudong Development Bank	China	14,772	+23%	11,963	AA	AA+
100	284	Wuliangye	China	14,635	+161%	5,604	AAA-	AA

Top military expenditures economies in 2018			Top military expenditures economies in 1990		
Country	Value (Billions of US dollars)	% of GDP	Country	Value (Billions of US dollars)	% of GDP
United States	649	3,16	United States	306	5,28
China	250	1,87	France	43	2,49
Saudi Arabia	68	8,77	Germany	42	14,02
India	67	2,42	United Kingdom	39	3,15
France	64	2,29	Japan	29	3,34
Russian Federation	61	3,93	Italy	21	n.d
United Kingdom	50	1,78	Iran, Islamic Rep.	16,5	3,56
Germany	49	1,23	Saudi Arabia	16,4	2,68
Japan	47	0,92	Spain	12	0,94
Korea, Rep.	43	2,62	Canada	11	4,00

Table 32- Top 10 military expenditures economies in 2018 and 1990. Author's elaboration, using World Bank data

DIGITAL	A country's digital infrastructure and its capabilities in digital diplomacy
CULTURE	The global reach and appeal of a nation's cultural outputs, both pop-culture and high-culture
ENTERPRISE	The attractiveness of a country's economic model, business friendliness, and capacity for innovation
EDUCATION	The level of human capital in a country, contribution to scholarship, and attractiveness to international students
ENGAGEMENT	The strength of a country's diplomatic network and its contribution to global engagement and development
GOVERNMENT	Commitment to freedom, human rights, and democracy, and the quality of political institutions

Table 33- Soft Power Index. Source: Portland

Top 100 universities in 2018		
Place on the ranking	University	Country
1	Massachusetts Institute of Technology (MIT)	United States
2	Stanford University	United States
3	Harvard University	United States
4	California Institute of Technology (Caltech)	United States
5	University of Cambridge	United Kingdom
6	University of Oxford	United Kingdom
7	UCL	United Kingdom
8	Imperial College London	United Kingdom
9	University of Chicago	United States
10	ETH Zurich - Swiss Federal Institute of Technology	Switzerland
11	Nanyang Technological University	Singapore
12	EPFL	Switzerland
13	Princeton University	United States
14	Cornell University	United States

15	National University of Singapore (NUS)	Singapore
16	Yale University	United States
17	Johns Hopkins University	United States
18	Columbia University	United States
19	University of Pennsylvania	United States
20	The Australian National University	Australia
=21	University of Michigan-Ann Arbor	United States
=21	Duke University	United States
=23	The University of Edinburgh	United Kingdom
=23	King's College London	United Kingdom
25	Tsinghua University	China (Mainland)
26	The University of Hong Kong	Hong Kong SAR
27	University of California, Berkeley (UCB)	United States
=28	The University of Tokyo	Japan
=28	Northwestern University	United States
30	The Hong Kong University of Science and Technology	Hong Kong SAR
31	University of Toronto	Canada

32	McGill University	Canada
33	University of California, Los Angeles (UCLA)	United States
34	The University of Manchester	United Kingdom
35	The London School of Economics and Political Science (LSE)	United Kingdom
36	Seoul National University	South Korea
=36	Kyoto University	Japan
=38	Peking University	China (Mainland)
=38	University of California, San Diego (UCSD)	United States
40	Fudan University	China (Mainland)
=41	The University of Melbourne	Australia
=41	KAIST - Korea Advanced Institute of Science & Technology	South Korea
43	Ecole normale supérieure, Paris	France
44	University of Bristol	United Kingdom
45	The University of New South Wales (UNSW Sydney)	Australia
46	The Chinese University of Hong Kong (CUHK)	Hong Kong SAR
=47	Carnegie Mellon University	United States

=47	The University of Queensland	Australia
49	City University of Hong Kong	Hong Kong SAR
50	The University of Sydney	Australia
51	University of British Columbia	Canada
52	New York University (NYU)	United States
53	Brown University	United States
54	Delft University of Technology	Netherlands
55	University of Wisconsin-Madison	United States
56	Tokyo Institute of Technology (Tokyo Tech)	Japan
57	The University of Warwick	United Kingdom
58	University of Amsterdam	Netherlands
59	Ecole Polytechnique	France
60	Monash University	Australia
61	University of Washington	United States
62	Shanghai Jiao Tong University	China (Mainland)
63	Osaka University	Japan
64	Technical University of Munich	Germany

65	University of Glasgow	United Kingdom
66	Ludwig-Maximilians-Universität München	Germany
67	University of Texas at Austin	United States
68	Ruprecht-Karls-Universität Heidelberg	Germany
69	University of Illinois at Urbana-Champaign	United States
70	Georgia Institute of Technology	United States
=71	Pohang University of Science And Technology (POSTECH)	South Korea
=71	KU Leuven	Belgium
=73	University of Zurich	Switzerland
=73	University of Copenhagen	Denmark
75	Universidad de Buenos Aires (UBA)	Argentina
=76	Tohoku University	Japan
=76	National Taiwan University (NTU)	Taiwan
=78	Lund University	Sweden
=78	Durham University	United Kingdom
80	University of North Carolina, Chapel Hill	United States

81	Boston University	United States
=82	The University of Auckland	New Zealand
=82	The University of Sheffield	United Kingdom
=84	University of Nottingham	United Kingdom
=84	University of Birmingham	United Kingdom
86	The Ohio State University	United States
87	Zhejiang University	China (Mainland)
88	Trinity College Dublin, The University of Dublin	Ireland
89	Rice University	United States
=90	University of Alberta	Canada
=90	Korea University	South Korea
92	University of St Andrews	United Kingdom
=93	The University of Western Australia	Australia
=93	Pennsylvania State University	United States
=95	The Hong Kong Polytechnic University	Hong Kong SAR
=95	Lomonosov Moscow State University	Russia
97	University of Science and Technology of China	China (Mainland)

=98	University of Geneva	Switzerland
=98	KTH Royal Institute of Technology	Sweden
100	Washington University in St. Louis	United States

Table 34- Top 100 universities in 2018. Author's elaboration, using QS World University Rankings 2018 data

Top 10 R&D economies in 2017		**Top 10 R&D economies in 1996**	
Country	Value (GDP %)	Country	Value (GDP%)
Israel	4,58	Japan	2,69
Korea, Rep.	4,55	Israel	2,59
Sweden	3,31	Finland	2,45
Japan	3,20	Switzerland	2,45
Austria	3,16	United States	2,44
Denmark	3,10	Korea, Rep.	2,26
Germany	3,04	France	2,22
United States	2,80	Germany	2,14
Finland	2,76	Netherlands	1,86
Belgium	2,61	Denmark	1,81

Table 35- Top 10 R&D economies in 2017 and 1996. Author's elaboration, using World Bank data

Top 10 economies with a greater number of patents in 2018		**Top 10 economies with a greater number of patents in 1990**	
Country	Number of patents	Country	Number of patents
China	1393815	Japan	332952
United States	285095	United States	90643
Japan	253630	Germany	30724
Korea, Rep	162561	United Kingdom	19310
Germany	46617	France	12378
Russian Federation	24926	Korea, Rep	9082
India	16289	China	5832
France	14303	Poland	4106
United Kingdom	12865	Sweden	3108
Iran, Islamic Rep.	11908	Switzerland	2987

Table 36- Top 10 economies with a greater number of patents in 2018 and 1990. Author's elaboration, using World Bank data

List of Presidents of UN agencies over 1990-2018								
Agency	1º Presidency	2ºPresidency	3ºPresidency	4ºPresidency	5ªPresidency	6º Presidency	7º Presidency	
United Nations	Javier Pérez de Cuéllar, Peru (1982-1991)	Boutros Boutros-Ghali, Egypt (1992-1996)	Kofi Annan, Ghana, (1997-2006)	Ban Ki-Moon, South Korea (2007-2016)	António Guterres, Portugal (2017-Present)			Number of exclusively Atlantic countries:3/5 Number of exclusively Asia-Pacific countries: 2/5
Food and Agriculture Organization (FAO)	Edouard Saouma, Leanon, (1976-1993)	Jacques Diouf, Senegal, (1994-2011)	José Graziano da Silva, Brazil (2011-2019)					Number of exclusively Atlantic countries:1/5 Number of exclusively Asia-Pacific countries: 0/5
International Civil Aviation Organization (ICA)	Shivinder Singh Sidhu, India (1988-1991)	Philippe Rochat, Switzerland (1991-1997)	Renato Cláudio Costa Pereira, Brazil (1997-2003)	Taïeb Chérif, Algeria (2003-2009)	Raymond Benjamin, France (2009-2015)	Dr. Fang Liu , China (2015- 2018);	Dr. Fang Liu , China (2018- Presidency);	Number of exclusively Atlantic countries:4/7 Number of exclusively

								Asia-Pacific countries: 3/7
International Labour Organization (ILO)	Belgium's Michel Hansenne , Belgium (1989-1999)	Juan Somavia, Chile (1999- 2012)	Guy Ryder United Kingdom (2012-2017)	Guy Ryder, United Kingdom (2017- Present)				Number of exclusively Atlantic countries:3/4 Number of exclusively Asia-Pacific countries: 1/4
International Maritime Organization (IMO)	WILLIAM O'NEIL, Canada (1991-2003)	Efthimios E. Mitropoulos, Greece (2003- 2011)	Koji Sekimizu ,Japan (2011-2015)	Mr. Kitack Lim, South Korean (2016-2019)				Number of exclusively Atlantic countries:1/4 Number of exclusively Asia-Pacific countries: 2/4

International Monetary Fund (IMF)	Michel Camdessus, France (1987-2000)	Horst Köhler, Germany, (2000 -2004)	Rodrigo de Rato, Spain (2004 – 2007)	Dominique Strauss-Kahn, France, (2007 -2011)	Christine Lagarde, France (2011-2019)			Number of exclusively Atlantic countries:5/5 Number of exclusively Asia-Pacific countries: 0/5
United Nations Educational, Scientific and Cultural Organization (UNESCO)	Federico Mayor, Spain (1987 – 1999)	Koïchiro Matsuura, Japan (1999 – 2009)	Irina Bokova Bulgaria (2009 – 2017)	Audrey Azoulay, France (2017- Present)				Number of exclusively Atlantic countries:2/4 Number of exclusively Asia-Pacific countries: 1/4
United Nations Industrial Development Organization (UNIDO)	Domingo L. Siazon Jr., Philippine (1985–1992)	Mauricio de Maria y Campos, Mexico (1993–1997)	Carlos Alfredo Magariños Argentina (1998–2005)	Kandeh Yumkella , Sierra Leone (2006 -2013)	LI Yong, China (2013 – Present)			Number of exclusively Atlantic countries:1/5 Number of exclusively Asia-Pacific

								countries: 2/5
World Bank Group (WBG)	Barber Conabl, United States (1986 -1991)	Lewis T. Preston, United States (1991 – 1995)	James D. Wolfensohn, Australia (1995 – 2005)	Paul Wolfowitz, United States (2005 – 2007)	Robert B. Zoellick,United States (2007 – 2012)	Jim Yong Kim, United States (2012 - 2019)		Number of exclusively Atlantic countries:0/6 Number of exclusively Asia-Pacific countries: 1/6
World Health Organization (WHO)	Hiroshi Nakajima,Japan (1988-1998)	Gro Harlem Brundtland, Norway (1998-2003)	LEE Jong-wook, South Korea (2003-2006)	Anders Nordström, Sweden (2006-2007)	Margaret Chan, China (2006-2012)	Margaret Chan, China (2012-2017)	Tedros Adhanom Ghebreyesus Ethiopia (2017-Present)	Number of exclusively Atlantic countries:2/7 Number of exclusively Asia-Pacific countries: 4/7

World Intellectual Property Organization (WIPO)	Arpad BOGSCH, United States (1973- 1997)	Kamil IDRIS, Sudan (1997 to 2008)	Francis Gurry, Australia (2008-2012)	Francis Gurry Australia (2012-2020)				Number of exclusively Atlantic countries:0/4 Number of exclusively Asia-Pacific countries: 2/4
World Meteorological Organization (WMO)	Godwin Olu Patrick Obasi,Nigeria (1984 -2003)	Michel Jaraud , France (2004- 2015)	Petteri Taalas, Switzerland (2016- Present)					Number of exclusively Atlantic countries:3/3 Number of exclusively Asia-Pacific countries: 0/5
World Tourism Organization (UNWTO or WTO)	Antonio Enriquez Savignac,WBG, Mexico (1990-2016)	Francesco Frangialli, France (1997-2009)	Taleb Rifai ,Jordan (2010–2017)	Mr. Zurab Pololikashvili, Georgia (2018-Present)				Number of exclusively Atlantic countries:1/4 Number of exclusively

								Asia-Pacific: 1/4

Table 37- List of Presidents of ONU agencies over 1990-2018 period. Author's elaboration, using UN, FAO, ICA, ILO, IMO, IMF, UNESCO, UNIDO, WBG, WHO, WIPO, WMO, UNWTO data

Amount of money donated to UN by geographic area in Millions of US dollars and as % of UN total revenue		
Geografic area / Year	2010	2018
Atlantic	12 927 $	24 452 $
Asia-Pacific	7 396 $	12 123 $
Share of Atlantic	32,70%	43,65%
Share of Asia-Pacific	18,71%	21,64%

Table 38- Amount of money donated to ONU by geographic area in Millions of US dollars and as % of ONU total revenue. Author's elaboration, using UN data

Top economies with higher population in 2018 and 1990 (Millions of People)			
Top economies in 2018		Top economies in 1990	
Country	Value (M)	Country	Value(M)
China, People's Republic of	1395,38	China, People's Republic of	1143,33
India	1334,221	India	847,5
United States	327,352	United States	250,047
Indonesia	264,162	Indonesia	179,379
Brazil	208,495	Russian Federation	148,3
Pakistan	200,96	Brazil	146,593
Nigeria	195,875	Japan	123,438
Bangladesh	164,877	Bangladesh	107,386
Russian Federation	146,8	Pakistan	105,7
Japan	126,495	Nigeria	95,212

Table 39- Top economies with higher population in 2018 and 1990 (Millions of People). Author's elaboration, using IMF data.

Population average growth	Value (%)
Atlantic annual average growth 1990-2018	1,141
Asia-Pacific annual average growth 1990-2018	1,216

Table 40- Population average growth (%). Author's elaboration, using IMF data

Table 2.1 *Top ten world cities, in population size, 1955, 1975, 1995 and 2015, and annual growth rates*

1955				1975			
City	Country	Population (m)	Growth rate (%)	City	Country	Population (m)	Growth rate (%)
New York	USA	13.22	1.38	New York	USA	19.77	3.66
London	England	8.93	0.45	London	England	15.88	−0.39
Tokyo	Japan	8.82	4.86	Tokyo	Japan	11.44	0.51
Shanghai	China	6.87	5.05	Shanghai	China	11.24	4.29
Paris	France	6.27	2.84	Paris	France	9.89	4.08
Buenos Aires	Argentina	5.84	2.95	Buenos Aires	Argentina	9.84	0.95
Essen	Germany	5.82	1.90	Essen	Germany	9.13	1.64
Moscow	Russia	5.75	1.41	Moscow	Russia	8.93	1.27
Chicago	USA	5.44	1.91	Chicago	USA	8.89	0.89
Los Angeles	USA	5.16	4.85	Los Angeles	USA	8.55	1.10
1995				2015			
Tokyo	Japan	26.84	1.41	Tokyo	Japan	28.70	0.03
Sao Paulo	Brazil	16.42	2.01	Mumbai	India	27.37	2.40
New York	USA	16.33	0.34	Lagos	Nigeria	24.44	3.27
Mexico City	Mexico	15.64	0.73	Shanghai	China	23.38	1.69
Mumbai	India	15.09	4.22	Jakarta	Indonesia	21.17	1.98
Shanghai	China	15.08	2.29	Sao Paulo	Brazil	20.78	0.70
Los Angeles	USA	12.41	1.60	Karachi	Pakistan	20.62	3.22
Beijing	China	12.36	2.57	Beijing	China	19.42	1.73
Calcutta	India	11.67	1.67	Dacca	Bangladesh	18.96	3.44
Seoul	S. Korea	11.64	1.95	Mexico City	Mexico	18.79	0.68

'Cities' represent urban areas, urban agglomerations, or cities as defined in the 1994 revisions, Estimates and Projections of Urban and Rural Populations and of Urban Agglomerations (United Nations, 1995). See note [1] of text.

Table 41- Top 10 world cities in population in 1955, 1975, 1995 and 2015, and annual growth rates. Source: Frey, W.H and Zimmer, Z., 2001 opi.cit.

The world's ten largest cities in 2018 and 2030				
City size rank	City	Population in 2018 (thousands)	City	Population in 2030 (thousands)
1	Tokyo, Japan	37 468	Delhi, India	38 939
2	Delhi, India	28 514	Tokyo, Japan	36 574
3	Shanghai, China	25 582	Shanghai, China	32 869
4	São Paulo, Brazil	21 650	Dhaka, Bangladesh	28 076
5	Ciudad de México (Mexico City), Mexico	21 581	Al-Qahirah (Cairo), Egypt	25 517
6	Al-Qahirah (Cairo), Egypt	20 076	Mumbai (Bombay), India	24 572
7	Mumbai (Bombay), India	19 980	Beijing, China	24 282
8	Beijing, China	19 618	Ciudad de México (Mexico City), Mexico	24 111
9	Dhaka, Bangladesh	19 578	São Paulo, Brazil	23 824
10	Kinki M.M.A. (Osaka), Japan	19 281	Kinshasa, Democratic Republic of the Congo	21 914

Table 42- The world's ten largest cities in 2018 and 2030. Source: The World's Cities in 2018 report by United Nations

Top HDI economies in 2018		**Top HDI economies in 1990**	
Country	Value	Country	Value
Norway	0,954	Australia	0,866
Switzerland	0,946	United States	0,86
Ireland	0,942	Canada	0,85
Germany	0,939	Norway	0,85
Hong Kong, China	0,939	Switzerland	0,832
Australia	0,938	Netherlands	0,83
Iceland	0,938	Slovenia	0,829
Sweden	0,937	New Zealand	0,82
Singapore	0,935	Japan	0,816
Netherlands	0,934	Sweden	0,816

Table 43- Top 10 HDI economies in 2018 and 1990. Author's elaboration, using United Nations data

Top world CO_2 economies in 2017		**Top world CO_2 economies in 1990**	
Country	Value (Millions of tonnes)	Country	Value (Millions of tonnes)
Germany	799	India	617
Iran	672	United Kingdom	601
Saudi Arabia	635	Canada	464
South Korea	616	Italy	440
Canada	573	France	403
Mexico	490	Poland	376
Indonesia	487	South Africa	313
Brazil	476	Australia	278
South Africa	456	Kazakhstan	267
Turkey	448	South Korea	247

Table 44- Top world CO_2 economies in 2017 and 1990. Author's elaboration, using Our World in data

Top 10 petroleum consumption economies in 2018		Top 10 petroleum consumptions economies in 1990	
Country	Value (Millions of barrels per day)	Country	Value (Millions of barrels per day)
United States	19958	United States	16988
China	13567	Japan	5219
Japan	3925	Germany, West	2400
Brazil	3029	Italy	1868
South Korea	2630	France	1827
Germany	2450	United Kingdom	1776
Canada	2421	Canada	1722
Mexico	2020	Mexico	1591
Iran	1822	Saudi Arabia	1108
France	1736	South Korea	1048

Table 45- Top 10 petroleum consumption economies in 2018 and 1990(Mb/d). Author's elaboration, using EIA data

Top 10 economies with a higher consumption of dry natural gas in 2017		Top 10 economies with a higher consumption with a higher consumption of dry natural gas in 1990	
Country	Value (Billions of cubic feet)	Country	Value (Billions of cubic feet)
United States	27110,3	United States	19173,56
Russia	16510,1	Canada	2377,62
China	8425,91	Germany, West	2311,9
Iran	7306,31	Japan	2076,239
Japan	4492,99	Iran	764,569
Canada	4394,63	Venezuela	760,88
Saudi Arabia	3858,87	Argentina	716,54
Germany	3296,69	Indonesia	629,67
Mexico	2881,5	China	494,3705
United Kingdom	2795,57	Belgium	340,61

Table 46- Top 10 economies with a higher consumption of dry natural gas in 2017 and 1990. Author's elaboration, using EIA data

Top 10 world petroleum production in 2018		Top 10 world petroleum production in 1990	
Country	Value (Millions of barrels per day)	Country	Value (Millions of barrels per day)
United States	17937	Former U,S,S,R,	11301
Saudi Arabia	12419	United States	9678
Russia	11401	Saudi Arabia	7019
Canada	5382	Iran	3113
China	4775	Mexico	2992
Iraq	4616	China	2768
Iran	4456	Venezuela	2262
United Arab Emirates	3791	United Arab Emirates	2252
Brazil	3428	Iraq	2064
Kuwait	2909	Canada	2040

Table 47- Top 10 world petroleum production in 2018 and 1990. Author's elaboration, using EIA data

Top 10 world dry natural gas productors in 2017		Top 10 world dry natural gas productors in 1990	
Country	Value (Billions of cubic feet)	Country	Value (Billions of cubic feet)
United States	27291	United States	17810
Russia	23508	Canada	3849
Iran	7577	Netherlands	2687
Qatar	5875	Iran	818
Canada	5618	Venezuela	761
China	5152	Argentina	630
Norway	4375	Malaysia	501
Saudi Arabia	3859	Kuwait	148
Australia	3717	Japan	79
Algeria	3302	Turkey	7

Table 48- Top 10 world dry natural gas productors economies in 2017 and 1990. Author's elaboration, using EIA data

Top 10 economies with a higher number of crude reservations in 2018		Top economies with a higher number of crude reservations in 1990	
Country	Value (Billions of barrels)	Country	Value (Billions of barrels)
Venezuela	302,25	Saudi Arabia	257,56
Saudi Arabia	266,21	United Arab Emirates	98,11
Canada	170,54	Kuwait	97,13
Iran	157,2	Iran	92,86
Iraq	148,77	Venezuela	58,50
Kuwait	101,5	Former U,S,S,R,	58,4
United Arab Emirates	97,8	Mexico	56,37
Libya	48,36	United States	27,89
United States	41,99	Libya	22,8
Nigeria	37,45	Norway	11,55

Table 49- Top 10 economies with a higher number of crude reservations in 2018 and 1990. Author's elaboration, using EIA data

Top 10 Atlantic economies with a higher value of crude reservations in 2018		Top Asia-Pacific economies with a higher value of crude reservations in 2018	
Country	Value (Billions of barrels)	Country	Value (Billions of barrels)
Canada	85,27	Canada	85,27
Nigeria	37,45	China	25,63
United States	21	Qatar	25,244
Brazil	12,63	United States	21
Algeria	12,2	Ecuador	8,27
Norway	7,72	Oman	5,37
Mexico	3,61	India	4,50
Egypt	3,57	Vietnam	4,4
United Kingdom	2,5	Mexico	3,61
Argentina	2,16	Malaysia	3,6

Table 50- Top 10 Atlantic and Asia-Pacific economies with a higher value of crude reservations in 2018. Author's elaboration, using EIA data

Top 10 countries with a higher value of natural gas reserves in 2018		Top 10 countries with a higher value of natural gas reserves in 1990	
Country	Value (Trillions of cubic feet)	Country	Value (Trillions of cubic feet)
Russia	1688,23	United Arab Emirates	200,8
Iran	1190,83	Saudi Arabia	187,35
Qatar	850,10	United States	167,12
United States	438,46	Qatar	163,1
Saudi Arabia	304,38	Venezuela	100,85
United Arab Emirates	215,10	Canada	94,3
China	208,23	Nigeria	87,4
Venezuela	202,69	Indonesia	87,06
Nigeria	193,35	Norway	82,16
Algeria	159,05	Mexico	73,38

Table 51- Top 10 countries with a higher value of natural gas reserves in 2018 and 1990. Author's elaboration, using EIA data

Top 10 crude oil exporter economies in 2016		Top 10 crude oil exporter economies in 1990	
Country	Value (Millions of barrels per day)	Country	Value (Millions of barrels per day)
Saudi Arabia	7333,58	Saudi Arabia	4726,18
Russia	5113,52	Iran	2209,04
Iraq	3576,64	Former U, S,S,R,	2170
Canada	2749,68	United Arab Emirates	1754,90
United Arab Emirates	2487,58	Iraq	1596
Kuwait	2128,19	Nigeria	1523,43
Iran	1896,82	Mexico	1405,97
Venezuela	1725,049	Norway	1344,81
Angola	1681,35	Venezuela	1229,87
Nigeria	1654,74	Libya	1091,76

Table 52- Top 10 crude oil exporter economies in 2016 and 1990. Author's elaboration, using EIA data

Top 10 Atlantic crude oil exporters economies in 2016		Top 10 Asia-Pacific crude oil exporters economies in 2016	
Country	Value (Millions of barrels per day)	Country	Value (Millions of barrels per day)
Nigeria	1654,74	Canada	1374,84
Norway	1394,50	Kazakhstan	1245,58
Canada	1374,84	Oman	887,5
Brazil	832,47	Azerbaijan	658,58
Algeria	633,8	Mexico	618,23
United Kingdom	620,19	Qatar	503,42
Mexico	618,23	Ecuador	414,68
Colombia	372,26	Malaysia	390
United States	295,5	Colombia	372,26
Egypt	240,30	Indonesia	336,82

Table 53- Top 10 Atlantic and Asia-Pacific crude oil exporters economies in 2016. Author's elaboration, using EIA data

Top crude oil importers economies in 2016		Top crude oil importers economies in 1990	
Country	Value (Millions of barrels per day)	Country	Value (Millions of barrels per day)
China	7620,76	Japan	3988,58
India	4255,3	Italy	1508,83
Japan	3146,67	France	1404,66
South Korea	2946,05	Germany, West	1375,42
Germany	1837,31	Spain	1022,31
Spain	1292,19	Netherlands	919,19
Italy	1217,21	Singapore	859,45
France	1092,17	South Korea	844,84
Netherlands	1090,44	United King-dom	839,53
Singapore	1056,96	Brazil	571,17

Table 54- Top crude oil importers economies in 2016 and 1990. Author's elaboration, using EIA data

Top 10 renewable energy countries in 2018		Top 10 renewable generation countries in 1990	
Country	Value (TeraWatt Hour)	Country	Value (TeraWatt Hour)
China	634,22	US	60,65
US	458,52	Japan	11,34
Germany	209,19	Philippines	5,90
India	121,50	Finland	5,16
Japan	112,13	Mexico	5,13
United Kingdom	105,62	Canada	3,96
Brazil	104,51	Brazil	3,86
Spain	70,74	Italy	3,28
Italy	66,015	New Zealand	2,61
France	46,85	Sweden	1,95

Table 55- Top 10 renewable energy production countries in 2018 and 1990. Author's elaboration, using BP data