

DOI: 10.46793/GlasnikDN16.2.107R Original scientific paper
UDC number
330.554(4-6EU)"1995/2020"

Sk Siam Rabby*

Law Graduate, Department of Law, North Western University, Bangladesh

Shaikh Nazmul Hasan Tapu†

Law Graduate, Department of Law, North Western University, Bangladesh

Received: November 12, 2024

Returned for revision: November 17, 2024

Accepted: December 9, 2024

ANALYZING THE EFFECT OF RULES OF LAW (RL) AND GDP ON INCOME INEQUALITY IN EUROPEAN COUNTRIES

Abstract

Income inequality is considered as one of the most concerning issues in the contemporary world, while regional disparities, unequal distribution of wealth, and ineffective economic policies lead this income-inequality to be higher on the daily basis. In this paper, the researchers try to find out the joint impact of Rules of Law (RL) and GDP on the level of income inequality (measured by Gini-coefficient value). The authors collected secondary data from the World Bank (WB) database for a period from 1995-2020. The authors use multiple regression model to measure the joint effect of

* E-mail address: rabbisiam712@gmail.com, ORCID ID: <https://orcid.org/my-orcid?orcid=0009-0001-0814-9040>

† E-mail address: sknazmulhasan4909@gmail.com, ORCID ID: <https://orcid.org/my-orcid?orcid=0009-0000-3389-0634>

*(GDP*RL) on Gini-coefficient value. In this regression results, Life expectancy, GDP, Inflation and RL play negative role on income inequality. Conversely, population and political stability (PS) suggest a positive connection with income inequality. On the other hand, for integrated regression model, it is observed that the joint effect (GDP*RL) puts negative impact to reduce income inequality, with statistically significant value. Some European countries like Spain, Greece, Portugal, Lithuania and Latvia face great challenges on income inequality due to regional-disparities and fragile economic policies. Some countries do not have handy agricultural and industrial policies to reduce regional income-inequality. So, the economic policy makers should launch sustainable income opportunities, and effective agricultural and industrial policies, while welfare labor market could reduce income inequality in a significant behavior.*

Keywords: *Income Inequality, Rules of Law, Political Stability, Inflation, Life expectancy.*

JEL classification: D33, E31, O15, Q01

1. Introduction

Social and economic inequality is being considered as growing concerning issues in recent times, especially in developed countries. Most of the European countries are facing huge challenges of social and economic inequality due to highly political and economic barriers, defective trade policies, lacking of sustainable income opportunities and environmental degradation. All of the European countries do not follow same economic and social planning where variation of policies creates economic barriers in different countries, which increases income inequality severely. Petrakos (2023) mentioned that some over-indebted countries in Europe like Greece, Italy, Portugal, and Spain are facing a lot of economic crisis due to severe fiscal and monetary unbalancing systems. Due to its excessive deficit, the system

is highly liable on unequal income distribution, faulty banking system and defective monetary policies. After the period of Covid-19, the ongoing instability has been shaped as major concerning issues in over-indebted countries which have less protective business system. Alvarez (2021) defines that income gap has been increased and connected with bankrupted system, faulty annual budget and corruption. Ezrachi (2022) analyzed that the income inequality has been increased severely since 1970s, that it is being high due to cost of living and economic downturn. Income inequality has been identified with Gini-coefficient, due to widening income inequality. The impact of income inequality has been triggered institutional instability, market economy, fragile social solidarity, and flawed social system as well. In recent times, modern inequality has been formed with complex shape where some indigenous and exogenous factors are equally liable to widen this figure (measured by Gini-coefficient) due to faulty taxation system, expenditure, unbalancing investment procedure and unexpected public policies. Economists have warned many policy-makers in several times to ensure sustainable business policies and planning in order to eliminate this problem, but they did not feel any concern about these upcoming problems. Focusing these issues, the policy makers try their level best to reduce this income inequality from European countries, but social and political barriers mean a lot, while problematic income transfer polices, unequal transformation of social-wealth, inefficient subsidies, and environmental pollution can turn to major barriers. Rontos (2022) analyzed that Gini-coefficient value is higher in Mediterranean countries compared than European countries averagely because economic disparity has been also raised due to regional disparity. Regional disparity grows due to political violence, mismanagement of governing system, lacking of rules of law (RL), faulty institutional set up, etc. In recent times, economic opportunities in regional

basis create this disparity among countries to countries. Sonora (2018) investigated into the relation among income inequality, rules of law and poverty in Latin countries, where GLS panel method has been used and proved than RL can be a handy tool to reduce income inequality between Latin countries during 1994-2005. This paper shows that income inequality has been raised due to human capital effectivity, misbalancing growth and governmental policies.

Rules of Law (RL) highlight the democratic institutional test where every human is born with equal rights, and where humans can get equal rights and opportunities to capitalize every welfare conditions from society. However, due to failings in our social, political and economic institutions, equal rights do not always interpret into equal chances, nor into equal effects. Working to lessen inequality means to bridge that gap and increase everyone's quality of life, while making sustainable and comprehensive societies brings benefits for all. Contemporary income and wealth inequalities are very huge today, about as great as they were in the primary period on 20th century. Here are some reports that are grabbed from the World Inequality Report 2024. The richest 12% of the worldwide population currently acquire 53% of global income, whereas the poorest portion of the population receives only 8.5% of total income (EC, 2022).

According to the report of EC (2019), a people from the top 10% of the global income distribution earns a yearly €7,200 averagely, whereas an individual from the poorest half of the worldwide income distribution earns just €2,800 per annually. Wealth inequality has also enlarged at the very topmost of the distribution, particularly during the recent epidemic. Since 1995, the segment of global wealth influenced by billionaires has climbed from 1% to over 3%. Anand and Segal (2008) described that inequality is the complete violation of human-rights where the gap has widening between rich and poor people. It is the fundamental

right and obligation of government to ensure equal rights and opportunities of every citizen through implementing better rules of law (RL). Inequality is highly connected with equity and equality since when government allows subsidies, it directly hampers human-efficiency level, while declining social welfare. These researcher's studies on Latin American states suggest that inequality hits severely and destroys social welfare largely. OECD (2014) confirmed that the Gini coefficient value had been increased three points over the past two decades. Additionally, the OECD argues that this surge of inequality has led to a 0.35% lessen annually growth rates over past 25 years.

Berry (1997) shows a nice indication of the causes of high inequality rate in Latin America from fiscal year (FY) including: agricultural reforms, formation of trade policies, educational shortages, and market restructurings, some imposed by severity programs and others home-grown. Agricultural reformation act and industrialization can play a major role to reduce these inequality problems, while unequal urban growth can be a major cause of this problem. Leamer et al. (1999) consider investigation of growth and income-inequality among Latin American countries.

2. Literature Review

Hartwig and Sturm (2019) found that steady rules of EU countries like fiscal policies, public expenditures, and automatic correction mechanisms influence the increase of income inequality in Euro Zones, while Excessive Deficit Procedure (EDP) and the Stability and Growth Pact (SGP) are equally liable for this imbalance. Darvas et al. (2018) and Blanchard (2019) mentioned that strengthen SGP can be handy and long-term tool to eliminate this problem. Chancel and Piketty (2021) defines about the investigating about bad-debated countries of Eurozone where bad-indebtedness hits inflation and increases it in European countries. People have

no control over market behavior and it hits badly in economy. This research has been investigated the Southern European countries where cross-countries examination has been measured through cross-sectional dataset. Income inequality is also connected with economic growth and development; income inequality is positively connected with economic growth because generally people are not involved with equal distribution of wealth and resources (Bubbico and Freytag, 2018; Doorley et al., 2021). On the other hand, economic growth is highly connected with income inequality too. Economic growth means to develop output with quantitative approach, while income inequality raises when resources are not equally distributed and a portion of people take benefit of particular resources. Petrakos et al. (2022) defined that when income inequality is connected with unemployment, when a portion of people are involved with employment where they earn specific portion of country GDP, it indicates income inequality. In European countries, wages and salaries are not same in all of the countries, while income inequality increases in zonal wise. Rules of Law (RL) can be equally distributed which can maintain formal procedure to reduce income inequality. Labor income has been associated with income inequality, while these indicators have not linear relationship as well (Erauskin, 2020). Moreover, Rogoff (1990); and Rogoff and Sibert (1988) highlighted that income inequality is highly connected with political factors because regional disparity is closely connected with income opportunities, while fiscal manipulation is closely connected with income sectors in different zones. Halvorsen (2016) developed a research where he shows that income inequality is somehow dependent on RL, since a country-profile is highly maintained with its applicability of laws. Greece economy is highly connected with political development, where Greece has been proved as bad-indebted country where political stability has

been raised and the rule of law is almost violated in everywhere.

La Porta, Lopez-De-Silanes, and Sheifer (2008) shows database on legal traditions using dichotomous variables that indicate whether the country is one of English Law, French Law, German Law, Scandinavian Law, or Socialist Law. Legal tradition is well connected with income inequality. Sonora (2019) developed a paper showing the relation among income inequality, poverty and RL, but long-term unequal growth is liable for this income inequality. De Janvry and Sadoulet (2000) pay special consideration to this issue in their inquiry of growth and inequality in twelve Latin American countries. They use Kuznets' hypothesis tool to investigate the relationship between inequality and poverty in Latin American countries. They conclude that recession leads to inequality, while the economic expansion lessens the level of inequality. Stagnant growth is highly liable to lead income inequality in developing countries as well. Rules of Law and its applicability are not same in all countries of the world, but higher resources are also liable for income inequality in developing countries. Robinson and Sokoloff (2004) indicated that resources-rich region and unequal growth are high connected with income inequality in developing countries in the world, while rules of law also lead to income inequality in Latin American countries in recent times. These researchers conducted a research of 147 countries where they applied GLS method using 1995-2014 a panel data set to conduct this study.

Controversy, income inequality is also connected with lower-growth because growth is dependent on output production too, which can lead to income inequality in lower-developing countries (Benabou, 1996). Deininger and Squire (1998) find negative connectivity between primary inequality and output growth. Enamoradoa, L'opez-Calva, and Rodriguez-Castel' (2014) used municipality dataset to identify

drug-related homicides, as a proxy for violent and heinous crime, concluding that these factors are a slog on economic growth. Similarly, Ayers (1998) validates the negative relationship between violence in Latin America on economic development. More recently, we are witnesses of very real possessions of violence in Central America (Sacchetti, 2018). The phase of violence can be very difficult to shrug off and alongside may require a complete revamp of the legal institutional structure: constructing a trustworthy police force, as well as an appropriate legal and penal-systems (Samuels, 2006).

3. Methodology and Data

The authors use two models to measure the impact of Rules of law (RL) and GDP on perceived income inequality in European Countries (EC). The authors use multiple regressions to measure a joint effect of Rules of Law on income inequality. In second model, the authors try to measure the joint impact of RL and GDP on income inequality (using Gini coefficient) in the observed European countries.

3.1 Multiple Regression Model for European Countries

(Model-1)

$$\text{Gini Index} = \beta_0 + \beta_1 LE + \beta_2 LR + \beta_3 GDP + \beta_4 TP + \beta_5 TOT + \beta_6 FDI + \beta_7 HCI + \beta_8 IF + \beta_9 PS + \beta_{10} GE + \beta_{11} RQ + \beta_{12} RL + \beta_{13} CC + u \dots (i)$$

3.2 Interacted Multiple Regression Model for European Countries (Model -2)

$$\text{Gini Index} = \beta_0 + \beta_1 LE + \beta_2 LR + \beta_3 TP + \beta_4 TOT + \beta_5 FDI + \beta_6 HCI + \beta_7 IF + \beta_8 PS + \beta_9 GE + \beta_{10} RQ + \beta_{11} RL * GDP + \beta_{12} CC + u \dots (ii)$$

Generally, Gini coefficient is used to measure the income inequality in European countries, where a set of independent variables has been considered to measure the impact on Gini-coefficient as dependent variable.

Table 1. Observed Countries' Name and Their World Bank Code

| European Countries | | European Countries | |
|--------------------|--------------|------------------------|--------------|
| Country Name | Country Code | Country Name | Country Code |
| Austria | AUT | Estonia | EST |
| Belarus | BLR | Luxembourg | LUX |
| Belgium | BEL | Moldova | MDA |
| Czech Republic | CZE | Lithuania | LTU |
| France | FRA | Denmark | DNK |
| Germany | DEU | Bulgaria | BRG |
| Greece | GRC | Latvia | LVA |
| United Kingdom | GBR | Ireland | IRL |
| Hungary | HUN | North Macedonia | MKD |
| Italy | ITA | Finland | FIN |
| Liechtenstein | LIE | Montenegro | MNE |
| Monaco | MCO | Malta | MLT |
| Netherlands | NLD | Bosnia and Herzegovina | BIH |
| Poland | POL | Slovakia | SVK |
| Portugal | PRT | Slovenia | SVN |
| Romania | ROU | Croatia | HRV |
| Russia | RUS | Switzerland | CHE |
| San Marino | SMR | Iceland | ISL |
| Spain | ESP | Norway | NOR |
| Sweden | SWE | Albania | ALB |
| Ukraine | UKR | Serbia | SRB |
| | | Andorra | AND |

Source: Authors calculation based on World Bank Data, 2024

Table 2. Dependent and Independent Variables Affecting the Models

| Independent Variables | Definition | Source | Data Collection | Summary Statistics | World Bank Indicator Name | Authors Reference |
|-------------------------|--|-------------------------|--|---|---------------------------|---|
| 1. Life Expectancy (LE) | Life expectancy at birth, total (years) | World Bank Open Data | In years | Life expectancy at birth indicates the number of years a new-born infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. | SP.DYN.LE00.IN | Digdowniseiso (2019) |
| 2. Literacy Rate (LR) | Literacy rate, adult total (% of people ages 15 and above) | World Bank Open Data | Literacy rate, adult total (% of people ages 15 and above) | Average years of primary schooling, 15+, the total is the average years of primary education completed among people over age 15. | SE.ADT.LITR.ZS | Digdowniseiso (2019); Checchi (2001); Roy and Husain (2019) |
| 3. GDP (GDP) | GDP per capita (current US\$) | World Bank Open Data | In US Dollar | GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes | NY.GDP.PCAP.CD | Digdowniseiso (2019); Mahmood and Zaleha |

Glasnik za društvene nauke, Vol. XVI, God. XVI (Broj 2)
Journal of Social Sciences, Vol. XVI, Year XVI (Issue 2)

| | | | | | | |
|------------------------------------|---|-------------------------|---------------|---|----------------------|---------------------------|
| | | | | and minus any subsidies not included in the value of the products. | | (2013) |
| 4. Total Population (TP) | Population, total | World Bank Open Data | In Number | The total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship. The values shown are midyear estimates. | SP.POP.TOTL | Mahmood and Zaleha (2013) |
| 5. Trade (TOT) | Net barter terms of trade index (2000 = 100) | World Bank Open Data | In percentage | Net barter terms of trade index are calculated as the percentage ratio of the export unit value indexes to the import unit value indexes, measured relative to the base year 2000. | TT.PRI.MRCH.XD.WD | Huang and Ho (2018) |
| 6. Foreign Direct Investment (FDI) | Foreign direct investment, net inflows (% of GDP) | World Bank Open Data | In percentage | Foreign direct investment is the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, | BX.KLT.DINV.WD.GD.ZS | Huang and Ho (2018) |

| | | | | | | |
|------------------------------|---|------------------------|-----------|---|----|-------------------------|
| | | | | reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP. | | |
| 7. Human Capital Index (HCI) | Human capital index, based on years of schooling and returns to education; see Human capital in PWT9. | Penn World Table, 2019 | In number | Human capital index, based on years of schooling and returns to education; see Human capital in PWT9. | HC | Shahabadi et al. (2018) |

Glasnik za društvene nauke, Vol. XVI, God. XVI (Broj 2)
Journal of Social Sciences, Vol. XVI, Year XVI (Issue 2)

| | | | | | | |
|--|---|-----------------------------------|---|--|----------------|--|
| 8. Inflation (IF) | Inflation, consumer prices Annual %) | World Bank Open Data | In percent | Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used. | FP.CPI.TOTL.ZG | Shahabadi et al. (2018) |
| 9. Political Stability and Absence of Violence/ (PS) | | World Bank Open Data | The estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance) | Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Estimate gives the country's points on the aggregate indicator, in units of standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. | PV.EST | Shafique and Haque (2006); Yusuf and Malarvizhi (2012) |
| 10. Government Effectiveness | | World Bank Open | The estimate of governance (ranges from | Government Effectiveness captures perceptions of the quality of public services, the | GE.EST | Shafique and Haque (2006); |

Glasnik za društvene nauke, Vol. XVI, God. XVI (Broj 2)
Journal of Social Sciences, Vol. XVI, Year XVI (Issue 2)

| | | | | | | |
|-----------------------------------|--|-----------------------------------|---|---|--------|---|
| (GE) | | Data | approximately -2.5 (weak) to 2.5 (strong) governance) | quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Estimate gives the country's points on the aggregate indicator, in units of standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. | | Yusuf and Malarvizhi (2012) |
| 11. Regulatory Quality (RQ) | | World Bank Open Data | The estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance) | Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Estimate gives the country's points on the aggregate indicator, in units of standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. | RQ.EST | Shafique and Haque (2006); Yusuf and Malarvizhi (2012) |

Glasnik za društvene nauke, Vol. XVI, God. XVI (Broj 2)
Journal of Social Sciences, Vol. XVI, Year XVI (Issue 2)

| | | | | | | |
|--------------------------------------|--|-------------------------|---|--|--------|---|
| 12. Rule of Law (RL) | | World Bank Open Data | The estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance) | Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Estimate gives the country's points on the aggregate indicator, in units of standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. | RL.EST | Shafique and Haque (2006); Yusuf and Malarvizhi (2012) |
| 13. Control of Corruption (CC) | | World Bank Open Data | The estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance) | Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Estimate gives the country's points on the aggregate | CC.EST | Shafique and Haque (2006); Yusuf and Malarvizhi (2012) |

| | | | | | | |
|--|--|--|--|---|--|--|
| | | | | indicator, in units of standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. | | |
|--|--|--|--|---|--|--|

Source: Author Calculation (WB Open Data, 1996-2020)

4. Research Results and Comments

In this paper, the authors consider dependent variable (Gini-coefficient) and a set of independent variables to measure the exact impact of independent variables on dependent variable for all observed European countries. The following Table 3 indicates the results of both considered regression models.

Table 3. Multiple General Regression Model and Multiple Interacted Regression Model in European Countries

| Variables Name | Variable Sign | 1. General Regression for European Countries | Multiple for Interacted Regression for European Countries |
|---|---------------|--|---|
| Life Expectancy | <i>LE</i> | -0.909*** (0.062) | -0.494*** (0.065) |
| Literacy rate | <i>LR</i> | 0.034 (0.046) | 0.026 (0.048) |
| Gross Domestic Product | <i>GDP</i> | -0.004*** (0.0001) | -0.045*** (0.0001) |
| Population | <i>PP</i> | 0.00000*** (0.000) | 0.00000*** (0.000) |
| Term of Trade | <i>TOT</i> | -0.0009 (0.009) | 0.0008 (0.009) |
| Foreign Direct Investment | <i>FDI</i> | 0.686 (0.044) | 0.877 (0.046) |
| Human Capital Index | <i>HCI</i> | 2.091 (1.263) | 1.091 (1.125) |
| Inflation | <i>IF</i> | -0.030*** (0.007) | -0.041*** (0.007) |
| <i>Political Stability</i> | PS | 5.704*** (5.293) | 9.311*** (8.106) |
| <i>Government Effectiveness</i> | GE | 9.008 (0.005) | 10.091 (0.003) |
| <i>Regulatory Quality</i> | RQ | 6.558 (0.900) | 2.427 (3.256) |
| <i>Rules of Law</i> | RL | -7.863** (2.365) | -8.568** (2.53) |
| <i>Corruption Control</i> | CC | 1.063 (1.322) | 3.470 (8.740) |
| <i>GDP*Rules of Law</i> | GDP*RL | | -9.782** (2.53) |
| | Constant | -27.806 (0.869) | -12.170 (1.262) |
| Observations | | | |
| R ² | | 0.46 | 0.49 |
| Adjusted R ² | | 0.33 | 0.43 |
| <i>Significance Level: *p<0.1; **p<0.05; ***p<0.01</i> | | | |
| <i>Dependent Variable: Income Inequality (Gini-coefficient)</i> | | | |
| <i>Source: Author's Own Compilation, 2024</i> | | | |

The authors divide two sections to measure the impact of independent variables on dependent variable. This table will clarify the effect of different types of socio-economic, as well as governmental variable on income inequality in European countries. Madžar (2024) analyzed the impact of healthcare facilities in Serbia from 2012 to 2017, where unforeseen health-cost has raised during Covid-19 period cutting public revenue at large volume, which is way the Serbian government should focus on sustainable polices to ensure long-term sustainability in health-care system.

As shown in Table 3, if average life expectancy increase by 1 year in European countries, it would decrease the income inequality (Gini coefficient) value by 0.909 points (Model 1) and by 0.494 points (Model 2), by holding other variables constant. These results are statistically significant at the level of 1 percent. From GDP perspective, if average GDP would increase by \$100 in European countries, it would bring down the income inequality (Gini coefficient) value by 0.40 points (Model 1) and by 0.45 points (Model 2), by holding other variables constant, while these results are also statistically significant at 1 percent level. When there are more scopes for acquiring income, GDP will augment automatically, while the income gap must be lowered.

From the Population point of view, if the population increases in European countries by one unit, income inequality would be increased well, by holding other variables constant. It is also statistically significant at 1 percent level.

From the aspect of inflationary concerns, if inflation increases by 1 percent, it would lead to decline the Gini coefficient by 0.030 points (Model 1) and by 0.041 points (Model 2), by holding other variables constant. This variable is also statistically significant at 1 percent level. When investors invest money from the public and private sources, these trends force the inflation digit to lift up, at the same time

trying to lessen income inequality (Gini coefficient) at a significant rate in EC.

Moreover, political instability is the condition in which political parties involve themselves in conflict to gain personal interest, where PS value gains a points between -2.5 to 2.5 and where PS maintains positive connectivity with income inequality as a result that was not expected at all. If the PS value turns nearly 0, then it is an optimistic sign for a country. If there is a one-unit point increases in the PS index, it will increase the Gini coefficient by 5.70 points (Model 1) and by 9.31 (Model 2) points, holding other variables constant, at the level of statistical significance of 1 percent.

From the perspective of RL, if there would a one-unit point increase in the RL index, it would decrease the Gini coefficient by 7.863 points (Model 1) and by 8.56 points (Model 2), by holding other variables constant. Unlike other results, this one is statistically significant at 5 percent level. When the government wings lead sustainable, as well as effective policies to establish rules of law over the country, this situation may be convenient to diminish income inequality at a significant level. Rules of law (RL) generate the established law-synchronizing government wings and citizen in order to preserve fair political and economic condition.

Finally, when the joint variable like (GDP*RL) leads to uplift GDP level, this joint variable will lessen income inequality by 9.78 points (Model 2) that is statistically significant at the level of 5 percent.

Here, the R^2 value is 0.46, meaning that the dependent variable is explained by 46 percent variations of independent variables. On the other hand, the constant value amounts to -27.80. Therefore, if there were no variables actively working to reduce income inequality, income inequality would automatically decrease by 27,806 points.

5. Conclusion

Madžar (2024) analyzed the effects of state aid policies of Serbian government. In this paper, she examines the challenges, prospects and ranges of state-aid policies which can influence the growth of Serbian state. Dašić (2020) developed a paper based on breaking the ancient myth between social and private sectors, implementing the role of state in moving a market economy in Serbian zone. Government sometimes takes risky investment decision, experiencing zero return in entrepreneurial state. Milunović et al. (2014) researched that investing in renewable energy is proved as bad-investment, concluding that misuse of renewable energy sources primarily needs huge financial capitals, while the benefits of energy investments are only visible after a certain period of time. It is believed that renewable energy is effectual to ensure economic and job growth, but it is converted as pessimistic idea in recent times. Income inequality is a much-debated issue in recent times since the economies of rich and poor countries are somehow affected by this. Recently, the emerging economic powers such as China, Brazil, and India have been affected severely due to this triggering fact, where a major portion of people live below the poverty line, and a relative poverty is going to be severe in this area. A well planned and sound policy can reduce the gap between two social classes, but the benefits of growth are closely restricted within a small portion of people. According to the report of the World Bank (2006), nearly 650 million people live below the poverty line in developing economies earning less than US\$ 1.25 per day. This trend of inequality widens the gap between rich and poor class, while it is really detrimental for equal growth. Most of the developing economies plan for achieving higher economic growth where they forcefully push-back the benefits of lower and middle class by exploiting their basic needs (WB, 2003). Stiglitz (2012) indicated the ultimate costs of income inequality in society

that increases the social-cost of our daily life, in the form of a critical factor for consideration in the future. Most of the people in developing and under-developed countries face income inequality due to job crises and less opportunity to create more jobs in the country. For example, most of the upcoming investors do not have the liquid capital to start a new business or invest in their existing one, which creates barriers to explore and convert their business that would be based on exports. On the other hand, most of the developing countries do not show their interest to generate new investors and infant industries growth, nor to diminish imposed rules and regulations for loans and credits. They feel the burden of loan repayment because banks and financial institutions are not willing to give flexible opportunities to loan returns. Due to this kind of rigid monetary policy, some European countries like Greece, Spain, and Ireland face the crisis of job. The families will live under the poverty line if there will be no more sources of achieving income opportunities. Therefore, monetary policies should be reformed and interest-rate needs to be adjusted, especially for new investors and business planners.

Acknowledgement

Authors wish to acknowledge the reviewers for their comments which have greatly improved the contents of this manuscript. Also, authors further appreciate Tanbir Hossain, Head of the Department of Economics, North Western University, Bangladesh, who inspired us to create this paper and helped us a lot to upgrade a paper quality.

Bibliography

1. Alvarez, M. C., "Eurozone fiscal reform in light of Covid-19: A review of existing proposals", Funcas Europe, 2021, pp. 1–10.

2. Anand, S., Segal, P., “What do we know about global income inequality”? *Journal of Economic Literature*, 2008, Volume 46, pp. 57–94.
3. Ayers, R., “Crime and violence as development issues in Latin America and the Caribbean”, World Bank Latin America and Caribbean Studies Viewpoints, 1998, World Bank.
4. Benabou, R., “Inequality and growth”, in B. S. Bernanke and J. J. Rotemberg, (eds.), NBER macroeconomics annual 1996, MIT Press, 1174.
5. Berry, A., The income distribution threat in Latin America, *Latin American Research Review*, 1997, Volume 32, pp. 3–40.
6. Blanchard, O., Leonardo, A., Zettelmeyer, J., “Redesigning EU fiscal rules: From rules to standards”, Peterson Institute for International Economics (PIIE), 2021, Working Paper, 21–1 February.
7. Bubbico, R. L., Freytag, L., “Inequality in Europe, European Investment Bank” January, 2018.
8. Chancel, L., Piketty, T., “Global income inequality, 1820–2020: The persistence and mutation of extreme inequality”, *Journal of European Economics and Association*, 2021, Volume 19, No 6, pp. 3025–3062.
9. Checchi, D., “Education, Inequality and Income Inequality, Distributional Analysis Research Programme”, Discussion Paper Series No, 2001, Volume 52, London School of Economics, London. Retrieved from http://eprints.lse.ac.uk/6566/1/Education%2C_Inequality_and_Income_Inequality.pdf
10. Darvas, Z., Martin, P., Ragot, X., “European fiscal rules require a major overhaul”, Bruegel, Policy Contribution, 2018, Volume 18, pp. 1–9.
11. Dašić, D., “The Entrepreneurial State”, *Glasnik za društvene nauke*, 2020, Volume 12, No 2. Retrieved from: <https://www.gdn.rs/index.php/GDN/article/view/46/20>

12. De, Janvry, A., Sadoulet, E., “Growth, poverty, and inequality in Latin America: A causal analysis”, *Review of Income and Wealth*, 2000, Volume 46, pp. 267–287.
13. Deininger, K., Squire, L., “New ways of looking at old issues: inequality and growth”, *Journal of Development Economics*, 1998, Volume 57, pp. 259–287.
14. Digidowiseiso, K., “Education inequality, economic growth, and income inequality: Evidence from Indonesia”, from 1996-2005, 2009. Retrieved from: <https://mpra.ub.uni-muenchen.de/17792/>
15. Doorley, K., Callan, T., Savage, M., “What drove income inequality in EU crisis countries during the Great Recession”? *Fiscal Studies*, 2001, Volume 42, pp. 319–343.
16. Enamoradoa, T., L’opez-Calva, L.F., Rodriguez-Castel, C., “Crime and growth convergence: Evidence from Mexico”, *Economics Letters*, 2014, Volume 125, pp. 9–13.
17. Erauskin, I., “The labor share and income inequality: Some empirical evidence from the period 1990–2015”, *Applied Economic Analysis*, 2020, Volume 28, No 8, pp. 173–195.
18. European Commission., Methodological Guidelines and description of EU-SILC target variables, 2019 operation (Version February 2020), DocSILC065 (2019 operation).
19. Halvorsen, K., “Economics, financial, and political crisis and well-being in the PIGS-countries”, *SAGE Open Journal*, 2016, Volume 6, No 4. pp. 122-136.
20. Hartwig, J., Sturm, J. E., “Do fiscal rules breed inequality”? First evidence for the EU. *Economics and Built up*, 2019, Volume 39, No 2, pp. 1508–1515.
21. Huang, W. C., Ho, Y., “The Impact of Governance on Income Inequality in Ten Asian Countries”, *Journal of Reviews on Global Economics*, 2018, Volume 7, pp. 217-224.
22. La Porta, R., Florencio, Lopez-de-Silanes., Andrei, S., “The economic consequences of legal origins”, *International*

Journal of Economic Literature, 2008, Volume 46, No 2, pp. 285–332.

23. Leamer, E. E., Maul, S.H., Rodriguez, H., Schott, P.K., “Does natural resource abundance increase Latin American income inequality”? *Journal of Development Economics*, 1999, Volume 59, 342.

24. Madžar, L., “A Brief Overview of State Aid Policy in the Republic of Serbia”, *Revizor*, Journal of Organizational Management, Finance and Auditing, 2024. Retrieved from: <https://casopisrevizor.rs/index.php/revizor/article/view/157/150>

25. Madžar, L., “Trends in Healthcare Costs in Serbia Summary”, *Revizor*, Journal of Organizational Management, Finance and Auditing, 2024. Retrieved from: <https://doi.org/10.5937/Rev2092057M>

26. Mahmood, S., Zaleha, M. N., “Human Capital Inequality and Income Inequality: Developing Countries”, *Pertanika Journal of Social Science and Humanities*, 2013, Volume 21, pp. 189-200. Retrieved from: https://www.researchgate.net/publication/290009371_Human_capital_inequality_and_income_inequality_Developing_countries

27. Milunović, M., Đoković, G., Pavićević, A., “Financial function of renewable energy sources in Serbia”, *Glasnik za društvene nauke*, 2014, Volume 6. Retrieved from: <https://www.gdn.rs/index.php/GDN/article/view/165/125>

28. OECD., “Does income inequality hurt economic growth”? Focus on Inequality and Growth, 2014.

29. Petrakos, G., Rontos, K., Salvati, L., Vavoura, C., Vavouras, I., “Income Inequality in the Over-Indebted Eurozone Countries and the Role of the Excessive Deficit Procedure”, *Open Economies Review*, 2024, Volume 35, pp. 305-322.

30. Petrakos, G., Rontos, K., Vavoura, C., Vavouras, I., “The destabilizing effects of political budget cycles: The case

of Greece”, *Advances in Quantitative Economic Research*, 2021, International Conference on Applied Economics, (ICOAE), Springer Business Economics, pp. 129–141.

31. Robinson, J., Sokoloff, K., “Historical roots of Latin American Inequality, in: *Inequality in Latin America and the Caribbean: Breaking with History?*” *World Bank Review*, 2004.

32. Rogoff, K., “Equilibrium political budget cycles”, *American Economic Review*, 1990, Volume 80, No 2, pp. 21–36.

33. Rogoff, K., Sibert, A., “Elections and macro-economic policy cycles”, *Revolution of Economic Study*, 1988, Volume 55, No 1, pp. 1–16.

34. Rontos, K., Vavouras, I., Ciommi, M.T., Salvati, L., “Two faces of the same coin? A comparative”, global approach to corruption and socioeconomic development. *Qualitative Research*, 2022, Volume 53, pp. 1875–1894.

35. Roy, P., Husain, Z., “Education as a way to reducing inequality: Evidence from India”, MPRA Paper Series No. 93907, Economics Department, 2019, Presidency University. Retrieved from: https://mpra.ub.uni-muenchen.de/93907/2/MPRA_paper_93907.pdf

36. Sacchetti, M., “Going home after half a lifetime”, *The Washington Post*, 2018.

37. Samuels, K., “Rule of law reform in post-conflict countries”, *Social Development Papers: Conflict Prevention and Reconstruction*, 2006, pp. 1–2.

38. Shahabadi, A., Nemati, M., Hosseinidoust, S. E., “The effect of education on income inequality in selected Islamic countries”, *International Journal of Asia Pacific Studies*, 2018, Volume 14, No 2, pp. 61–78. Retrieved from: <https://doi.org/10.21315/ijaps2018.14.2.3>

39. Sonora, R., “Income Inequality, Poverty, and the Rule of Law: Latin America vs the Rest of the World”, University

of Montana, 2019, USA. DOI: Retrieved from:
<https://mpr.aub.uni-muenchen.de/91512/>

40. Stiglitz, J. E. "The price of inequality: How today's divided society endangers our future, Political Academy of Sciences", 2012, Vatican City. Retrieved from:
<http://www.pas.va/content/dam/accademia/pdf/es41/es41-stiglitz.pdf>

41. World Bank Open Data, 2024. Available at:
<https://data.worldbank.org/>

42. World Bank, Equity and Development, Oxford University Press, 2006, Washington DC. Retrieved from:
<http://documents.worldbank.org/curated/en/435331468127174418/pdf/322040World0Development0Report02006.pdf>

43. World Development Report (WDR), "Sustainable Development in a Dynamic World--Transforming Institutions, Growth, and Quality of Life", 2006, World Bank. DOI:
<https://openknowledge.worldbank.org/handle/10986/5996>

44. Yusuf, M., Malarvizhi, C. A., "Good-Governance and Poverty Reduction Relationship a case study of Nigeria", Australian Journal of Basic and Applied Sciences, 2012, Volume 7, No. 2, pp. 804-812. Retrieved from:
<https://mpr.aub.uni-muenchen.de/52351/>

ANALIZA EFEKATA VLADAVINE PRAVA (VP) I BRUTO DOMAĆEG PROIZVODA (BDP) NA DOHODOVNU NEJEDNAKOST U EVROPSKIM ZEMLJAMA

Apstrakt

*Dohodovna nejednakost se smatra jednim od pitanja koja izazivaju najveću zabrinutost u svetu, dok regionalni dispariteti, nejednaka raspodela bogatstva i neefikasna ekonomska politika spadaju u faktore koji je povećavaju iz dana u dan. U ovom radu istraživači pokušavaju da otkriju zajednički uticaj vladavine prava (VP) i BDP-a na nivo dohodovne nejednakosti (merene Gini koeficijentom). Autori su prikupili sekundarne podatke iz baze podataka Svetske banke (SB) za period od 1995-2020. Autori koriste model višestruke regresije za merenje uticaja zajedničkog efekta (BDP*RL) na vrednost Gini koeficijenta. U rezultatima ove regresije, očekivani životni vek, BDP, inflacija i VP imaju negativan uticaj na nejednakost dohotka. Nasuprot tome, stanovništvo i politička stabilnost (PS) pokazuju pozitivnu vezu sa dohodovnom nejednakošću. Sa druge strane, u slučaju integrisanog regresionog modela, primećuje se da zajednički efekat (BDP*RL) negativno utiče na smanjenje dohodovne nejednakosti, sa statistički značajnom vrednošću. Neke se evropske zemlje poput Španije, Grčke, Portugala, Litvanije i Letonije suočavaju sa velikim izazovima u pogledu dohodovne nejednakosti zbog regionalnih dispariteta i krhke ekonomske politike. Neke zemlje pak nemaju odgovarajuće poljoprivredne i industrijske politike za smanjenje regionalne dohodovne nejednakosti. Dakle, kreatori ekonomske politike bi trebalo da pokrenu mogućnost ostvarivanja održivog dohotka, efikasne poljoprivredne i industrijske politike, dok tržište rada može značajno smanjiti uočenu dohodovnu nejednakost.*

Ključne reči: *nejednakost prihoda, vladavina prava, politička stabilnost, inflacija, očekivani životni vek.*

Jel klasifikacija: D33, E31, O15, Q01