Protectionism or Strengthening Competitiveness:
The Case of the United States of America

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Abstract

In recent years international trade growth has been slow. Although international trade is considered to have various benefits, such as access to international markets, rapid economic growth, higher competition, and improved investment climate, there is a growing tendency to justify protectionism, especially by the United States of America. The rise of protectionism is part of a growing social and political response to the phenomenon of economic globalization. The United States have strongly supported protectionism as a means of preserving jobs and reducing income inequality. The purpose of this article is to examine whether the protectionism currently adopted by the United States is beneficial to economic growth. Moreover, we examine whether strengthening the competitiveness of the US economy in order to boost the country's exports constitutes a way to avoid a global shift towards protectionism by the sovereign states of the international economic system. The United States wants to reconsider trade agreements, particularly with countries that run trade deficits, including China, Japan, South Korea, and Germany. We will examine the reasons why the United States is seeking protectionist measures. The methodology adopted is the theory of competitive advantage.

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1. Introduction

Economic growth is the prime economic objective of every state. The international economic environment today is currently faced with a number of challenges. World trade is moving slowly after the onset of the international economic crisis and there is no prospect of a return to the rapid trade growth rates seen in the years prior to the 2008 crisis. In particular, the

global slowdown in world trade over the recent years may be due to factors such as the slowdown in trade opening, structural changes in Chinese trade, and the weakness of trade-related components of aggregate demand (Lewis & Monarch, 2016).

The purpose of this study is to determine the appropriate economic policy that the United States of America should pursue in order to be able to compete in the international economic environment in terms of trade. GDP growth is an important economic objective for every country. The US today faces the dilemma whether to pursue protective trade policies or boost US competitiveness. In particular, the US government intends to restrict access to the US market and the aim, of the protective measures envisaged is to secure jobs and incomes in the United States (Petersen et al., 2017). Protectionism is a phenomenon of international trade and concerns the trade policy of a state which, through customs duties, quotas and other commercial policy measures, tries to improve its current account balance causing ripple effects in the international economic environment.

This paper will try to show that boosting competitiveness is the best way to achieve GDP growth, because of the competitive advantage of the US. The structure of the present study is the following: first, a review of the literature on Porter's Diamond Model, followed by a theoretical overview of the US competitive advantage and its determination; the US macroeconomic indicators for the period 2007-2016; and finally the correlation between the rate of imports and exports and the US per capita income for the period 2007-2016.

This research was based on Porter's theory of competitive advantage of Porter - Competitive Advantage of Nations and its finding of a correlation, and - Pearson's Correlation - to understand the relationship between free trade and the increase of per capita income. Finally, the analysis of the results was used as a basis for answering the research question.

2. Literature Review

Porter's Diamond Model has been applied in order to measure the competitiveness of several countries. Herciu (2013), using Porter's competitive advantage and the 12 pillars of international competitiveness used by World Economic Forum to measure international competitiveness, has found that Romania has competitive advantages in regard to strength of investor protection, gross national savings as % of GDP, general government debt, enrollment in tertiary education, number of procedures for starting a business, redundancy costs, weeks of salary, and domestic and foreign markets. Jasimuddin (2001), using Porter's Diamond Model, has shown that the oil sector has helped Saudi Arabia gain and maintain its competitiveness, and Saudi industrial strengths in gas, chemicals, machinery, and banking are important contributing factors to the nation's success, but the combination of the strengths and opportunities and the overall socioeconomic system is what has ultimately contributed to Saudi Arabia's success. Stone and Ranchhod (2006) have applied a quantitative approach in order to determine the relative global competitive advantage of the UK, the US and BRIC nations.

They found that the UK has the highest competitive advantage, the US lags behind the UK in all factors except supporting industries, but has a similar distortion to the UK, Brazil is a competitive emerging nation although it has some way to go in its development, some factor-related conditions prevent Russia from being the global power it once was, India ranks lowest among all nations studied in related/supporting industries and second to bottom in factor-related conditions and finally China will become the next developed nation of the BRICS group. According to some authors, Porter's Diamond Model lack of some critical aspects such as national culture, as Van Den Bosch and Van Prooijen (1992) point out.

Furthermore, Gray (1991), points out the theoretical error of Michael Porter's Diamond of not examining the correlation between the role of price rivalry and the exchange rate fluctuations in shaping international trade. As Daly (1993) mentions, it would be more sufficient to combine macro variables related to competitiveness (such as wage rates, interest rates, exchange rates and unit labour costs,), with the micro factors relating to the four elements of the diamond emphasized in the Porter model. Yetton et. al (1992) argue that Porter's Diamond Model is a theory about the competitive advantage of firms and industries within nations and does not say how new successful firms emerge. Dunning (1992), argues that Porter underestimates the role of multinational enterprises in the global economy and their role as a third exogenous factor, along with opportunity and the government. Grant (1991), points to the lack of clear definitions of the determinants of economic development at the national level.

Finally, Narula (1993) mentions that Porter's model does not recognize the role of technology in the development process, as he mentions that economic growth is a function of the rate of innovation and the national technological advantage, and is affected by the international trading and investment activities of firms.

3. Competitive Advantage

3.1 Theory of Competitive Advantage

The theory of competitive advantage is based on four categories of country characteristics that provide the basic prerequisites for determining a nation's competitive advantage (Porter, 1990). The first category comprises the factors of production. While traditional trade theories define factors of production as land, labor and capital (including human capital), Michael Porter distinguishes the following categories: human resources, natural resources, knowledge resources, and capital and infrastructure.

The second factor is the competitive environment. Business strategies and structures are heavily dependent on the national environment, and there are significant differences in business segments in different countries that determine how businesses compete. He believes that domestic rivalries require businesses to be competitive, improve quality, and be innovative. A third factor is the relevant and supporting industries. The sum of supporting industries represents an environment in which learning, innovation and functional productivity can thrive (Davies & Ellis, 2000). The last factor is demand conditions.

Porter focuses more on differences in demand than on similarities that explain the international competitiveness of countries. According to him, it is not only the magnitude of demand, in the domestic environment, but also the complexity of buyers in the country of origin. The composition of domestic demand shapes the way in which companies interpret, and respond, to the needs of buyers. This forces home-country companies to continually innovate and upgrade their competitive positions to meet high standards in terms of product quality, features, and service requirements. Smit (2010) states that the advantages for each country are not the same as its comparative advantages.

The advantages for each country emphasize its position as a source of international competitive advantage for businesses, while the comparative advantage highlights the sectoral composition of trade between countries. For example, if a country exports products of a particular industry, this does not necessarily mean that the country has a competitive advantage in that industry.

3.2 Theoretical Overview of the US Competitive Advantage

To be able to analyze the competitive advantage of the United States, we must look separately at the dynamics of the United States has in regard to key aspects of the competitive advantage theory.

Conditions of Production Coordinators (Human resources, knowledge resources): US public capital markets are fundamentally sound, and remain the preferred option for the US and for many foreign companies (EY, 2017). Investors abroad sold US$51.3 billion of US assets in September 2017, while foreigners purchased US$80.9 billion of US debt, including state and corporate bonds. Capital flows to the United States averaged US$ 21,508.73 billion from 1978 to 2017 (Trading Economics, 2017). The private sector represents the majority of Project Research and Development executed in the United States, (for example 71% in 2009) (NSB, 2012). In the United States, businesses funded about 61% of total US research and development in 2013 (NSB, 2016). Total employment increased by 156,000 in August 2017, and the unemployment rate slightly changed to 4.4%, according to data from the US Bureau of Labor Statistics (BLS, 2017).

Competitive environment (Competitive national environment): In the United States of America, the enforcement of antitrust legislation has become increasingly aggressive in recent years (Covington, 2017). In the year 2016 there were 1,832 proposed mergers and acquisitions to be reviewed under the HSR-Antitrust Improvement Act, an increase of 4.5% as compared to 2015 (OECD, 2017a). The Robinson-Patman Act is a federal antitrust statute that forbids companies from engaging in specified practices involving discriminatory pricing and product promotion in connection with products sold to merchants for resale. Moreover, on January 13, 2016, the Federal Trade Commission (FTC) issued a report on drug patent settlements. The report summarized data on patent settlements and showed that potential "pay-for-delay" deals decreased substantially in the first year since the Supreme Court's Act (OECD, 2017b).

Supporting Industries (External economies of supportive industry groups): Supply chain industries make up a large and significant part of the US economy (43% of US workers) and 2.5 million businesses in 2012 (43% of all employers) (Delgado & Mills, 2016). In total, "copyright" intensive industries directly and indirectly support 45.5 million jobs, around 30% of all employees (Antonipillai, et al., 2016). According to the United States Department of Commerce (2015), the Hollings Manufacturing Extension Partnership at the Department of Commerce is a network of 60 centres and 1,200 manufacturing experts across the country.

Demand conditions (The composition of domestic demand): The domestic demand of the United States economy is governed by stringent, safe and consumer-friendly consumer protection standards and laws. In particular, the Federal Trade Commission (FTC) is entrusted with protecting consumers and promoting competition (UNCTAD, 2016). A case in point is the US$10 billion settlement order for the owners of certain Audi and VW cars to be compensated for the vehicles they bought (FTC, 2016). Because of the financial crisis of 2007 and its consequences (such as commercial banks, insurers, government-sponsored enterprises, and investment banks either having failed or requiring hundreds of billions in federal support to continue functioning) the Dodd-Frank Wall Street Reform and Consumer Protection Act was passed. The main purpose of these acts is to make changes to bank regulation in order to make bank failures less likely in the future, including prohibitions on certain forms of risky trading (Webel, 2017).

4. The Economy of the US

This chapter analyzes the United States' macroeconomic aggregates in the period from 2007 to 2016. The macroeconomic figures studied are: GDP, Growth Rate, Public Debt, Fiscal Deficit, Inflation, Unemployment, the Current Account Balance, and finally the Trade Balance. Table 1 shows the development of key US macroeconomic aggregates from 2007 to 2016.

Table 1: Macroeconomic aggregates in the period 2007 to 2016

Year	GDP (billion USD)	Growth Rate	Public Debt (%GDP)	Fiscal Deficit (%GDP)*	In-flation	Unem-ployment	Current Account Balance (% GDP)	Trade Balance (% GDP)
2007	14.477	1.77%	55.60%	-3.55%	2.85%	4.62%	-5.00%	-4.96%
2008	14.718	-0.29%	64.00%	-7.02%	3.83%	4.60%	-4.70%	-4.69%
2009	14.418	-2.77%	76.30%	-12.67%	-0.35%	5.80%	-2.70%	-2.66%
2010	14.964	2.53%	85.60%	-12.01%	1.64%	9.30%	-3.00%	-2.95%
2011	15.517	1.60%	90.01%	-10.61%	3.15%	9.60%	-3.00%	-2.96%
2012	16.155	2.22%	94.30%	-8.86%	2.06%	8.90%	-2.80%	-2.76%
2013	16.691	1.67%	96.60%	-5.36%	1.46%	8.10%	-2.20%	-2.19%
2014	17.393	2.37%	97.10%	-4.79%	1.62%	7.40%	-2.30%	-2.25%
2015	18.036	2.56%	97.80%	-4.20%	0.11%	6.20%	-2.60%	-2.56%
2016	18.569	1.61%	99.70%	-4.94%	1.26%	5.30%	-2.60%	-2.59%

Source: (World Bank, 2018 and *OECD, 2018)

Nominal US GDP (in current prices) has gradually grown by four trillion USD from 2007 to 2016. It is evident that the crisis did not affect GDP (at current prices) and that GDP has been growing since 2011. The year 2009 saw, the lowest rate of economic growth. There was a sharp decline in US GDP growth in 2008-2009, followed by a gradual recovery, with an average GDP growth of 2.08%. As regards US public debt, there is a steady increase, with the maximum price rising to 99.7 per cent of GDP in 2016. The largest increase in government debt was in the period 2007 to 2011, when it increased by 35%. The fiscal deficit increased by 5% in 2009 compared to 2008, but is on a downward path. The largest fiscal deficit was recorded in 2009, at 12.67%. Inflation before the 2008 financial crisis peaked at 3.83%, declined to a large extent in 2009, and then averaged at 1.61%. In 2009, negative inflation was observed at -0.35%. The highest rate of US unemployment was recorded in 2011, at 9.6%. It then declined steadily and in 2016 reached pre-crisis levels. The current account deficit has been improving since 2007, with the lowest value being at -2.2% in 2013. As regards the trade balance, we can see that it is continuously in deficit for the entire period under study. Before the crisis in 2008, the trade deficit stood at 4.69%, and after the crisis it averaged at 2.62%. Figure 1 shows real GDP for the period 2007-2016.

Figure 1: Real Gross Domestic Product for the period 2007–2016 (Year-on-year Percent Change, Annual, End of Period).
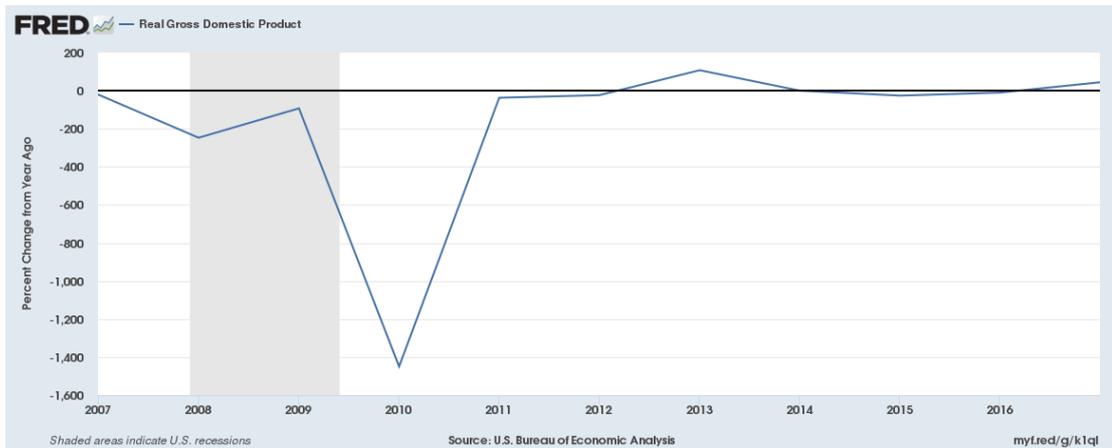
Source: (FRED, 2018a)

The above figure shows real GDP for the period 2007-2016. Real GDP fell rapidly in 2009 because of the financial crisis, but followed a steady course from 2011 to 2016. Figures 2 and 3 show the exports and the imports of the United States for the period 2007–2016.

Figure 2: Exports of Goods and Services, Balance of Payments Basis for the period 2007–2016 (Year-on-year Percent Change, Annual, End of Period).
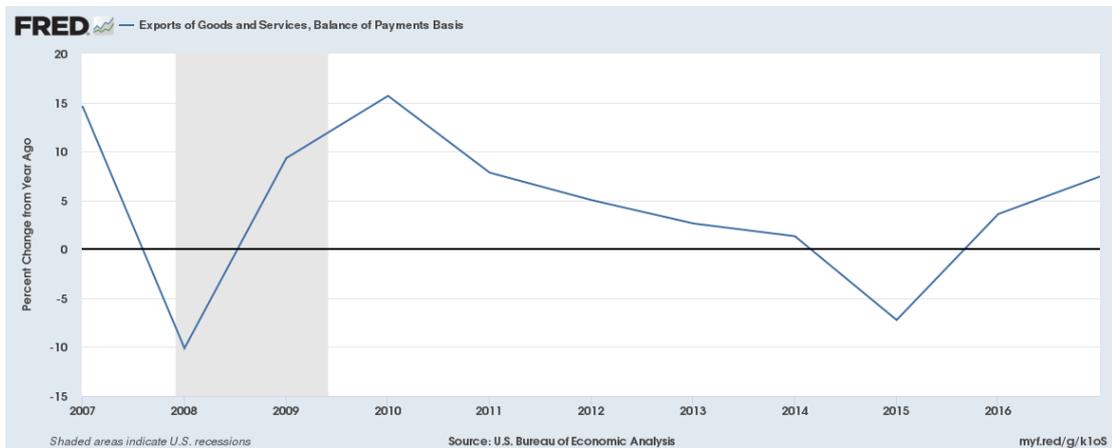
Source: (FRED, 2018b)

Figure 3: Imports of Goods and Services: Balance of Payments Basis for the period 2007-2016 (Year-on-year Percent Change, Annual, End of Period).
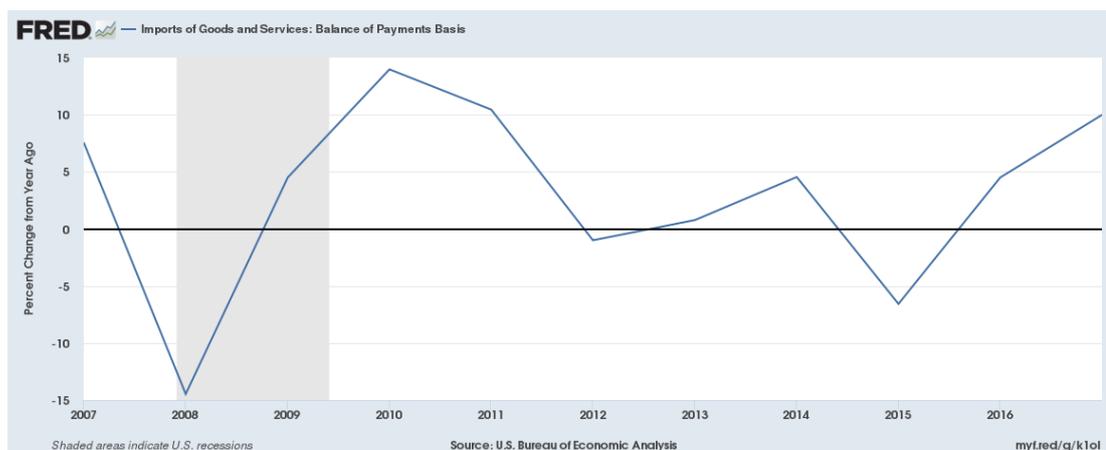
Source: (FRED, 2018c)

The exports of Goods and Services and the imports of Goods and Services for the period 2007–2016 follow almost the same course. Because of the financial crisis of 2008 both exports and imports fell rapidly, and in 2010 the percentage change for exports had risen to 15.6% and for imports to 13.9%. In 2015 this rate had fallen to -7.2% for exports and -6.5% for imports. After 2015 both exports and imports are on the rise.

According to Kose and *et.al* (2017), the United States is the largest economy in the world, accounting for almost 22% of world production and over 1/3 of stock market capitalization. He also reports that with a nominal GDP of more than US$ 18 trillion in 2016, the United States is the world's largest economy, accounting for more than 25% of global GDP (2015), 11% of world trade, 12% of receivables and 35% of the world's stock market capitalisation.

4.1 Determining the competitive advantage of the US

This section attempts to quantify the competitive advantage of the US. The data used to construct the competitive advantage is for 2015. The year 2015 was chosen because of the completeness of data to study the competitive advantage. The following procedure is used to quantify the competitive advantage: First, for the certain factors are taken into account to help determine each of the four factors of the competitive advantage. Second, the values of the indicators are presented. Third, attempting to find the maximum and minimum element (1 representing the minimum value and 10 the maximum). Fourthly, the existence of the competitive advantage of the USA is determined by calculating the average for each factor of competitive advantage.

In order to select the competitive advantage indicators, we try to determine the relationship between the factors of a country's competitiveness and the factors of Porter's Diamond Model factors. In particular, according to the World Economic Forum (Schwab, 2014) there are twelve pillars of competitiveness that lead a country to be competitive in the international environment. The competitiveness pillars are: Institutions, Infrastructure, Macroeconomic Environment, Health and Education, High Level of Education, Efficiency of the Goods Market, Labour Market Efficiency, Financial Markets Development, Technological Readiness, Market Size, Innovation Level, and Business Sophistication.

The indicators are selected through the following procedure: the Technological Readiness pillar is mostly taken into account for the "Factor Conditions" factor, secondly, the

Institutions and Macroeconomic Environment pillar is mainly taken into account for the "Firm Strategy, Structure and Rivalry" factor, thirdly the Financial Market Development pillar is principally taken into account for the "Related and Supporting Industries" factor and, finally, the Market Demand pivot factor is chiefly taken into account for the "Demand Conditions". A similar approach was followed by Rodrigues and Khan (2015) to determine the factors that contribute to the competitive advantage of the clothing industry in the SAFTA region and, more generally, to compute the competitiveness index based on the Porter model. According to Balcarová (2014), the choice of variables significantly influences the results.

The following procedure is used to find the average of the values in the scale: For each factor of competitive advantage, the average is calculated on the basis of the equation of the Normalization of data and especially the *Min-Max Normalization Method*. According to OECD (2008, p.28):

"Min-Max normalises indicators to have an identical range [0, 1] by subtracting the minimum value and dividing by the range of the indicator values":

The Equation of Min-Max Normalization Method is the following:

Table 2: Benchmarks of competitive advantage and the Reference values of Competitive Advantage Indicators

INDICATORS OF COMPETITIVE ADVANTAGE	US
YEAR OF ANALYSIS - 2015	**INDICATOR VALUES**
Factor Conditions	
Research and development expenditure (% of GDP)	2.80%
Unemployment, total (% of total labor force)	5.30%
Industry, value added (annual % growth)	2.10%
Firm Strategy, Structure and Rivalry	
Foreign direct investment, net inflows (% of GDP)	2.80%
Member of World Trade Organization	YES
Cost of Business Start-up Procedures (% of GNI Per Capita)	1.10%
Related and Supporting Industries	
Trade in services (% of GDP)	6.90%
Services, value added (annual % growth)	2.80%
Information and communication technology (ICT) goods exports (% of total goods exports)	9.40%
Demand Conditions	
GDP per capita growth (annual %)	2.10%
Final consumption expenditure, etc. (annual % growth)	3.30%
Household final consumption expenditure per capita growth (annual %)	2.90%

Source: (World Bank, 2018)

C = (Value - Min) / (Max - Min), where *Value* is the value of the index, *Max* is 10 and *Min* is 1. The calculation formula was used for each value of the indicator indicators mentioned above. The key issue is the choice of the benchmarks that consist the four factors of the competitive advantage. According to Vu & Pham (2016) the Diamond Model of Porter includes the four groups of attributes (Factor conditions, Firm Strategy, Structure and Rivalry Related and Supporting industries and Demand conditions) and has generated over 100 proxies that are used to capture international competitiveness. For example, as far as the Factor Conditions the "Research and development expenditure" is used by Balcarova (2014). Concerning the Firm Strategy, Structure and Rivalry the "Foreign direct investment, net inflows" is used by Mutambo (2018). As far as the Related and Supporting Industries the "Information and communication technology index (2013)" is used by Vu & Pham (2016) and regarding the Demand Conditions the "Final consumption expenditure" is used by Necadova (2017).

Table 3: Index values on the scale and average thereof

INDICATORS OF COMPETITIVE ADVANTAGE	UNITED STATES
	THE REFERENCE RATES
Factor Conditions	
Research and development expenditure (% of GDP)	0.2
Unemployment, total (% of total labor force)	0.47
Industry, value added (annual % growth)	0.12
Average prices of US Competitive Advantage Factors	**0.26**
Firm Strategy, Structure and Rivalry	
Foreign direct investment, net inflows (% of GDP)	0.2
Member of World Trade Organization	1
Cost of Business Start-up Procedures (% of GNI Per Capita)	0.01
Average prices of US Competitive Advantage Factors	**0.40**
Related and Supporting Industries	
Trade in services (% of GDP)	0.65
Services, value added (annual % growth)	0.2
Information and communication technology (ICT) goods exports (% of total goods exports)	0.93
Average prices of US Competitive Advantage Factors	**0.59**

Demand Conditions	
GDP per capita growth (annual %)	0.12
Final consumption expenditure, etc. (annual % growth)	0.25
Household final consumption expenditure per capita growth (annual %)	0.21
Average prices of US Competitive Advantage Factors	**0.19**

Source: (Authors' calculations)

Table 4: Average of US Competitive Advantage factors
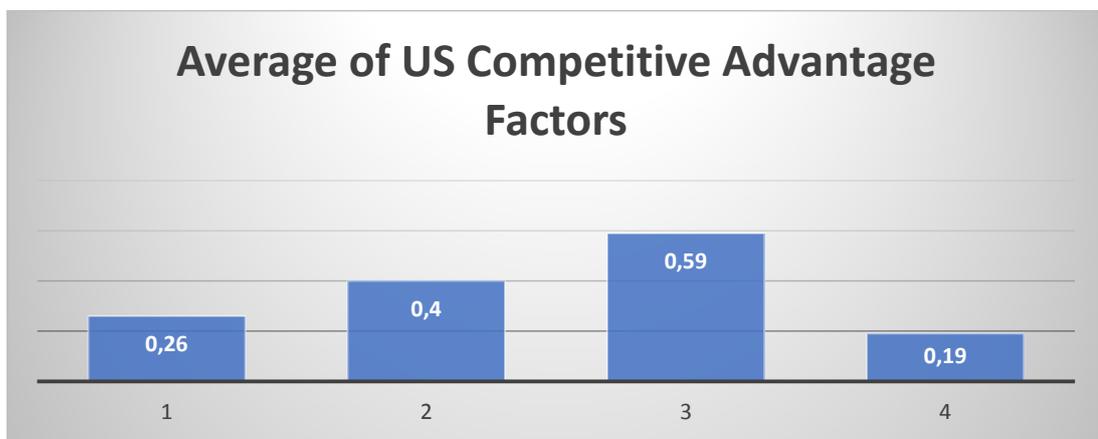
Source: (Authors' calculations)

In sum, by examining the selected indicators, it could be said that United States shows sufficient values in Related and Supporting Industries (*0,59*) and in Firm Strategy, Structure and Rivalry (*0,4*) but does not a sufficient value in the Demand Conditions (*0,19*) and in the Factor Conditions (*0,26*). Anyway, the United States has the potential that contributes to meeting the conditions of competitive advantage.

4.2 Calculation of the relationship of trade and GDP Growth and GDP per Capita Growth of the US

This section attempts to study the correlation between the trade rate and GPD Growth and GDP per capita growth for 2007-2016. Pearson's r coefficient is a statistical measure of the strength of a linear relationship between the paired data. The Pearson Correlation calculation formula is

$$r_{xy} = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n}(x_i - \bar{x})^2 \sum_{i=1}^{n}(y_i - \bar{y})^2}}$$

where X and Y are the two variables, in particular X is the total trade and Y is the increase in per capita income. Positive values indicate a positive linear correlation. Negative values indicate negative linear correlation. A value of 0 does not indicate a linear correlation. The closer the value is to 1 or -1, the stronger the linear correlation.

The calculation of the Pearson Correlation of the trade rate with GDP Growth and GDP per capita growth for 2007-2016 shows that there is positive correlation of the volume of trade as a percentage of GDP not only with GPD Growth, but also with GDP per capita growth. The Pearson Correlation Coefficient between Trade (% of GDP) and GDP Growth (annual %) is **0,54** Positive and the Pearson Correlation Coefficient between Trade (% of GDP) and GDP Per capita Growth (annual %) is **0,53** Positive. The positive correlation between the percentage of trade and the GDP growth and the GDP per capita growth 2007-2016 indicates that a protectionist trade policy will probably has the opposite outcome (protectionist policies increase prices) especially for the growth of the per capita income. The short-run benefits the US have today will launch a long-run global trade war, due to the fact that USA is the founder of the modern, international, multilateral trading structure. As Yalcin et al (2017, p.62) mention:

> "The US is indeed confronted with economic imbalances, and especially high trade deficits, which are increasingly causing conflict among different domestic industries. At the same time, …, a protectionist trade policy will not solve these economic challenges. On the contrary, such a policy would only exacerbate long-term problems. The economic inequalities ,….., whether in trade or income distribution, should be addressed by the US administration with political instruments that do not distort trade''.

5. Conclusion

The study of the US economy regarding the adoption of protective measures or the need to stimulate competitiveness leads to some useful conclusions. The United States of America has a potential for competitive advantage, which makes it unnecessary to apply extreme protective measures. The Demand Conditions and the Factor Conditions have low reference rate, the Firm Strategy, Structure and Rivalry and the Related and Supporting Industries have high reference rate. It has also been established that there is a correlation between the percentage of trade and the rate of growth of US per capita income and the GDP growth. From the above, we conclude that boosting US competitiveness rather than exerting protectionism is the means that can improve the US economic position in the world and increase US income per capita. This paper is trying to show that, although protectionist trade policies would have some temporary benefits, USA should not establish trade protectionism because, firstly, will cause chain reactions of protectionism across the world with bad effects on trade and GDP. As Frankel (2018) says:

"Trump's protectionism is hurting the US trade balance,…,The tariffs are presumably having a negative effect on US imports but negative effects on US exports are also large''.

Secondly, USA have the most conditions of enhancing competitiveness and according to Schwab (2018) are still the most competitive economy in the world. So, it is redundant to impose protectionist trade policies.

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APPENDIX

Pearson Correlation between Trade (% of GDP) and GDP Growth (annual %).

Years	Trade (% of GDP)	GDP Growth (annual %)	X	Y	X*Y	X^2	Y^2
2007	28.0	1.8	-0.7	0.4	-0.28	0.49	0.16
2008	29.9	-0.3	1.2	-1.6	-1.92	1.44	2.56
2009	24.8	-2.8	-3.9	-4.1	15.99	15.21	16.81
2010	28.2	2.5	-0.5	1.1	-0.55	0.25	1.21
2011	30.9	1.6	2.2	0.3	0.66	4.84	0.09
2012	30.7	2.2	2	0.9	1.8	4	0.81
2013	30.2	1.7	1.5	0.4	0.6	2.25	0.16
2014	30.2	2.6	1.5	1.3	1.95	2.25	1.69
2015	27.9	2.9	-0.8	1.6	-1.28	0.64	2.56
2016	26.6	1.5	-2.1	0.2	-0.42	4.41	0.04
Average	28.7	1.3	Sum		16.55	35.78	26.09
r = 0.54 Positive Correlation							

Pearson Correlation between Trade (% of GDP) and GDP Per capita Growth (annual %).

Years	Trade (% of GDP)	GDP Per capita Growth (annual %)	X	Y	X*Y	X^2	Y^2
2007	28.0	0.8	-0.7	0.3	-0.21	0.49	0.09
2008	29.9	-1.2	1.2	-1.7	-2.04	1.44	2.89
2009	24.8	-3.6	-3.9	-4.1	15.99	15.21	16.81
2010	28.2	1.7	-0.5	1.2	-0.6	0.25	1.44
2011	30.9	0.8	2.2	0.3	0.66	4.84	0.09
2012	30.7	1.5	2	1	2	4	1
2013	30.2	1.0	1.5	0.5	0.75	2.25	0.25
2014	30.2	1.8	1.5	1.3	1.95	2.25	1.69
2015	27.9	2.1	-0.8	1.6	-1.28	0.64	2.56
2016	26.6	0.8	-2.1	0.3	-0.63	4.41	0.09
Average	28.7	0.5	Sum		16.59	35.78	26.91
r = 0.53 Positive Correlation							