THE ROLE OF INTERNATIONAL TRADE IN THE DEVELOPMENT OF THE COUNTRIES

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Abstract:
Our study aims to investigate the impact of foreign trade on economic growth and welfare of a country, using foreign trade volume and its coverage (i.e. export versus import) ratio representing foreign trade while gross domestic product per capita and purchasing power parity represent economic growth and welfare. Knowing that foreign trade boosts the whole economy, gross domestic product (GDP) per capita is a good indicator of an economic output but does not reflect the differences in the cost of living of countries. The challenge in this study is to develop more complementary indicators that can help bridge the gap between GDP per capita and economic well-being. Purchasing power parity (PPP) compares different countries' economic output using a standardized metric based on a common basket of goods and services. Using PPP exchange rates in addition to a country's gross domestic product (GDP) may help to provide a more detailed picture of a country's economic health. Multiple regression analysis was utilised to test the hypotheses of this study. Secondary data was used in this study. The analyses were performed with SPSS. As a result of the data analyses and tests of hypotheses conducted in this study, it has been empirically proven that foreign trade volume and export/import coverage ratio have positive impact on gross domestic product per capita which has a significant impact on purchasing power parity.

Keywords:
Foreign Trade Volume, Export/Import Coverage Ratio, Gross Domestic Product per Capita, Purchasing Power Parity

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1. Introduction

The only way for countries to rise to the welfare and modern country class is defined as economic growth, and as a result of this, development. For this reason, identifying the sources of welfare-enhancing economic growth attracts the attention of researchers, and in case it is known, it becomes easy for governments that implement economic models to evaluate them in terms of economic policies. For this reason, to argue that the welfare of the country in question is good, it must have an economic performance that can be expressed as increased quality of life or real national income when compared to its competitors (Karaaslan & Tuncer, 2010).

The comparison of international development levels is based on Gross Domestic Product (GDP) per capita values in a common currency. The GDP values that are calculated with the exchange rate reflect the monetary value of goods and services, not their quantity or volume. For this reason, the "Purchasing Power Parity (PPP)", which is a more detailed exchange rate allowing the comparison of the "volume of goods and services" of countries, is employed instead of the exchange rate. Purchasing Power Parity (PPP) is defined as the price level of a well-defined basket of goods and services in different countries. This figure also serves as the reference in terms of informing us how much money people can spend with their incomes. In this way, price level differences are eliminated among countries, and real price and volume comparisons can be made internationally.

Foreign trade and the factors complementing and developing a country are important in the growth of its economy. Studies conducted on the relations between foreign trade and economic growth date back to the birth of international economics. A. Smith, who advocated the idea that a nation's welfare must be measured with the production and economic growth rather than its gold reserves, mentioned the importance of international trade (1937). Similarly, David Ricardo also said that the way to increase individual welfare is through international trade (2008). The level of welfare economic growth will provide will become more meaningful in our present day if it is reflected on all people living in the country. Because as the economy grows, it is expected that the welfare of the country will also increase.

Foreign trade, which is also known as international trade, is the mutual purchase, i.e. "import", or sale, i.e. "export" activity of goods and services between countries. In our present day, the main purpose of foreign trade is to liberalize and increase international trade on a global scale, and in this way, contribute to the development of countries. For this reason, the volume of foreign trade is an important criterion in terms of indicating to all of the trade a country performed with other countries (Açiler, 2021). This value is the component of the income from exports and expenses paid for imports.

Policies that involve all state and government activities on imports and exports are called the foreign trade policies. In summary, foreign trade policy affects the distribution of production resources of countries, and it is shaped in agreement with various purposes. Although the perspective of a country's economy on foreign trade is evaluated with how much it adapts to world trade, the stable growth and development of that country are also related to how much it benefits from such a trade. When a foreign trade policy is created, one of the important targets is to improve the foreign trade balance in favor of the country while increasing the volume of foreign trade; in other words, to minimize imports and increase exports, since exports have an important place in the development of a country's economy. An imbalance emerges if the import is more and the export is less, which is called the foreign trade deficit. The aim of this study is to investigate the role of foreign trade on economic growth in terms of GDP per Capita and Purchasing Power Parity. As a conclusion, in the present study, an economic model will be created by analyzing this correlation with related dimensions.

2. Conceptual Background

In this part, the variables of Foreign Trade Volume, Export-Import Coverage Ratio, Gross Domestic Product per Capita, and Purchasing Power Parity, which constitute the model in question (figure 1), will be explained in conceptual terms.
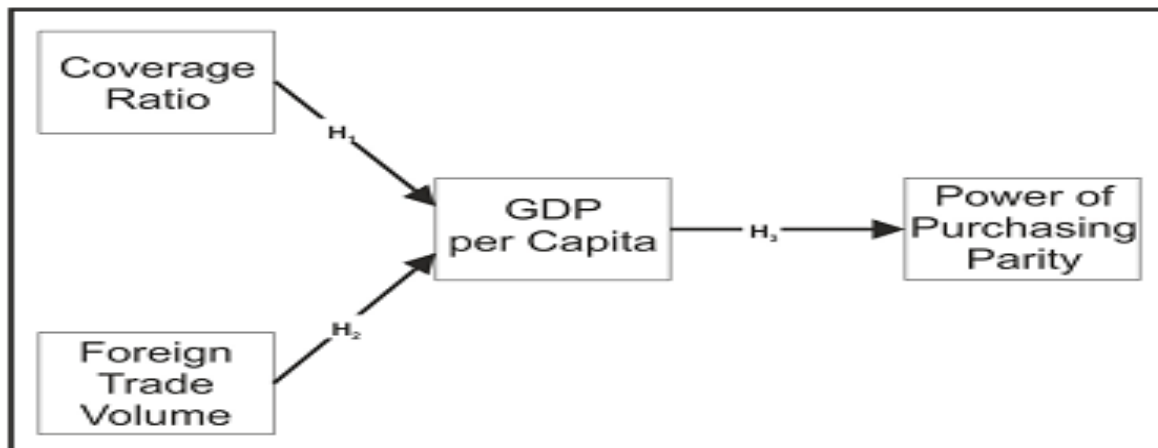

Figure 1: Research Model

2.1. Foreign Trade Volume

There are many factors affecting the economy of a nation. Production power, expertise areas, technological power, natural resources, competitiveness, and foreign trade volume, which enables that these are made use of, are important criteria determining the level of development of countries. The total income earned by a country from the export of goods and services to foreign countries and the number of expenses paid for the import of goods and services from foreign countries indicates the total foreign trade volume of that country. Here, foreign trade volume is expressed as the sum of import and export figures.

Trade relations among countries are increasing with the development of global understanding in world trade thanks to the removal of borders and the advantages of technology. As the commercial connections accelerate, the traditional trade structure is shaped again, and international preferences change in this respect. It is today accepted that foreign trade among countries is one of the most important factors that affect development and welfare. In this context, increasing the foreign trade volume has been adopted as an important target in terms of both the vision of the country and its competitiveness.

One of the outcomes in the process of economic globalization is increasing interdependence and similarity among countries because of intensified commercial activities. According to economic theory, foreign trade brings benefits for both parties in principle. The international division of labor improves the efficiency of resource distribution and the economic well-being of all countries, at least in the long run. Although developing countries impose temporary restrictions on some strategic products and foodstuffs, they still prioritize increasing their exports in general. Import, on the other hand, is a highly preferred channel for the transfer of raw material, products, and technology (Arslan, 2013).

In short, the extensive use of international trade relations, or foreign trade volume, enables a country to re-design its national economic policy. The foreign trade volume figures, which are the sum of the import and export figures of countries, were addressed in the present study.

2.2. Export/Import Coverage Ratio

Foreign trade developments are followed with care in open economies because of the information they provide on economic vitality and their importance in domestic and foreign economic balances.

One of the indicators used for this purpose is the Export/Import Coverage Ratio (Mikic & Gilbert, 2009). Export is the sale of goods and services to foreign countries, in other words, the commercial sale of a domestically produced, assembled, or finished product abroad. Import, on the other hand, is the purchase of products manufactured or prepared abroad by buyers within the country in exchange for foreign currency. This ratio, which shows how much of the import is covered by exports, can be employed in comparing the trade performance of countries and the same country at different times. As a measure of foreign trade, the characteristics of the Coverage Ratio are examined in the present study, and an answer is sought to the question of how sensitive this ratio is to the changes in Gross Domestic Product (GDP) and, therefore, Purchasing Power Parity (PPP).

When trade deficit is measured in any currency or as a ratio of GDP, it may be difficult to compare values among different countries (or in the same country but at different times). The Export/Import Coverage Ratio, however, may be more appropriate to make comparisons among countries regarding different times. To illustrate, the exports and imports of two countries that have the same Gross Domestic Product (GDP) can be investigated in X Country, which is 30% and 40% of GDP, and Y Country, which is 15% and 25%, respectively. The foreign trade deficit of both countries was found to be 10% in this example. However, although the Export/Import Coverage Ratio in X Country was 30/40 *100= 75%, this was 15/25*100=60% in Y Country. In short, although X Country can close this deficit with a limited percentage decrease in imports or a limited percentage increase in exports, its closing by Y Country that has weak foreign trade relations will require a larger percentage change in its imports or exports.

As seen in this example, the same ratio of GDP may have different meanings for different countries. The Coverage Ratio is extremely important because it is a measure that can reflect this difference (Aydın, Baskaya, & Demiroglu, 2015).

2.3. Gross Domestic Product (GDP) Per Capita

Income is the most important factor that affects the economic development level, development, and better conditions of the citizens of a country, and is characterized generally by per capita income. In the economics literature, economic growth is generally evaluated with the increase in income per capita of a country for a certain

period. Although this criterion expresses a numerical value, it is considered as the leading factor of growth in all economic hypotheses. Because the growth of the economy of a country can be understood by evaluating these values for a certain period.

Gross Domestic Product (GDP) is the economic measure at the market value of all final products that are produced for a certain period. GDP is a critical factor to determine economic growth of a country because it takes into account its entire economic output. According to another definition, it is expressed as the monetary equivalent of all the goods and services that are not produced in the borders of a country for a certain period, in the economic unit of that country, or its foreign economic unit (Fortuneturkey,2019). Another definition considers it as the sum of the added values created in the borders of a country. GDP is usually considered for one year. Final goods and services are the values that remain after deducting the intermediate goods used for production from the total goods and services produced. The following formula is applied to find GDP data.

$$GDP = \text{private consumption} + \text{investment} + \text{government spending} + (\text{exports - imports}).$$

GDP per capita is the result of dividing this value by the total population in a country. Gross Domestic Product (GDP) per capita is the key indicator of economic performance and is often employed to identify the average living standards of nations and measure their economic well-being status (OECD, 2009). It also describes the potential average income that citizens can benefit from their country's economy.

GDP aims to measure certain economic activities of a country. The argument that reinforces the justification for using GDP as the measure of standard of living is that as the GDP of a country rises, so does its standard of living. The important point here is that GNP per capita does not reflect the differences in the cost of living and inflation rates of countries; it is more useful in comparing national economies in the international market (Wikipedia, 2022).

2.4. Purchasing Power Parity (PPP)

Exchange rates, which play important roles in the formation of economic policies and the direction of economic activities in a country, provide important data on the economic structures of countries. Real exchange rates, which reflect the relative price of goods that are produced abroad in terms of goods that are produced domestically, are employed as an important tool to measure international competition. Also, the changes that may occur in real exchange rates have significant effects on national economies. There are different approaches to determining the exchange rate. Among these, there are "Purchasing Power Parity (PPP)" has been the most favored approach. The PPP theory was first put forward by the Swedish economist Gustav Cassel after the first World War (1921). The increased volatility caused the PPP analysis to become widespread after the exchange rates were left to float after the period of the Bretton Woods period and the adoption of the fixed exchange rate system in the countries that are members of the International Monetary Fund (IMF).

Gross Domestic Product (GDP) per capita values in a common currency are the basis of the comparison of international development levels. These values reflect the monetary value of goods and services, not the common exchange rate, and for this reason, the "Purchasing Power Parity" (PPP), which is an exchange rate allowing the comparison of the volume of goods and services by calculating over a common exchange rate, is used in this respect. This figure gives us information on how much money people can spend with their incomes. So it is one of the critical economic factors which enables a country to improve its quality of living standards by benchmarking with other contries.

According to Eğilmez (2012), Purchasing Power Parity (PPP) refers to a rate of change equalizing the purchasing power of different currencies after eliminating price level differences among countries. According to Wikipedia (2021), goods and services in the same basket can be purchased in all countries when a lump sum of money is converted into a different currency with a certain parity rate with Purchasing Power Parity (PPP).

In present study, purchasing power parity (per capita) is used to analyze not only price level variations between nations but also their standards of living.

3. Hypothesis Development

In our research model, it is suggested that the dimensions of foreign trade are the antecedents of the economic growth. Trade volume and its coverage ratio are two factors used for foreign trade and GDP per capita and Purchasing Power Parity representing economic growth and welfare in relation with each other.

3.1. The Relationship Between Export/Import Coverage Ratio And GDP per Capita
There are many studies which aimed to check outcomes on the economic growth of export and import distinctively. Sun and Hesmati (2010) paid attention to export indicator to analyze its impact on economic growth. According to Thirwall model (1979), economic growth can beexplained on the basis of export ratio versus import activities. Also Wagner (2007) emphasized that increase in exports stimulates economic growth by improving productivity. In another study, it was concluded that exports and imports are the main drivers of economic development in Germany (Bakari, 2017). Civelek and Özkan (2021) conducted a study covering 126 countries and found that there is significant relationship between GDP values and export-import coverage ratios.
H1: Export-Import Coverage Ratio has a positive effect on Gross Domestic Product (GDP) per Capita
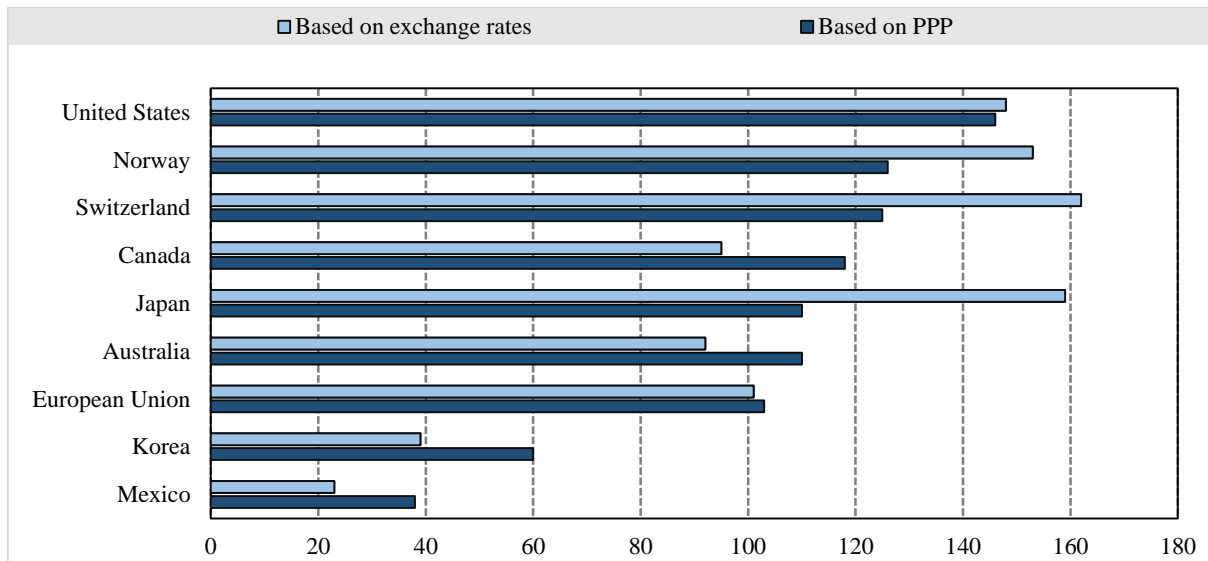
3.2. The relationship between Foreign Trade Volume and GDP per Capita
In recent studies, it has been shown that foreign trade, enabling countries to be integrated into global economy, is one of the main drivers of nation's economic improvement. The outcomes of this integration have been subjects to discuss, investigate and analyze for many researchers. Maizels (1963) conducted a study for 7 developed countries and stressed the importance of the positive relationship between international trade and economic development. Frankel and Rommer study supports the positive effects of trade on national income (1999). According to Paul Krugman, foreign trade boosts economic growth by improving the optimal allocation of resources and technological progress (2009). Also it was emphasized that foreign trade enhances economic growth by reaching goods and services through tecnology diffusion (Rivera-Batiz& Romer, 1991). Andersen and Babula (2008) investigated the level of correlation between foreign trade and economic growth by analyzing whether trade itself is sufficient to ensure permanent improvements in living standards and found that there is a strong relationship between international trade and aggregate national income. By using panel model for 108 countries, Busse and Koniger confirmed that international trade had a significant effect on economic growth (2012). Were (2015) analyzed trade impact on economic growth regarding 85 (mostly developing) countries and concluded that trade positively impacts economic growth.
H2: Foreign Trade Volume has a positive effect on Gross Domestic Product (GDP) per Capita

3.3. The Relationship Between Gross Domestic Product (GDP) per Capita And Purchasing Power Parity (PPP)
The main reason to use PPPs is for spatial price comparisons among countries which provide also volume comparisons. Although GDP per capita is not enough to explain economic well-being, it still has a high input to check and understand economic performance of individual countries. For OECD reports, comparisons of GDP per capita are typically based on PPPs (OECD, 2002). The OECD results provide some telling examples for the differences between PPP-based and exchange rate based comparisons (see figure 2). Seshaiah and Tripathy (2018) in their study, found that real exchange rate, real interest rate, consumer price index (CPI), and money supply show strong evidence on GDP PPP per capita. H. Niu and his friends (Hua, Chu, & Ma, 2015) by using panel data model, analyzed 62 countries covering 2000-2013 and found that purchasing power parity changes are mainly related to changes in GDP per Capita and exchanges rates.

Figure 2: Two Measures of GDP per Capita 1999, OECD 30 = 100
Source: OECD, Purchasing power parities 1999 benchmark results, 2002

H3: GDP per Capita has a positive effect on Purchasing Power Parity (PPP)

4. Research Methods
4.1. Research Method and Sampling
Multiple regression analysis was utilised to test the hypotheses of this study. Secondary data was used in this study. The analyses were performed with SPSS. Secondary data are collected by World Bank database, whose credibility is tested and accepted as criteria by many nations and authorities. Scope of the study is 93 world countries for the years from 2010 to 2018 and covers foreign trade volume, export/import coverage ratio, GDP per capita and global purchasing power parity datas to be analyzed.

4.2. Test of the Hypotheses
In Table 1 correlation values among the constructs of the reseach model are shown and the relationships among variables are statistically significant.

Table 1: Correlation Among the Constructs

Variables	1	2	3
1. Coverage Ratio			
2. Foreign Trade Volume	.108*		
3. GDP per capita	.345*	.268*	
4. Purchasing Power Parity	.508*	.243*	.909*

*p<0.01

The analysis of the research consists of two stages; in the first stage, the impact of foreign trade volume (FTV) and export/import coverage ratio (CVR) on gross domestic product (GDP) per capita was analysed and significant relationship was found between them as mentioned in below tables:

Table 2: Model Summary of First Stage

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,416[a]	,173	,168	21342,88580

a. Predictors: (Constant), FTV, CVR

Table 3: ANOVA Table of the First Stage

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35077046540,000	2	17538523270,000	38,502	,000[b]
	Residual	168086427700,000	369	455518774,400		
	Total	203163474300,000	371			

a. Dependent Variable: GDP per capita
b. Predictors: (Constant), FTV, CVR

As seen in Table 3, the model is significant because Sig. (p- value) is less than alpha (.05).

Table 4: Coefficients of the First Stage

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6567,595	2198,864		2,987	,003
	CVR	13466,901	2006,430	,320	6,712	,000
	FTV	,008	,002	,233	4,896	,000

a. Dependent Variable: GDP per capita

According to Table 4, CVR and FTV have positive impact on GDP per capita.

In the second phase of the analysis, the impact of gross domestic product (GDP) per capita on purchasing power parity (PPP) was analysed and it was found greater significance between them as seen in below tables:

Table 5: Model Summary of the Second Stage

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,909[a]	,826	,825	9504,11655

a. Predictors: (Constant), GDP per capita

Table 6: ANOVA Table of the Second Stage

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	158343609000,000	1	158343609000,000	1752,980	,000[b]
	Residual	33421445590,000	370	90328231,320		
	Total	191765054600,000	371			

a. Dependent Variable: PPP
b. Predictors: (Constant), GDP per capita

As seen in Table 6, the model is significant because Sig. (p- value) is less than alpha (.05).

Table 7: Coefficients of the Second Stage

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9056,964	677,230		13,374	,000
	GDP per cap	,883	,021	,909	41,869	,000

a. Dependent Variable: PPP

As seen in the Table 7, GDP per capita and PPP relationship is significant.

Table 8: Hypotheses Test Results

Relationships	Standardized Coefficients	Unstandardized Coefficients	Hypotheses	Hypotheses
CVR → GDP per cap.	0.320	13466,901	H1	Supported
FTV → GDP per cap.	0,233	0.008	H2	Supported
GDP per cap. → PPP	0.909	0.883	H3	Supported

*p < 0.05

In Table 8, the results of the research hypotheses are listed. All the hypotheses H1, H2, H3 hypotheses are supported.

5. Conclusion

In this study, a conceptual model has been created to determine the relationship criteria between international trade and economic growth related with economic welfare and to evaluate the relationship between them. Foreign trade volume, export/import coverage ratio, per capita GDP and purchasing power parity (PPP) values of 93 countries covering time period of 2010-2018 were used. With the regression analyses performed in the study, it was found that there was a statistically significant and positive linear relationship. As it is already known in recent researches, foreign trade impact on GDP per capita was widely discussed and confirmed. In the first part of the present study, the results of multiple regression analysis confirm statistically the positive impact on economic growth of both foreign trade volume and export ratio, in line with previous studies. And also, integration into the global market supports a country to trade at international prices rather than domestic prices (Heshmati & Sun, 2010). So it enables domestic consumers to buy cheaper imported goods and for exporters to sell their goods at higher prices.

One of the critical outcomes of this study is that whether economic growth of a country can be sufficient to ensure sustained improvements in living conditions of its citizens. However, as discussed in different platforms, the rise of trade volume and especially export ratio cannot be always sufficient for a country to access to welfare. Due to high demand in foreign markets, some products can be more expensive in local markets as a result of supply shortages and this reduces citizens purchasing power. So the impact of international trade on economic growth and welfare may vary or can be limited. Also, as discussed in most recent studies, GDP per capita is not a comprehensive measure of economic welfare, it underestimates real improvements regarding individual living standards and ignores substantial improvements in product quality and quality of life (Dynan & Sheiner, 2018). It has a critical role in indicating short term variations in economic avtivity- essential to accurately measuring productivity- related to economic well-being. Our challenge in this study is to develop more complementary indicators that can help bridge the gap between GDP per capita and economic well-being. In order to eliminate the possible risk of reducing average economic growth and welfare, purchasing power parity (PPP) per capita was used as it is generally regarded as a better measure of overall well-being of a country. And in the second part of the study, it was found that there is a positive relationship between GDP per capita which represents economic growth and purchasing power parity (PPP) per capita which represents economic welfare.

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