# THE RELATIONSHIP BETWEEN TRADE OPENNESS AND INCOME INEQUALITY IN WESTERN BALKAN COUNTRIES

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## ABSTRACT

The Western Balkan countries have small, open economies, and in order to achieve economic growth, they focus on increasing trade with other countries, thus making their economic growth dependent on external demand. While focusing on this, the Western Balkan countries face another arising issue which is the income inequality. While their level of trade openness continues to increase, they still have a moderate level of income inequality, measured by Gini coefficient. Additionally, in most developing countries there is still not done much research regarding the relationship and effects of trade openness on income inequality. Therefore, the aim of this research paper is to determine and analyze the relationship between trade openness and income inequality for the time spin 2000-2019. To conduct the analysis of the relationship between income inequality and trade openness, several panel techniques will be used such as: OLS, Fixed and Random effects, Hausman Taylor test and the investigation of one set hypothesis. According to the analysis of this paper there is a significant positive relationship between these two variables, thus it means that the hypothesis set does not hold, as the level of Trade openness increases, the income inequality, increases as well in the Western Balkans. The findings give a contribution for the literature regarding the effects of trade openness and income inequality in developing countries, but yet there is possibility for further research.

## KEYWORDS:

WESTERN BALKAN COUNTRIES, INCOME INEQUALITY, TRADE OPENNESS

## JEL CLASSIFICATION CODES:

C12, B22, O52

## 1. INTRODUCTION

Being open to trade with other countries is expected to have a positive impact on job creation, poverty reduction, and therefore an increase in economic growth. In this manner, domestic firms have a chance to sell their products in new markets, to capture new ideas for innovation and to have overall better productivity. Increased trade allows new market opportunities for domestic firms, enhances productivity, and finally it reinforces itself in further increase. Jackson (2015) stated that countries that developed successfully in modern times, had to change, and open to international trade, movement of people and investment. As the Western Balkans countries are open to world trade and have become increasingly export-oriented during the years, to maximize the benefits of foreign trade, they expanded the role of the private sector, minimized restrictions on business development, and increased the support for market systems. These efforts have resulted in strong economic growth, significant improvements in income and living standards, and improved macroeconomic stability. (GFG, 2022) According to World Bank data, before the global financial crisis, the Western Balkans countries had better performance in growth than most countries of the world, and even afterwards they are considered to have the best figures among other countries in Europe, although their growth declined in comparison to the pre-crisis period.

The rising level of income inequality has become a global issue, especially for small, developing countries. In 2000 along with other challenges worldwide there was a sharp increase in the level of income inequality, when using the Gini coefficient as a measurement. Namely, countries such as Western Balkans are continuously in search for ways on accelerating growth and therefore finding the key obstacles to do so. As trade openness is a viable factor for the states there are theories on how both trade and income inequality can hamper the desirable economic growth.

In economics literature, trade openness can both increase and reduce income inequality, but at the same time there is lack of evidence analyzing the relationship of trade openness and income inequality especially in developing countries. Due to this, it is not obvious what are the outcomes of increasing trade on Gini coefficient, and empirical evidence has been mixed. Therefore, this research paper, tries to answer the following questions:

1.What is the level of trade openness and income inequality in Western Balkan countries (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Kosovo, Serbia)?

2.What is the relationship between trade openness and income inequality in Western Balkan countries during the period 2000-2019?

3.What is the effect of trade openness on income inequality in developing countries based on empirical evidence from Western Balkan countries?

## 2. LITERATURE REVIEW

In economics, the distribution of income can be defined as the distribution of total GDP amongst the population. In economic theory and policy, both income and the distribution of income are considered crucial, as it is known that unequal distribution causes increased economic inequality which is currently one of the major issues around the world.

The Heckscher-Ohlin model or the so-called 2x2x2 model is an economic theory that claims that countries export what they can produce in large quantities and in the most efficient manner. It is also used to evaluate trade between two countries, most importantly the equilibrium of trade that needs to be created between two countries that have different specialties and different resources from nature.

Ohlin (1933) explains the inequality effect of trade openness that comes from differences in productivity and the relative factor endowment of countries, also the extent to which individuals depend on labor or capital income. Countries tend to specialize in production within their relatively abundant factor and sell abroad these goods when they open to trade.

Dorn (2022) claims that the level of trade openness benefits in a disproportionate way the relative income shares of the very poor segments of the population, yet not all poor segments, in economies which are emerging and in the process of developing. However, in most advanced economies, the level of trade openness increased the level of income inequality, and this was known as an effect caused by outliers.

After 1990s, some studies concluded limitations of the so-called HO model explaining mechanisms how inequality levels of some country case studies were not following the prediction of the Stolper–Samuelson theorem. Firstly, the practice of offshoring and outsourcing of less-skilled production lowers wages and the bargaining power of less-skilled workers in advanced economies, yet the practices of offshoring and outsourcing might be relatively skill-intensive from the perspective of the workforce in developing countries. The benefit of trade for the poor segment of the population is the reduced price of what they consume and higher price for what they sell. This way they can achieve higher gains by selling their products in foreign markets. Another way to benefit from trade is to shift sourcing abroad.

Dollar and Kray (2001) studied the effect of globalization on inequality and poverty and found a strong positive effect of trade on growth. According to them increased economic growth which comes because of increased trade allows proportionately higher income for the poor, so they reached the conclusion that globalization allows faster growth along with reducing poverty in poor countries. While trying to explain effects of globalization for inequality and poverty, as evidence in the paper was used developing countries opened to international trade during the past two decades. The conclusion was that increased trade has positively affected economic growth and helped in reducing poverty, and in this way allowed for narrowing the gaps between richer and poor segments of the population around the world.

OECD (2015) mentions ways on how trade can aid in economic growth. One way is that trade increases the level of innovation by firms. This is achieved firstly by increasing the market size and innovation incentives by liberalization

in trade, and being open to trade allows new technical advances and knowledge from importing countries. As a result, trade openness increase in a country will allow stronger product market competition, resulting in increased productivity, increased output, or income in society, whereby especially the poor will have higher income and output.

## 3. RESEARCH METHODOLOGY

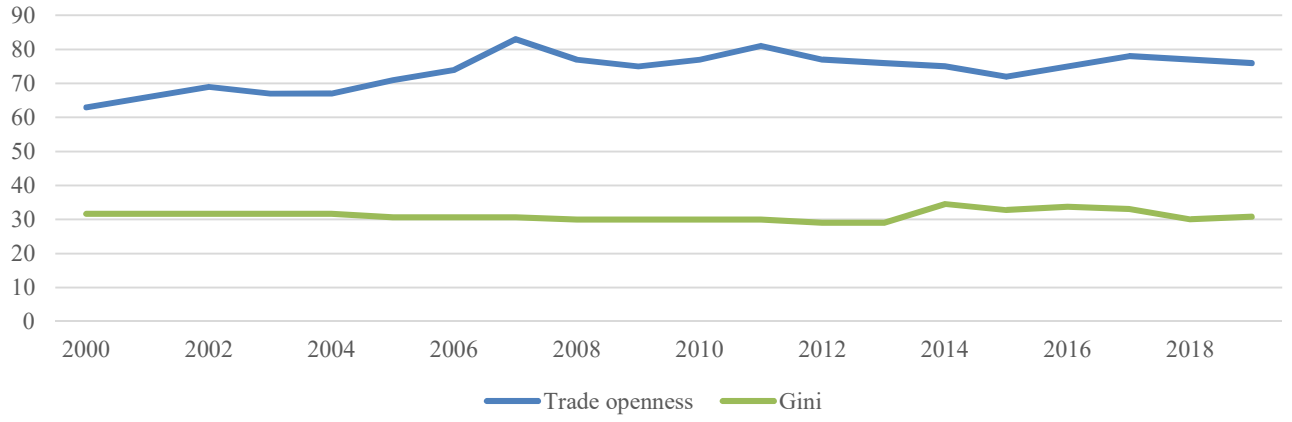
The empirical analysis has incorporated secondary data for WB countries (Albania, Bosnia and Herzegovina, Serbia, Montenegro, Kosovo, and North Macedonia) referring to the time spin 2000 – 2019 utilizing the sources of World Bank. In addition, variables have been transformed into their logarithmic form. To determine the effects of income inequality this paper uses GINI index, while as for trade openness is taken the ratio of exports/ imports as % of GDP. To conduct the analysis of the relationship between income inequality and trade openness, several panel techniques will be used such as: OLS, Fixed and Random effects, Hausman Taylor test and the investigation of the set hypothesis:

$H_0$: *There exists a negative relationship between trade openness and income inequality in the WBC.*

## 4. EMPIRICAL FINDINGS ON THE RELATION BETWEEN TRADE OPENNES AND INCOME INEQUALITY IN WESTERN BALKAN COUNTRIES

On Figure 1 data related to the income inequality and trade openness for Albania is shown. As it can be seen, from 2000 the trade openness level has slightly increased until the period 2003 and 2004 where a minor decrease was registered respectively down to 6. In the following years Albania started being affected by the crisis due to the falling level of trade with its main partners such as Greece and Italy, as they felt the crisis significantly and therefore led to a damaging result for Albania as well. The highest level of trade openness after the crisis during our observation period is marked in 2011 and the following years mark again slight decline in trade openness with declining point in 2015 and minor increases in the following years.

Figure 1: Income inequality and trade openness in Albania



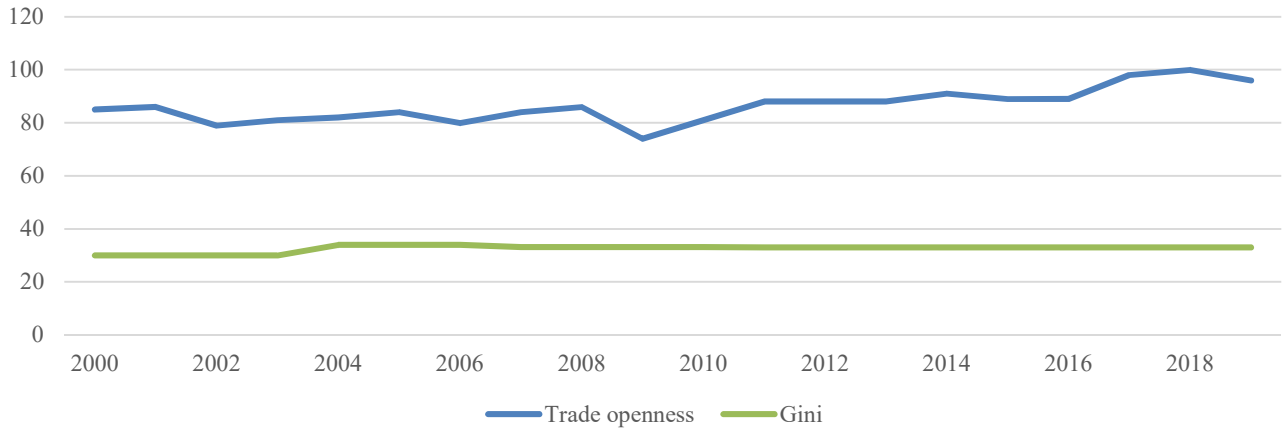

Source: World Bank data

The period of 2017 until 2019 show a small declining trend in trade openness respectively from 78 to 76 % of GDP. According to the figure trade openness and income inequality had different movement throughout our observation period, while the trade openness had higher changes the income inequality level didn't experience many changes, it is observed that there is different movement as trade openness increased the income inequality decreased.

Trade openness in BiH is on average 80%. As shown on Figure 2 from the year 2000 to 2001 there was a small increase in the trade openness, while in the following year there is registered a small decline. As a country that is

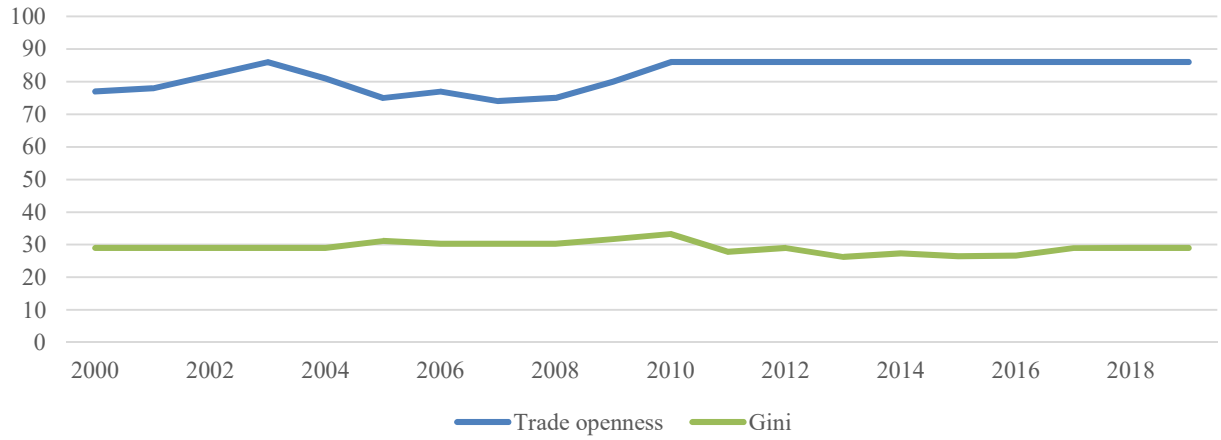
dependent on trade there are slight changes in the level of trade openness during the period of 2002 to 2008, when the level registered an increase. Unfortunately, BiH as well is affected by the global crisis of 2008 when the lowest point in years is registered, respectively 73.75. After the crisis constant increase is achieved in level of trade of BiH, up to 97 and 99% in total of our observing period. As the trade openness level has many changes, especially an increasing trend during the last part of our observation period, the level of income inequality has slight changes except in the first few years.

Figure 2: Trade openness and income inequality in BiH




Source: World Bank data

Figure 3: Trade openness and income inequality in Kosovo



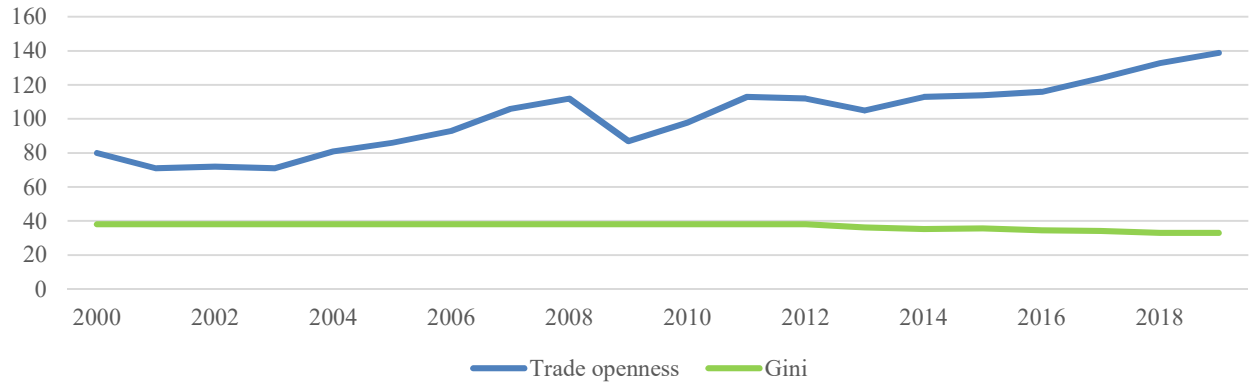

Source: World Bank data

Kosovo is the youngest country in the Western Balkans. From the year 2008, Kosovo declared its independence and the level of trade openness has had an increasing trend, having its highest point in 2011the value of 86, respectively (see Figure 3). In the following years the level of trade openness had continuous fall, reaching the value of 75 in 2013.The following years were marked by increase in 2014 and again decrease down to 74 in 2015.From 2016 there was constant increase in trade openness up to the value of 86. In Kosovo the trends of income inequality and trade openness have approximate parallel movement except from the period of 2010 onwards where the trends show different directions.

In North Macedonia (see Figure 4) there was a decreasing trend until 2003 when trade openness marked the lowest point of 71% from the year 2004 to 2007 there is constant increasing trend, until the global crisis hits the state and its partners. As for regional countries, for North Macedonia as well there is a positive way in the post crisis period up to 113 in 2011. After a decrease in 2013, there is constant increase in the level of trade openness in North

Macedonia, respectively up to 138 at the end of our observation period.

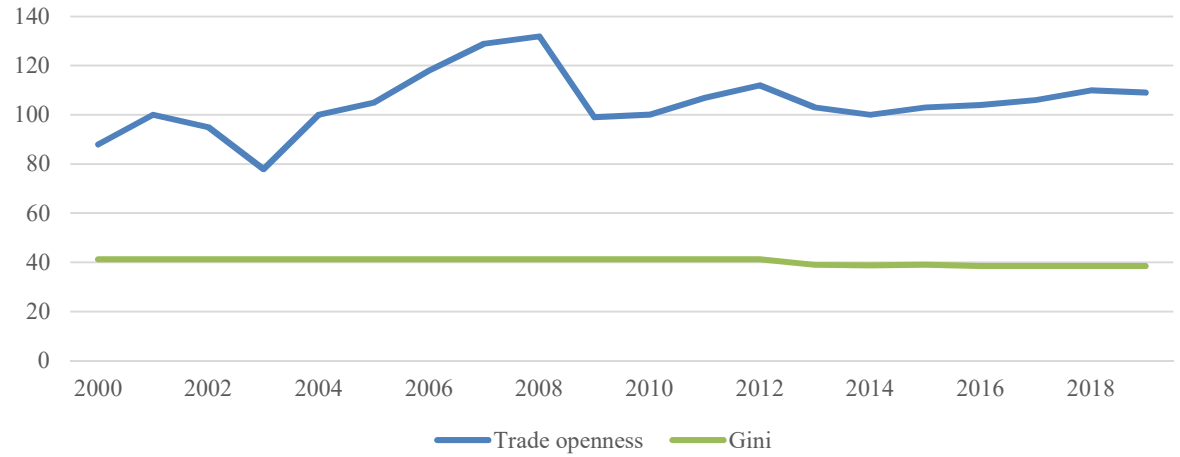
Figure 4: Trade openness and income inequality in North Macedonia




Source: World Bank data

As the trend of trade openness has several changes, the level of income inequality has smaller changes, showing an inverse movement at the end of our observation period, respectively while trade openness continues to increase there is a drop in the level of income inequality.

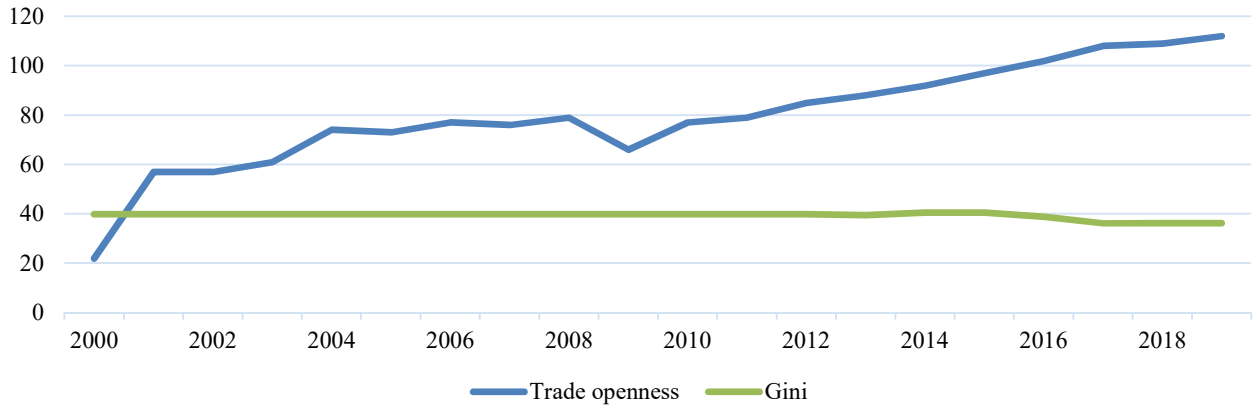
Figure 5: Trade openness and income inequality in Montenegro




Source: World Bank data

Compared with the other states being part of the Western Balkans, Montenegro has higher changes in the level of trade openness (Figure 5). After an increase in year 2001 there was a significant decrease in trade openness, respectively the lowest level of our observation period of 77.6. During the following years there was constant increase in trade openness, up to 132, until the global financial crisis hit the region and as well the trade openness of the states suffered, resulting in a decrease down 99 in 2009.The increase continued until 2011, and the following period is marked by small changes, constant decrease after the year 2011 and small increases after 2015. In Montenegro the trade openness increase in 2012 level was followed by an increase in income inequality, also on both trends there is a decrease in 2014, as the trend of trade openness has several changes, the level of income inequality has smaller changes, showing an inverse movement at the end of our observation period, respectively while trade openness continues to increase there is a small decrease in the level of income inequality.

Figure 6: Trade openness and income inequality in Serbia




Source: World Bank data

Trade openness in Serbia is the lowest in comparison with other Western Balkan countries (see Figure 6). It started with a significant increase in 2001, followed up by small changes until 2009 which had a negative impact all around the world. The fast recovery resulted in constant increase in the level of trade openness for Serbia, respectively from 76 to 111 in 2019. regarding the trends of income inequality and trade openness there is slight change in the Gini coefficient while the trend of trade openness has shown continuous increase, except in the last part of our observation period when the increase in trade openness is accompanied by lowering of income inequality.

According to the figures as trade openness level has continued to increase there are small changes in the level of income inequality, showing a different movement in most countries especially at the second part of our observation period. Kosovo has the lowest level of income inequality over the years, followed by BiH, while Montenegro has the highest level of income inequality followed by Serbia and North Macedonia

The panel data analysis dedicated to the examination of the relationship between trade openness and income inequality in the region of Western Balkans (Albania, BiH, Montenegro, Kosovo, North Macedonia, and Serbia), for the period 2000 – 2019 is shown on Table 1, where also it is used in order to test the hypothesis of this research: *There exists a negative relationship between trade openness and income inequality in the WBC*

Table 1: Pooled OLS, fixed and random effects regression model results

| | OLS Model1 | | Fixed Effect Model 2 | | Random Effect Model 3 | |
|---|---|---|---|---|---|---|
| Income inequality (Gini) | Trade | _cons | Trade | _cons | Trade | _cons |
| Coef | .0721321 | 27.14883 | .0142206 | 32.27807 | .0204109 | 31.75859 |
| St.error | .0204392 | 1.84484 | .0207733 | 1.861092 | \|.0204227 | 2.115129 |
| T (t) (z) | 3.53 | 14.72 | 0.68 | 17,34 | 1.00 | 15.01 |
| P>\|t\| | 0.001 | 0.000 | 0.495 | 0.000 | 0.318 | 0.000 |
| [95% Conf. Interval] | | | -.0269162 | 28.5926 | -.0196167 | 27.61301 |
| | | | .0553575 | 35.96354 | .0604386 | 35.96354 |
| *rho* | | | | | .40362082 (fraction of v.due to u_i) | |

Source: Author's calculation

The results of the first model, pooled OLS suggest that a significant positive relationship exists between these two variables, thus it means that the hypothesis does not hold, as the level of Trade openness increases, the income inequality, increases as well in the Western Balkans.

In addition to the results of the OLS model, Fixed effects models has been reported in the table and as it can be seen, similar results regarding the existence of a positive and significant relationship between trade openness and

income inequality in the region of Western Balkans for the time frame 2000 – 2019 has been shown. According to the results the model is suitable. The p-test shows that the trade has influence on Gini coefficient ,as well the t test shows the significant influence between the examined variables, respectively the trade openness and income inequality. Thus, the model suggests that there exists a positive and statistically significant relationship between trade openness and income inequality in the WBC, for the period 2000 – 2019.

The third model that has been applied in this analysis, is the Random effects (RE), and as can be seen, the RE model as OLS and Fixed effects model suggest similar results regarding the relationship between trade openness and income inequality in the region of Western Balkans for the time being 2000 – 2019. Furthermore, RE model claims that there exist a strong positive and statistically significant relationship between trade openness and income inequality for the Western Balkan countries for the time spin 2000 – 2019.

In the following table the results from the Hausman Taylor test are represented, which suggests the Fixed effects model as appropriate model to be taken for base for interpretation. This model assumes that the omitted variable is correlated with the included regressor, that the characteristics of one case may impact or bias the predictor or outcome variables, and that should be controlled. Generally, FE removes the effect of those time-invariant characteristics, and therefore the pure effect of the predictors on the outcome variable can be assessed.

Table 2: Hausman Taylor Test

| | (b)<br>Fe | (B)<br>re | (b-B)<br>Difference | sqrt(diag(V_b-V_B))<br>S.E. |
|---|---|---|---|---|
| **Trade** | .0142206 | .0204109 | -.0061903 | .0038008 |
| ***chi2(1) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 2.65*** | | | ***Prob>chi2 =*** | ***0.1034*** |

Source: Author's calculation

## CONCLUSION

There are not many cases done trying to define the relationship between these trade openness and income inequality. Most research accomplished in this area cover the relationship between trade openness and economic growth. Also, research made until now mostly covers developed countries, leaving out developing countries such as the Western Balkans. Considering that it is the most comprehensive and widely used way of measuring income inequality, this paper used Gini coefficient, to determine the relationship with trade openness. During the observation period the WBC experienced moderately high level of income inequality, while trade openness experienced an increasing trend except in times of 2008-2009 crisis.

After testing the hypothesis set through several models, the empirical evidence for the time spin 2000-2019 shows that in developing countries until now there is no evidence that the change in trade openness aids in lowering the income inequality, as the analysis done in this paper shows that as the trade openness level increases so does the level of income inequality. The empirical evidence from this paper allows a better understanding regarding the effect of trade openness on income inequality in developing countries, yet there is still gap regarding the literature existing and limitation regarding the official data and the time frame, so it is recommended that further research should be done on this topic with an increased period of time, information to be taken from additional countries and different models to be used.

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