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**TURKISH - GERMAN UNIVERSITY
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SOCIAL SCIENCES INSTITUTE**

**THE EFFECTS OF GLOBALIZATION ON INCOME
INEQUALITY: DEVELOPING COUNTRIES**

MASTER'S THESIS

Mevce SAĞBİLGE

Dr. Levent Yılmaz

ISTANBUL, July 2021

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(188106009)

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TABLE OF CONTENTS

ÖZET	vi
SUMMARY	vii
SYMBOLS.....	viii
ABBREVIATIONS	ix
LIST OF FIGURES	x
LIST OF TABLE	xi
INTRODUCTION	1
1. THE CONCEPT OF GLOBALIZATION	3
1.1. The Definifition of Globalization	3
1.2. Historical Development of Globalization and Its Resources	5
1.3. Aspects of Globalization.....	9
1.3.1. Technological Aspect.....	10
1.3.2. Economic Aspect	11
1.3.3. Social and Cultural Aspect.....	12
1.3.4. Environmental Aspect.....	13
1.3.5. Political Aspect	15
1.4. The Advantages and Disadvantages of Globalization	16
1.4.1. The Advantages of Globalization	16
1.4.2. The Disadvantages of Globalization	18
2. INCOME DISTRIBUTION AND INCOME INEQUALITY	20
2.1 The Concept of Income Distribution and Its Definition	20
2.2 Variations of Income Distribution	20
2.2.1 Functional Income Distribution	20

2.2.2 Individual Income Distribution	21
2.2.3 Industry-Specific Distribution.....	21
2.2.4 Regional Income Distribution	22
2.3. The Concept of Income Inequality.....	22
2.4. The Causes of Income Inequality.....	23
2.5 Income Distribution Measurement Methods.....	24
2.5.1 The Gini Coefficient (G).....	24
2.5.2 The Frequency Distribution	25
2.5.3 Relative Mean Deviation (M)	25
2.5.4 Pen's Parade (The Income Parade)	26
2.5.5 The Coefficient of Variation (C).....	27
2.5.6 The Lorenz Curve	27
2.5.7 Variance (V).....	28
2.5.8 The Logarithmic Transformation.....	29
2.5.9 Logarithmic Variance	30
2.5.10 Atkinson Inequality Index.....	31
2.5.11 Bozdağ Population Efficiency Coefficient (Bozdağ Coefficient)....	32
2.5.12 Pareto Efficiency (Pareto Optimality).....	32
3. GLOBALIZATION AND INCOME INEQUALITY	34
3.1. Globalization and Inequality	34
3.2. Neo-Liberal Approaches to Income Inequality Due to Globalization	35
3.3. Causes of Income Distribution Inequality	38
3.4. Effects of Globalization on Income Inequality	41
3.5. The Effects of Globalization Variations on Income Inequality	43
3.5.1. Income Inequality of Trade Globalization	43
3.5.2. Income Inequality of Financial Globalization	45

3.5.3. Income Inequality of Technological Globalization	46
4. ECONOMETRIC RESEARCH ON THE EFFECT OF GLOBALIZATION ON INCOME INEQUALITY	48
4.1. Dataset and Methodology	48
4.2. Results	49
4.2.1. The Impact of Trade Globalization on Income Inequality	49
4.2.2. The Impact of Financial Globalization on Income Inequality	51
4.2.3. The Impact of Technological Globalization on Income Inequality ..	53
RESULTS	55
REFERENCES	58

ÖZET

KÜRESELLEŞMENİN GELİR EŞİTSİZLİĞİ ÜZERİNE ETKİLERİ: GELİŞMEKTE OLAN ÜLKELER

Küreselleşme kavramı son zamanlarda araştırmacılar tarafından en çok ele alınan konulardan biridir. Küreselleşmenin ülkeler üzerindeki etkileri, sözkonusu ülkenin siyasi, coğrafi ve ekonomik özelliklerine göre değişiklik göstermektedir. Son 50 yılda oluşan verilere göre bu süreçten en çok gelişmiş ülkeler faydalanmakta, gelişmekte olan ülkeler ise küreselleşmeye ayak uydurmak için fedakarlıklar yapmaktadır. Bunlardan en tartışılanı küreselleşmenin gelişmekte olan ülkelerde gelir eşitsizliğine yol açmasıdır. Bu çalışmada da 12 gelişmekte olan ülkenin (Bangladeş, Çin, Hindistan, Endonezya, Pakistan, Filipinler, Güney Kore, Malezya, Singapur, Sri Lanka, Tayland ve Türkiye) 1980-2019 yıllarının verileri alınarak küreselleşmenin gelir eşitsizliği üzerine etkileri incelenmiştir. Bu çalışmada küreselleşme üç alanda ele alınmıştır. Bunlar ticari, finansal ve teknolojik küreselleşmedir. Gelir eşitsizliği ölçütü olarak Gini katsayısı belirlenmiştir. STATA programında uygulanan panel veri analizi ile elde edilen sonuçlara göre ticari, finansal ve teknolojik küreselleşmenin bu ülkelerdeki gelir eşitsizliğini arttırdığı gözlemlenmiştir. Eğitimin ise gelir eşitsizliğini azaltıcı etkisi görülmüştür. Gelişmekte olan ülkelerde bazı finansal kuruluşların sağlıksız işlemesi, etkisiz regülasyonlar, ekonomik krizler, pandemi gibi küresel alanda olumsuzluklar küreselleşmeyle birlikte gelir eşitsizliğini arttırmaktadır. Bu sonuçlar ile gelişmekte olan ülkelerde dışa bağımlılığı azaltacak etkili ticari ve finansal regülasyonlar, yerli teknolojik ve bilimsel gelişmeler için AR-GE çalışmaları, sosyal devlet anlayışını benimseyen vergi sistemleri ve eğitim almanın birincil hak olarak görüldüğü bir devlet sisteminde gelir eşitsizliğinin azaltıcı etkisi birçok araştırmacının hemfikir olduğu bir konudur.

Anahtar kelimeler: Küreselleşme, gelir eşitsizliği, gelişmekte olan ülkeler

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SUMMARY

THE EFFECTS OF GLOBALIZATION ON INCOME INEQUALITY: DEVELOPING COUNTRIES

The concept of globalization is one of the most discussed topics by researchers recently. The effects of globalization on countries vary according to the political, geographical and economic characteristics of that country. According to the data collected in the last 50 years, developed countries benefit the most from this process, while developing countries make sacrifices to keep up with globalization. The most discussed of these problems is that globalization causes income inequality in developing countries. Within this context, the effects of globalization on income inequality were examined in this study by collecting the data of 12 developing countries (Bangladesh, China, India, Indonesia, Pakistan, Philippines, South Korea, Malaysia, Singapore, Sri Lanka, Thailand and Turkey) for the years 1980-2019. Globalization is discussed in three areas in this paper. These are trade, financial and technological globalization. The Gini coefficient was determined as a measure of income inequality. According to the results obtained by the panel data analysis applied in the STATA program, it was observed that trade, financial and technological globalization increased the income inequality in these countries. On the other hand, education has a reducing effect on income inequality. In developing countries, the unhealthy functioning of some financial institutions, ineffective regulations, economic crises, and global negativities such as pandemics increase income inequality with globalization. With these results, many researchers agree that effective trade and financial regulations that will reduce foreign dependency in developing countries, R&D studies for domestic technological and scientific developments, tax systems that adopt the social state approach, and the reducing effect of income inequality in a state system where education is considered the primary right is an issue.

Keywords: Globalization, income inequality, developing countries

Date: 08.07.2021

SYMBOLS

G	: The Gini Coefficient
M	: Relative Mean Deviation
C	: The Coefficient of Variation
V	: Variance
t	: Number of periods
y_{EDE}	: The evenly distributed equivalence of income level
X_{it}	: Control variables (Education, urban population, FDI)
$\ln Y_{it}$: Ln GDPPC – Logarithmic value of GDP per capita
$\ln Y_{it}^2$: Ln GDPPC ² – Square of logarithmic value of GDP per capita
u_{it}	: Error value
TO_{it}	: Trade globalization / Trade Openness (EX-IM) (% of GDP)
FG_{it}	: Financial globalization
TG_{it}	: Technological globalization

ABBREVIATIONS

GDP	: Gross domestic product
GDPPC	: GDP per capita
GNP	: Gross national product
IMF	: International Monetary Fund
GATT	: General Agreement on Tariff and Trade
WTO	: World Trade Organization
SEE	: State Economic Enterprise
SOE	: State-owned Enterprise
NGO	: Non-governmental Organization
OECD	: Organisation for Economic Co-operation and Development
FDI	: Foreign Direct Investment
IV	: Instrumental Variables
GMM	: Generalised Method of Movement
POLS	: Pooled Ordinary Least Squares

LIST OF FIGURES

Figure 2.1 Frequency Distribution Diagram.....	25
Figure 2.2 The Pen's Parade (The Income Parade) Diagram.....	26
Figure 2.3 The Lorenz Curve.....	28
Figure 2.4 The Logarithmic Transformation Diagram.....	29

LIST OF TABLE

Table 1	The Impact of Trade Globalization on Income Inequality.....	50
Table 2	The Impact of Financial Globalization on Income Inequality.....	52
Table 3	The Impact of Technological Globalization on Income Inequality...	53

INTRODUCTION

In recent years, the impact of globalization on income inequality has attracted widespread attention among economists. Along with the liberalization of goods and capital movements with globalization, the weight of the government in the economy has gradually weakened. With privatization, deregulation, reducing the role of the government in health and education, more passive monetary and fiscal policies, gradually reducing taxes and public expenditures, the leading role of the government has been abandoned and almost everything has been left to the market mechanism. Thus, the termination of the social state understanding had negative consequences, especially for low and middle-income groups. Reducing public expenditures within the framework of tight monetary and fiscal policies proposed to close budget deficits and reduce inflation, or within the framework of the IMF's adjustment programs has led to a contraction in the economies of many developing countries, including Turkey, and to an increase in poverty. One of the most criticized aspects of globalization is the transfer of decisions regarding the economic policies of nation-states to supranational or international institutions.

Recent technological developments and related new production strategies have led to polarization in all developed or developing societies. The income distribution between consumers and those who control capital is improving in favor of the latter. Advances in technology no longer contribute to consumer demand but reduce employment. Productivity continues to increase, but the real disposable incomes of consumers do not. Required revenue growth for purchasing more services is not realized. Therefore, the additional demand for labor in the service sector is not enough to meet the job losses in the industry. This balancing would have taken place if prices had not been prevented from falling and real incomes rising. The self-regulating mechanism of competition is failing, and competition is increasingly being replaced by monopolies or oligopolies. In this case, the poor are getting poorer and the richer getting richer. If we want to avoid this deterioration, as many economists have pointed out, more government

intervention is the only way to reconcile demand and supply. In addition, since the globalization process has led developing countries to specialize in natural resource and labor-intensive products, and since the price and profit margins and income elasticity of such products are low, agriculture in the sectoral dimension and labor income in the functional dimension prevents the increase in income.

On the other hand, another issue that is valid for all developing countries, including Turkey, is that the terms of trade are gradually increasing in favor of developed countries in the trade between developing countries and developed countries, confirming the 'impoverishing growth' theory. For this reason, if Turkey does not focus on producing technology-intensive export goods with stable or increasing prices from labor-intensive export goods with gradually decreasing prices, the foreign trade deficit in trade with developed countries will always continue and it will have to constantly borrow from outside.

The aim of this research is to examine the effect of globalization on income inequality.

1. THE CONCEPT OF GLOBALIZATION

1.1. The Definition of Globalization

The phenomenon of globalization does not have a demarcated precise definition, and conceptually it is not yet mature in the scholastic perspective. Nonetheless, it has become a frequently used concept in academic literature and has been often studied by numerous researchers.

The term of globalization has continually been included in the social sciences literature, especially in the economic field. It has been put forward as sometimes a phenomenon aimed at explaining the current situation, sometimes a process that reflects trends, and often as an idealized final goal. Therefore, the concept has become a notion that everyone gives different meanings with its very complex process and contradictory elements. In this way, globalization has emerged as the cause, result and / or final solution of economic and social problems with different approaches (Demir, 2001: 74).

It can be argued that we do not have a clear description of the phenomenon of globalization. As a result, definitions related to the concept can also be made. Basically, it can be said that most of the national ideas that are around the world mislaid their meaning. National affiliations, national identity, ideas, and events have left their place entirely to the global one. As a result, the world has shrunk and nationality has lost its sense. The concept that expresses the emergence of this consciousness and the process of changing the perception of the world is globalization (Çeken vd., 2008).

Since the existence of humanity, there are relations that have been expressed economically, and it is observed that these relations continue to increase perpetually. People, nations, societies, and coteries have always been in mutual relations in line with their needs, regardless of the extent of their connections. The process we call globalization today is an indisputable fact and has no alternative reality with the occurrence of these

relations. It seems that the ability of countries, nations, and societies to lead a better and higher quality of life depends on globalization and opening towards the world.

Many studies on globalization have been generated in different fields since the 1980s. In this direction, the point of view and what should be understood from globalization have altered due to factors such as ideology (Bülbül, 2015). The underlying reason for making distinctive definitions is that the concept is newly discovered, and there is no definition agreed upon by various social sciences that examine and scrutinize the issue of globalization.

In general, globalization appears as a whole of relations that have become widespread with the integration process of all countries around the world. After the Cold War process ended with the fall of the Berlin Wall and the dissolution of the Soviet Union (the USSR), ideological polarizations came to an end. Differences became known and recognized with the end of the conflicts between countries, which were divided into blocks. All these processes are interrelated and they have led to globalization. All kinds of relations have ceased to be national and have become universal throughout the world. These dissemination, development and integration processes have also led to globalization (Atasoy, 2010).

Globalization is essentially an economic process. Concurrently, it ensures that the obstacles and barriers to trade and capital are extinguished. It became the dominant ideology thanks to the advancement of technology, the expansion of the communication network, and the reduction of transaction costs. As the consequences of the era; economic relations are growing, the division of labor and specialization structure in production is changing and wider markets are formed. As a result, the traditional industrial society and nation-state borders were insufficient and there was a tendency towards a larger structure. It is believed that the direction of social evolution from the tribes of hunter-gatherers to the local communities of the agricultural society and from there to the nation-state of the industrial society has evolved into the global society (Demiröz, 2016: 1).

Globalization specifies two aspects. These are universal and local processes. On the other hand, globalization has a moving, dynamic and continuous structure rather than a static structure that is a glimpse. Another definition that is most mentioned and generally accepted economically is the removal of international restrictions on the free movement

of economic actors and objects. In other words, the removal of restrictions on goods, services, capital, and financial movements indicates the globalization process. Globalization has emerged as a result of the decline in transportation and communication costs, and the replacement of protectionist policies around the world with liberal policies (Crafts, 2004: 47).

Many definitions of globalization have been made in the literature. Sainath (2005) describes globalization as the pursuit of profit by mega-companies with supranational power, while Boratav (2000) considers globalization as the latest and contemporary state of the system of exploitation (Çelik, 2012). Oran (2001) qualified globalization as the process of spreading Western values such as capitalism, secularism, human rights, and rationality to the world. Based on the necessity of capitalism, Akman (1999) claimed that liberalization provided to make a profit in order to survive and maintain, and globalization made the whole world a common single market (Gülçubuk, 2002: 27).

When the existing explanations and evaluations about globalization are considered, it is seen that there is no clear and precise definition, particularly in the academic circles. It is obvious that there are many descriptions in a wide range depending on various ideologies, to the extent that these ideologies are evaluated from the point of view. When it is approached from an economic perspective, two separate definitions of globalization can be made, namely, theoretical and current. The theoretical definition has not reached the required conditions yet and does not have any indication that it will happen in the near future. The current definition defines globalization as a phenomenon based on existing and currently realized economic interdependence (Demiröz, 2016: 11).

1.2. Historical Development of Globalization and Its Resources

It is difficult to specify a certain time frame regarding when globalization started. Although the concept is used more frequently after the 1980s, the emergence of globalization dates back to much earlier. Today, it is one of the biggest discussion topics in each context.

Robertson handled the discussions and developments about the historical process of globalization as a 5-stage process (Kürkçü & Dumanlı, 2013);

1) The formation phase in which societies began to exist in Europe between the 1400s and 1750s, when new national communities were born, the individual-human concepts gained importance and started to make themselves adumbrated for the first time.

2) At this stage, which lasted from the 1750s to the 1870s, individualism gained more prominence, the concepts of citizenship emerged and arguments such as the nation state became the main topic of conversation, and formations about the initial phase related to these issues took place.

3) After the 1870s, the concepts of the nation-state, which continued until the 1920s, became more formal. This period has been the rising stage in which globalization and global communication started to gain momentum.

4) The stage of struggle; when the global wars that started in the 1960s began to emerge and the United Nations (UN) was established.

5) It is the uncertainty stage in which the world becomes unipolar and integration occurs in the international arena, also when communication and transportation technologies, which lasted until 1990, began to be felt in every field, including economic, social, political, and cultural.

Globalization has been reviewed by Kazgan (2012) in three stages. The first is the geographical discoveries that are thought to form the basis of globalization, the second is the I. Industrial Revolution and the third is the II. Industrial Revolution. These stages are discussed below in general terms (İren, 2019).

Geographical Discoveries and the Formation Stage of Globalization:

Throughout history, various researches have been carried out by people in order to explain the meaning of themselves and their environment. The basis of these researches is to meet the main requirements of human needs such as nutrition, shelter and security. In addition, the necessity of continuous communication of human beings as social creatures is another factor that causes these studies (Elçin, 2012: 1).

When human history is considered between the 15th and 18th centuries, it is discernible that societies have been forced to improve their boundaries. This is because human needs are unlimited and it is seen that these needs can only be met by finding new

raw materials and food resources. This situation caused human beings to push their boundaries in the field of trade and increased their motivation to own new land (Yahşi, 2007: 8).

Geographical discoveries are one of the most critical steps in the globalization phase of humans. Societies have enhanced the diversity of food and raw materials with geographic discoveries to meet the increasing population's needs. Interdependence between nations became inevitable by expanding the product range and the increasing trade flow. This process has led to the gradual emergence of globalization in Europe and its beginning to make itself evident. European states, which did not have a shortage of raw materials as a result of the colonial activities that started in the 15th century, made production in a much shorter time after the Industrial Revolution and managed to deliver these products to all parts of the world faster. (Ökmen, 2005).

The effects of these developments are also occurred in areas outside of Europe and have begun to be experienced thoroughly. However, the progress has been left behind in some regions due to inefficient capital usage, poor trade flows, and internal problems. Consequently, a distinctive definition has arisen as developed and underdeveloped countries that are frequently mentioned in today's world. Thus, while European countries have developed further by adapting to global change and using the capital more effectively, some countries could not keep up with this change and pushed the people to slavery and backwardness. To summarize, as a result of this process, while some societies were condemned to underdevelopment, European countries expanded their horizons even more (Sönmez, 2006).

The First Industrial Revolution Period:

It can be said that globalization lasted until the Industrial Revolution. Developments in the field of technology between 1870 and 1914 constitute the beginning of globalization, and this period is defined as the first period of globalization. Developments, which appeared with the First Industrial Revolution and increased their influence with geographical discoveries, and innovations in the field of communication, transportation, and production had an important role at this point (Kanberoğlu & Yıldırımçakar, 2019).

The opportunity was provided to the Western countries to spread the military, political and economic effects to the overseas countries with the advances in the first globalization period such as railroad, maritime, and telegraph. At the same time, the intensification in international trade induced the need for specialization in production. Developments and advances in the field of information and technology have led to an increase in the bonds of societies with each other (Kıvılcım, 2013: 227). During this period, Britain has emerged as the country that can benefit the most from the globalization process, as it was the biggest power in those years. Although the globalization process seems to mean integration and interdependence of countries to each other in a sense, this process generally manifested itself as an increase in the dependence of weak states on those in strong positions (Gürer, 2010: 8).

The stagnation period of globalization appears between 1914 and 1945. The globalization process slowed down with the outbreak of the First World War in 1914, and the Great Depression in 1929, and was interrupted until 1970. Neo-liberal policies began to be implemented as a means of intervention in the economic system that gradually deteriorated with the Fuel Crisis in 1979. As a result, the post-war crises caused a decrease in trade activities between countries and a slowdown in globalization, preventing the continuation of globalization. This situation has revealed different periods of globalization (İren, 2019).

In the globalization process, relations have been established by countries to a greater or lesser extent. These circumstances also reveal the interdependence of states. This relationship created by the phenomenon of globalization in the international system has forced states to act jointly to solve global problems. In this context, international organizations such as IMF, World Bank, and GATT that emerged after the Second World War aimed to solve the new problems that occurred by the global system (Baharçipek, 2007: 233).

However, two factors prevent this process from being considered globalization. The first significant factor is that the underdeveloped countries, which declared their independence politically after the Second World War, prefer to apply self-enclosed industrialization policies under the leadership of their government instead of focusing on the supranational areas by using policies for the free market economy. Therefore, they

have closed themselves to development. Correspondingly, the second factor is the careful approach of developed countries to foreign direct investments and their general exclusion from the financial markets by using foreign borrowing and prioritizing intergovernmental borrowing (Şenses, 2004: 2).

Second Industrial Revolution Period:

It can be expressed as the new world order that occurred in the form of "the emergence of a unipolar world" as a result of the collapse of the Soviet regime in the 1970s and the 1990s. In the period between 1945-1980, the main reason for the increase in the speed of globalization is the process of opening to foreign countries depending on the developing technology and increasing production. The post-1980 period, which is also called the new globalization period, was expressed as the period in which the globalization process entered a new dimension with the spread and strengthening of neoliberal policies implemented in the mid-1970s (Gürer, 2010: 10). Regarding the third wave of globalization, the point at which the researchers reach a consensus is the developments in the field of science and technology. For this reason, this period is called the "Information Age" (Yeldan, 2001).

Neoliberal policies have been accelerated in the 1980s and the role of the government in the economic field has decreased. At the same time, the idea of transition to a free-market economy started to gain momentum again. Neoliberal policies implemented in developed countries have also affected the underdeveloped countries after the '80s. In this transformation process, concepts such as unemployment, exclusion, inequality, and poverty have started to be brought to the agenda and discussed. Poverty, which has become a chronic problem of both underdeveloped and developed countries, has become a global problem rather than a regional problem. It has been observed that the proportion of people living on the poverty line has increased in developing and developed countries as well as underdeveloped countries (Özçelik, 2013).

1.3. Aspects of Globalization

In recent times, significant transformations and changes have been experienced in the world. The changes that occur in international, national, social, and even in our daily life reveal major problems as well as new formations. These changes and transformations

experienced in the economic, political, and cultural fields bring out the dimensions of globalization by leaving us in a certain confusion (Çelik, 2012).

In the first place, the aspect in which the phenomenon of globalization is addressed should be determined. This decision is essential in gaining a historical perspective to the globalization process. Even if all the elements that constitute globalization display the same level of development at certain times, it is seen that the chronological starting points are formed in different time periods when considered in detail. For this reason, while the dimensions of globalization are reviewed in this section, the aspects that cause changes and developments in technological, economic, socio-cultural, environmental and political fields will be discussed (Günsoy, 2006: 21).

The imperfect knowledge about the phenomenon of globalization is caused by its evaluation only in terms of finance and economy. Also, trying to be identified with the world financial system leads to imperfect knowledge as well. In fact, globalization has dimensions that are developing in different fields. In order to better understand the effects of globalization on the world we are in, it will be useful to examine the globalization processes separately (Kartal, 2016: 294).

1.3.1. Technological Aspect

With the rapid expansion and widespread of technology to ensure the free movement of trade and capital, the increase in the economic dependence of countries worldwide by eliminating obstacles is expressed as globalization. The major impacts that globalization has become the dominant economic policy in the world are the advances in technology, the increased utilization and trust in new information and communication technologies, the strengthening of transnational companies and organizations, the erosion of local cultures, values, traditions, and their combination. Revolutionary changes and transformations in transportation, communication, and informatics have facilitated the movement of goods, capital, and people, reduced transaction costs in the international arena and accelerated national and international transactions (Aydemir & Mehmet, 2007).

Although the relationship between technology and globalization has been the cornerstones of the unprecedented growth of the world economy in the last two decades,

another issue that continues to be strongly debated is their distributional effects (Jaumotte and Papageorgiou, 2013: 272).

Developed countries can compete in the field of global competition due to the advanced understanding of innovation and their technological development levels. The ability to use science and technology to increase the welfare of the social field is now generally accepted as innovation skill and competence. Advances in the technological field provide more advantages compared to current competitive advantages. However, technological breakthroughs need to be taken to higher levels to ensure the continuity of competitive advantage. The world economy is becoming more competitive and more global with the effect of ever-increasing information and communication technologies. The production of new technologies is the most fundamental building block of a competitive economy. Therefore, the development of the technological field is of great importance in terms of national development and global competitiveness (Adıgüzel, 2016: 3-5). Technological progress and globalization are recognized as two of the main drivers of economic growth.

The labor market and employment have also changed with the rapid alterations between technology and globalization. Although the global scale of production and the fact that companies are equipped with automation technologies have positive effects in increasing productivity and competitiveness, it is not sufficient in solving the problems in the social field, especially in employment issues. Therefore, labor markets, business processes, and organizations should be restructured in accordance with the requirements of the globalization process (Çelik, 2009: 26). In addition to these, the increase in the level of technological development and the mechanization of production creates labor savings and leads to decreases in the income of the unqualified labor force in developing countries (Yanar and Şahbaz, 2013: 58).

1.3.2. Economic Aspect

There is a close relationship between globalization and all areas of social life. However, globalization is basically a concept closely related to economic processes. Transformations in communication and information technologies, which cause changes in social and daily life, lead to amendments in the economy. By increasing productivity

in production, consumers dominate the markets, and international trade increases as a result of globalization. New goods and services emerge by accelerating capital movements. The reasons for these are communication and information, which are becoming widespread in the economy (Dilek, 2016: 87).

As a consequence of the increasing scale of cross-border trade of products and services, economic globalization states the increasing interdependence of the world with the flow of international capital and the spread of technologies in a fast and wide manner (Nakiboğlu & Levent, 2017). In other words, economic globalization generally refers to the integration of national economies into the international economy. It is an irreversible turning point that expresses the integration of all states in a single market. As a result of the increase in the fluidity of goods, capital, and labor among nations, it intensifies the economic relations between countries. As countries approach each other, market borders are constantly expanding, and mutual integration increases (URL-1; Taner, 2004: 20).

There are many expressions of economic globalization. The most significant of these is the removal or reduction of barriers that limit free movement. Consequently, globalization is the economic convergence or the integration of world economies and various trade and financial markets (URL-1).

Along with the economic globalization in the world, global companies have also had important duties. Technology is transferred from developed countries to developing countries through these companies. Besides, global companies contribute significantly to the world economy's liberalization movements with the rapid advances in information and transportation technology and the support of international organizations such as WTO, IMF, and GATT. The activities of international companies aimed at targets such as making international sales and providing cheaper resources for cost reduction have prepared the environment for economic globalization (URL-3).

1.3.3. Social and Cultural Aspect

Globalization also has effects on the development of socio-cultural life. Cultural values produced by people are the common property of all people. These values need to be protected in order to be passed on from generation to generation (Talas & Yaşar, 2007).

Globalization in the socio-cultural context is shaped within the cultures of western societies and paves the way for this culture to be distributed to other countries. In this respect, socio-cultural characteristics from consumption habits to traditions started to show similarities on a global scale and gradually became singular. Local socio-cultural characteristics have been affected by the effect of global socio-cultural change (Çelik, 2012: 69).

With the experience of globalization in the socio-cultural context, it has been ensured that countries come together at a common point in matters that concern the whole world. Among these issues, the fight against terrorism and drugs, and the protection of nature take a wide space. Countries acting with the understanding of social state give a large place to their agendas on these issues. On the other hand, the spread of environmental problems, drug trafficking, and terrorism threatens all humanity and leads countries to make joint decisions (URL-1). From that perspective, according to globalization advocates, countries get to know each other closely thanks to sociocultural globalization and contribute to global peace in the long term.

Socio-cultural characteristics are associated with the lifestyle of a nation. These features are mutually influenced by globalization. On the one hand, globalization affects culture with great transformations and changes, on the other hand, the transformation of socio-cultural characteristics has an impact on globalization. In summary, the life and knowledge experiences of the nations leading the globalization mobility appear as a cultural element (Mahiroğulları, 2005).

1.3.4. Environmental Aspect

Rapid developments are occurring with globalization in areas such as transportation, technology and communication. Environmental globalization has positive aspects such as enabling plant or vegetable varieties grown in any region of the world to spread all over the globe and increase the welfare of humanity; however, it has negative aspects as well such as epidemic diseases that tend to spread globally, negativities like pollution caused by production and consumption that disrupt the ecological balance, and wrong practices that damage environmental factors (Kartal, 2016: 294).

Environmental issues exist in agriculture and industrialized societies, although they occur and differ in various ways. As environmental problems reach an international level over time, nations become more and more dependent, and all states cannot remain indifferent to environmental issues that occur within the borders of other states and may feel the need to intervene. Indifference means endangering the country's own vital foundations (Çelik, 2012).

The natural environment is not created solely from the protection of the air, green areas and water resources. There is a much wider scope of natural environmental factors. Everyone opposes the irresponsible use of such resources worldwide by people or companies established for profit. Irresponsible consumption of these resources should be prevented and environmental factors should be given more importance, especially while globalization is taking place in the economic field. Businesses should be encouraged to use resources effectively and efficiently by not harming environmental factors. Although industrialization triggers the development of the economy, it can cause environmental problems. Therefore, sustainable environmental policies are needed as a requirement of a sustainable and innovative development approach (Yeşil, 2010: 30). When the environment is accepted as the common future of humanity, it is a necessity to base all the rules on how this common future will work on common principles (Çelik, 2009: 29).

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1.3.5. Political Aspect

Political globalization has damaged the supremacy of nation states, which were previously the most active actors of the political system in the international field. At the same time, political globalization has made it compulsory to share the competence of the nation state with other organizations. Therefore, the nation-state has tended to transfer its globalization powers to international organizations. In this context, political globalization has resulted in the disappearance of absolute sovereignty borders and an increase in the mutual interaction of management systems. In addition to these interactions, the increase of international interventions in the context of human rights, non-governmental organizations and freedoms has affected and changed the functioning mechanisms of nation states. This change is expressed as the process of emergence of supranational institutions in international political globalization (Çelik, 2009: 28; URL-1).

International relations have increased with this prominence process. The increase in international relations has caused the problems to be discussed in the international arena and international cooperation in solving the problems has become a necessity. In other words, supranational political and economic institutions became partners in the decisions of local authorities; local authorities have had to take the whole world into consideration both in local and international policies due to these organizations (URL-3).

It is considered that the relationship between the local people and the political authority and the division of labor cause political globalization to take shape again. There is an improvement in the direction of democratization in flexible decisions regarding human rights against national authorities, together with supranational organizations. The European Union's effort to create an integrated and institutional EU, which has successfully completed various requirements of economic integration since the second half of the 18th century, is a proof that political globalization is difficult to achieve by local authorities alone. At the same time, political globalization causes the understanding of democracy to become more participatory (Yalçınkaya et al., 2012: 5).

1.4. The Advantages and Disadvantages of Globalization

1.4.1. The Advantages of Globalization

On one hand, there are opportunities offered by globalization, such as wealth, growth, integration and new possibilities. On the other hand, it brings some disadvantages such as environmental pollution, social degeneration and inequality. Increasing international trade with globalization has enriched a large part of Asia. Thanks to globalization, many people in the world have had the opportunity to live longer. Life expectancy was prolonged by preventing epidemics and living conditions have improved. Globalization has reduced the sense of isolation among people living in developing countries, has decreased the cost of access to information and accelerated access to information by making use of communication facilities comfortably. The aid organizations that emerged by the globalization process made many people literate, developed projects that would provide job opportunities for many people, and took measures against epidemic diseases such as AIDS, the treatment process of which is difficult and expensive (Eraydın, 2004).

Globalization, which is the further integration of national economies and the liberalization of international trade, has the potential to enrich the public and poor people all over the world as a positive force. The most important factors hindering this potential are the management style of globalization, together with the policies imposed on developing countries in the globalization process and with the institutions that manage international agreements. The rapid development in many countries has been realized with the opening of nations to international trade with the effect of globalization. Especially for countries whose growth depends on exports, it has been beneficial and effective to open up to international trade. A large part of Asia has been enriched by international trade, the situation of millions of people has improved, and this has been achieved especially with export-led growth. According to people living in Western countries, low-wage jobs in Nike can be considered as exploitation, but for developing country citizens, working in factories is a much better way of life than working in the fields (Stiglitz, 2002: 1-26).

Another of the most important opportunities ensured by globalization is that it provides access to information. Nearly a hundred years ago, access to information that

could not be reached by even the richest of the world has reached levels that almost all people can now. In this context, it should be noted that anti-globalization was organized through the internet in a very short and effective time. Thanks to these movements, a high social pressure has been created on the world and many important developments have taken place (Gençer, 2016). The ‘International Landmines Agreement’ aka ‘Ottawa Treaty’ signed by 121 countries since 1997 is just one of them. With globalization, state economic enterprises (SEEs), which are under protection in countries whose markets are opened to foreign companies, may have been damaged, but these foreign companies came with new technologies, leading to the emergence of new markets and the formation of new industries. It is worth noting especially the foreign aid that comes with globalization. These aids were not only monetary and material, but also aimed to fight deadly and epidemic diseases such as AIDS, to end civil wars, and to increase literacy rates, and they were realized to a large extent (Stiglitz, 2002: 30).

With the movements of foreign capital and the reduction or decrease of barriers in many countries, especially in developed countries, trade, physical and financial capital has increased at the global level (Balkanlı, 2002: 19).

Important developments have also taken place in the healthcare field. Most common and deadly diseases could be cured with the cooperation and collaboration of many countries. At the same time, death rates at birth have fallen and the average human life expectancy has also increased. People started to benefit from each other's production and consumption (Balay, 2004: 64-65).

Providing the opportunity to integrate with the world is another utility of globalization. Elements such as human capital, physical capital, technology that are not sufficient in the country can be eliminated with this integration. Especially, multinational companies can invest only with opportunities such as minimum cost and maximum profit.

With globalization, relations between countries have spread to a wider geography. Herein, the integration provided by production factors and the mobility of goods and services, and the increase in economic dependency have been effective. These developments enabled developing countries to both access larger markets and have large capital inflows to these countries, expanded the range of goods and services for export and import, and enabled these countries to benefit more from technological

developments. With globalization, the decrease in transportation and communication costs, specialization in production and the formation of a division of labor have increased efficiency and productivity in production, and led to an increase in production (Kıvılcım, 2013). In parallel with the increase in production, the competitive environment has become widespread. Some of the advantages of globalization are as follows;

- Governments have adopted more respectful management styles to law, property rights and human rights.
- Working conditions have been improved with the influence and inspections of international organizations.
- The emphasis on education of people called human capital has come into prominence.
- New business lines and new job opportunities emerged around the world.
- With the increase in the number of NGOs, relations between them have improved.
- Credit and investment rates for countries with savings gap increased.
- Communication and transportation facilities have reached large masses with the decrease in costs.
- Establishment of energy and communication infrastructures, which are the infrastructures of trade and capital mobility, has become widespread (Çıtır, 2008: 28-29).

1.4.2. The Disadvantages of Globalization

In some way, the globalization phase has a dynamic structure that reveals the inequalities between periphery and core countries. Globalization, which ensures the concentration of certain types of production with high profits by staying limited in certain regions, is described as causing class hierarchy and inequality (Duman, 2016).

It has been suggested by Wallerstein (2001: 42) that the globalization system polarizes societies socially, politically, economically and demographically. According to Anthony Giddens, globalization is the 'winners and losers' system in which a very small minority gets richer and progresses rapidly towards prosperity, while the remaining majority are doomed to misery (Giddens, 2000: 27).

The belief that it eliminates traditions and local cultures is cited as one of the disadvantages of globalization. The economic growth promised by globalization is destroying the traditional rural society by urbanization. The shopping center culture, national and mega-international retailers destroy rural or small businesses and destroy the character of society (Mahiroğulları, 2005).

It can be argued that those who have unfavourable ideas about the process that dealt with the advantages and disadvantages of globalization do not consider the benefits of the process. Globalization advocates are even more inconsistent and unbalanced about these issues. Advocates state that the process itself is progress and development. Developing countries' achievement of goals such as getting rid of poverty and growing depends on their involvement in the process. However, there have been developments in the opposite direction as well. Increases in the number of people struggling with poverty, the misery of African countries, the inability of such countries to attract private investment and instability are only a small proof of this.

2. INCOME DISTRIBUTION AND INCOME INEQUALITY

2.1 The Concept of Income Distribution and Its Definition

The distribution of national income provided by products and services produced by people living in the country among social groups, individuals, production factors and regions is defined as income distribution. Income distribution is mainly aimed at explaining income differences. In addition to this, it is to examine the relationship and distribution of economic and social institutions within the production activities that generate national income (DPT, 2001: 3). These divisions must be fair and reasonable. If not, the gap between the rich and the poor in the society opens up, resulting in income distribution injustice. The rich get richer and the poor get poorer, increasing the likelihood of social instability along with economic instability. Therefore, ensuring justice in income distribution constitutes the basis of social peace (Akça, 2019).

Information on the development level of the country provides an estimate of the income distribution unfairness of that nation. “The unfair distribution of income increases as one goes from countries with very low income to middle-income countries. As one goes from middle-income countries to high-income countries, the unfairness in distribution decreases”. This situation was identified by Simon Kuznets in 1955. (Berber, 2011: 213).

2.2 Variations of Income Distribution

2.2.1 Functional Income Distribution

The distribution of the income obtained as a result of production among the production owners indicates the functional distribution. Each of the production factor owners in the production process gets a share of the goods and services produced under

the name of wage, rent, profit, and interest. Owners of production factors receive payments based on these shares, and these payments constitute their income (Uysal, 2007).

It is also called the factorial distribution of income. The functional income distribution shows how the income generated in the country is distributed among labor (labor force), capital (national wealth), natural resources (landowners) and entrepreneur (enterprise), which are defined as four factors of production. In this distribution, those who have labor represent wages, capital owners as interest, landowners as rent and entrepreneurs as profit, as a result of the production process (DPT, 2001: 4).

2.2.2 Individual Income Distribution

Individual income distribution is subject to be static. It refers to the distribution of national income among individuals and / or households. Individual income distribution is very successful in showing the inequalities experienced in economic terms. The first aim here is to determine income inequalities among households (Saritaş, 2015).

The classification of income by region, gender, profession, level of education, age and sector can be achieved by using personal income distribution studies. In this way, the shares of different groups in the society from income can be determined (Arabacı, 2017: 179).

2.2.3 Industry-Specific Distribution

In determining the economic share of the sectors working in the country from the national income, sectoral distribution of income is beneficial (Altınışık and Peker, 2008: 103). This income distribution divides national income according to sectors such as agriculture, industry, service, trade and other. This type of income distribution allows not only to show the share of the sectors in income, but also to have information about the economic development level of the country. This income distribution, which will be examined on a yearly basis, guides researchers about the stage of the industrialization process in the country for the countries to be researched, and which sector to focus on in the globalization process (Haşim, 2012).

2.2.4 Regional Income Distribution

It states to what extent people living in various areas in the country have a share from the national income and the regional income distribution (Bilgiç, 2015). This type of income distribution measures the income distribution differences between regions. It serves as a source for researchers by showing the differences between the developed or underdeveloped regions of the countries (Kuştepe and Halaç, 2004: 7).

The geographical location of the region constitutes the most basic of the inequalities in the regional income distribution. Transportation problems caused by the distance to the market and the resources depending on its geographical location prevent entrepreneurs from investing in these regions. Thus, regional income inequality arises (Altınışik and Peker, 2008: 103).

2.3. The Concept of Income Inequality

It is considered that the income inequality, which is an old phenomenon, continues to increase with globalization. The fact that the emerging inequality has reached serious dimensions has led to an increasing interest in the fields of economics and social sciences. Generally, personal, regional, sectoral, geographical, racial and similar distributions have begun to focus on the income distribution. Income distribution means that the income obtained from the services produced in a country is distributed to the citizens living in that country through distribution tools such as interest, salary, wages, daily wages and dividends (Erdoğan, 2004).

The phenomenon of income inequality can be sought in the differences in the indicators in the society or variances in consumption and income. Imbalances in income and consumption cause problems related to distribution. The reasons for income differences are discussed over the concept of distribution.

There are serious distributional imbalances between the poor and the wealthy. Regardless of which statistical data and what methods we choose, it is observed that income is strikingly unequally distributed among countries and people (Kemal, 2009). As of 1990, only one-tenth of the income generated by the effect of globalization has been shared among the poorest part of the world population, which is fifty percent. The vast

majority of the remaining nine-tenth share is shared between developed states (Wallerstein, 2005).

Countries like Mexico, USA, Turkey and Chile are among the countries where income distribution is unbalanced in the study conducted on OECD countries. It is thought that economic and financial globalization activities have a negative effect on income distribution. The crises that emerged with globalization caused an increase in the Gini coefficients throughout the world, creating significant changes in income distribution (Eroğlu et al., 2017).

2.4. The Causes of Income Inequality

Numerous factors have an impact on income distribution and inequality. While discussing the causes of income distribution, it should not be considered separately from the concept of poverty. There is a positive relationship between poverty and income distribution injustice. Even though it is a broader concept, it cannot be considered separately as it determines the distribution of the whole population rather than the distribution of individuals or households under a certain poverty line when compared to the concept of poverty. The higher the income division inequality, the higher the number of individuals in poverty will be. For this reason, factors affecting poverty and income distribution should be considered together. When the basic factors that determine the income distribution (inequality) are examined, the determinants of poverty are also discussed (Kuştepe & Halaç, 2004).

The main purpose of measuring the income distribution is to express the factors of production in the country and the distribution of national income among citizens, and to indicate the determinant factors in this distribution. The main factor in determining the income distribution is the distribution of ownership of the means of production. According to the result that emerged after the industrial revolution, the means of production in society were gathered in the hands of capital owners. This situation has caused the working class to gradually decrease its share of national income. Factors such as the competitive situation in the markets, the economic and development level of the country, fiscal policy, equality of opportunity in education and the level of education, the

distribution of the population on a sectoral basis, and the level of democratization play an active role in determining the income distribution (Çalışkan, 2010: 95).

The factors of production and the distribution of the prices of these factors, the labor market and the distribution of the labor force affect the inequalities in the income distribution. At the same time, the distribution of wealth may depend on education level, social rules and regulations, changes in the world and the country's economy, globalization, technological change, inflation, and crises (Kuştepelı and Halaç, 2004: 4).

2.5 Income Distribution Measurement Methods

2.5.1 The Gini Coefficient (G)

The Gini Coefficient (G) is frequently used in terms of income inequality. The Gini Coefficient is reached from the Lorenz Curve where income inequality is obtained by dividing the area between the curve and the diagonal and by the area between the curve and the curve to the right. The value found is a value between 0 and 1. If G is equal to 0, there is full equality, if it is equal to 1, then there is full inequality. The formula of the Gini Coefficient is as follows (Filiztekin & Çelik, 2010):

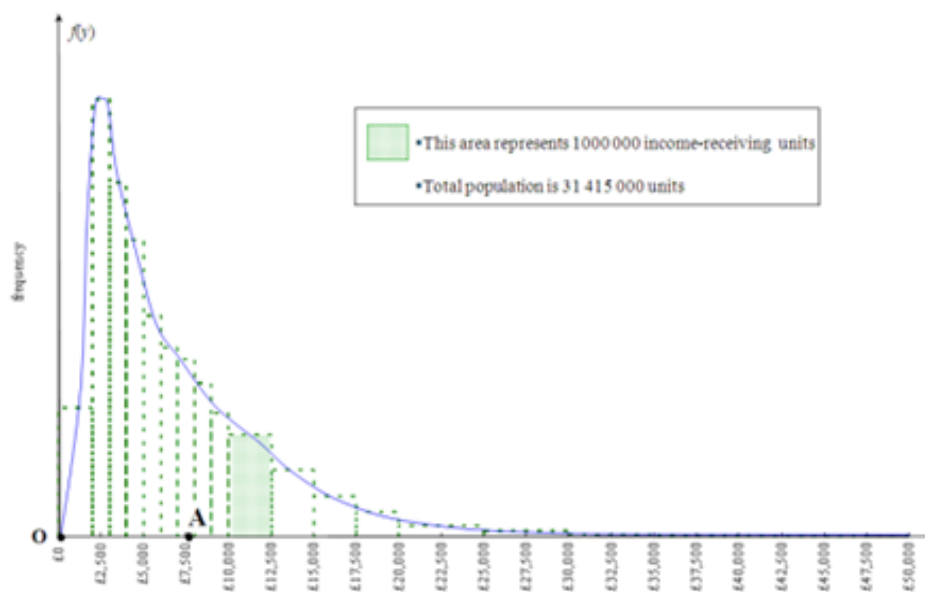
$$GG = \frac{2}{\mu Y} \int_0^{\infty} g(y) F(y) dy - 1$$

In the event of a development in income distribution, the most important disadvantage of this coefficient is that it shows more sensitivity in some parts of the curve. For example, 1 TL income transfer from a person with an income of 10.000 TL to a person with an income of 10.100 TL. If we consider 10.000 TL and 10.100 TL as the middle income group, this transfer reduces G more than a 1 TL transfer from a person with an income of 1.100 TL to a person with an income of 1.000 TL. In other words, the transfer between the middle income level in the Gini coefficient is more sensitive than the transfers at the ends of the curve (Cowell, 2008: 23-24).

2.5.2 The Frequency Distribution

The frequency distribution diagram is given in the following figure 2.1. There are histograms showing the frequency of income groups along the Oy line. The bold histogram means that there are more people in the same income range than others. When a curve that is tangent or cut from certain points is drawn with histograms, density is obtained. Since it includes cumulative frequencies, the height order diagram and frequency distribution are similar to each other (Cowell, 2008; Yavuz, 2010).

Figure (2.1) Frequency Distribution Diagram



Source: Frank Cowell, *Measuring Inequality*, Oxford University Press, 2008, s.18 darp.lse.ac.uk/papersDB/Cowell_measuringinequality3.pdf, (28.04.2018)

2.5.3 Relative Mean Deviation (M)

The Relative Mean Deviation (M) refers to the distance of the absolute deviation from the middle as a proportion of the average of the income of individuals. This calculation model is also used by Pen's Parade (The Income Parade) as well as the range (R). In the Pen's Parade diagram, the shaded sections form an area between the OD curve and the horizontal line of the middle income. As this area grows, income inequality increases. The measurement of M is expressed by the following formula (Cowell, 2008: 22-23):

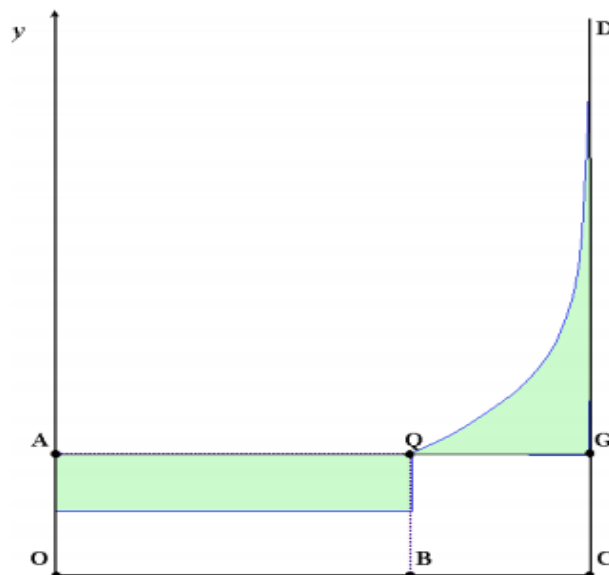
$$M = \frac{\text{area } OAQ + \text{area } QGD}{\text{area } OCGA}$$

Total revenue indicates the OCGA area in the denominator. The criticism of M is that if income is redistributed, the OCGA area does not change when the new middle income falls behind the old middle income B; It is that M is equal to its old value and therefore income inequality is miscalculated.

2.5.4 Pen's Parade (The Income Parade)

In the method of Pen's Parade, it indicates a height on the curve proportional to their income of all people in the society. These heights were lined up and combined by Jan Pen. He likened the curve obtained as a result of this process to a group in the order of height (Öz, 2019). As a consequence of this study, when the lengths line up from the shortest to the tallest, the diagram shown in Figure 2.2 is obtained. The line OC in Figure 2.2 displays the row length of the community placed in length order. The ordered community does not include the person with average income up to point B. The distance between the line OA represents average income. The Pen's Parade Diagram demonstrates the distribution to the highest income level, thus covering the most extreme income levels.

Figure (2.2) The Pen's Parade (The Income Parade) Diagram



Source: Frank Cowell, *Measuring Inequality*, Oxford University Press, 2008, s.16 darp.lse.ac.uk/papersDB/Cowell_measuringinequality3.pdf, (16.03.2021)

2.5.5 The Coefficient of Variation (C)

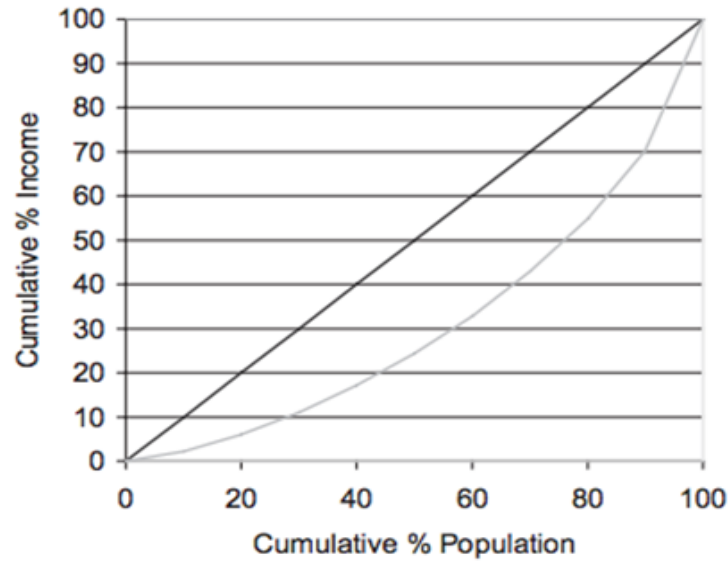
Regardless of the level of income, the coefficient of variation is sensitive to all income transfers between income groups. Since the coefficient of variation, which is found by dividing the standard deviation by the arithmetic mean of the series, is determined independently of the average income, it is generally used to find the income distribution between countries (DPT, 2001: 6). The formula for the coefficient of variation is as follows:

$$c = \frac{\sqrt{v}}{\bar{y}}$$

2.5.6 The Lorenz Curve

The Lorenz Curve, which shows the distribution of wealth, is frequently used in studies on the income inequality issues. In Figure 2.3 the vertical line is the percentage expression of the cumulative income and the horizontal line is the percentage expression of the cumulative population. The distance between the diagonal and the curve shows the extent of the inequality (Campano and Salvatore, 2006: 63-64). If the curve runs along the diagonal, the income is exactly evenly distributed. Everyone earns the same income in a perfectly even distribution. In such a case, for example, 10% of the population receives 10% of the total income. If the curve runs along the horizontal line, there is a completely unequal situation in which income is obtained by only one person (Altınışık & Peker, 2008).

Figure (2.3) The Lorenz Curve



Source: Fred Campano ve Dominick Salvatore, *Income Distribution*, Oxford University Press, 2006, s.64

2.5.7 Variance (V)

Variance is obtained by dividing the sum of squares of the distance of the variables from the mean by the number of variables. With variance, it is provided to find the distance between the variables smaller and larger than the mean and the average (Dođanođlu & Gölculü, 2001). Variance is formulated as follows:

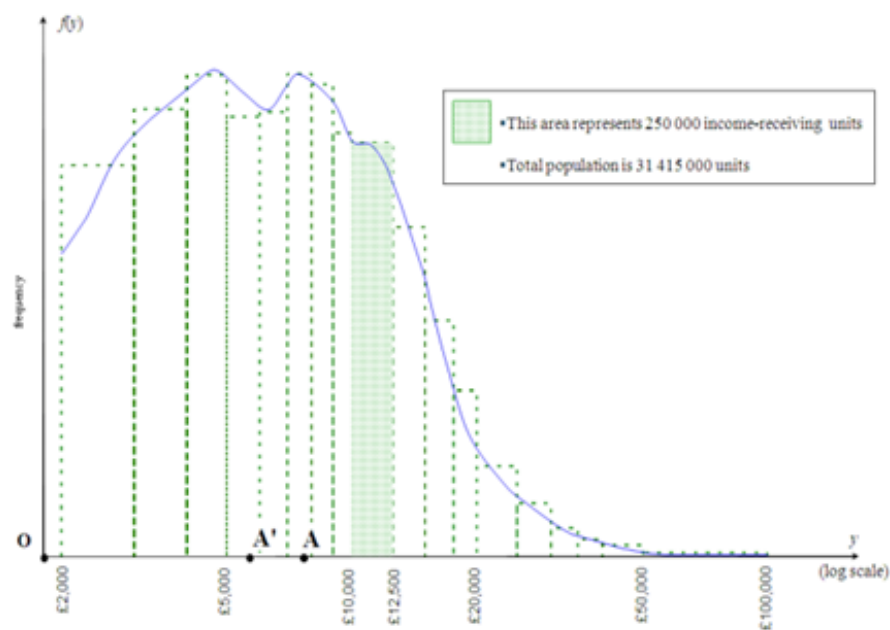
$$V = \frac{1}{n} \sum_{i=0}^n (y_i - \bar{y})^2$$

Income inequality rises when there is income transfer from low income groups to higher income groups. Thus, V, which gives the value of inequality, will also increase (DPT, 2001: 6). However, V does not have a model structure that gives reliable results. For example, V can quadruple if the income of everyone in the community is doubled and thus the average income is doubled without changing the pattern of income distribution.

2.5.8 The Logarithmic Transformation

The logarithmic transformation method is used to eliminate some deficiencies that may occur if the frequency distribution is used. Using the frequency distribution, some of the income groups are necessarily ignored due to the relatively small size of the diagram. Likewise, the details at low and middle income distances become uncertain. These drawbacks can be avoided by transforming the horizontal area into logarithmic (Şahin & Aydın, 2017). The mean income is shown by A in Figure 2.4. The length of the line OA is expressed in $\log(y)$. This length is not the midpoint of the logarithm of income. The midpoint of the logarithm of income is A' expressed as $\log(y^*)$. The y^* in parentheses in the $\log(y^*)$ expression is the midpoint of the distribution. If incomes are not negative, they can be found by taking geometric mean logarithms and converting them back to natural numbers. The geometric mean can never exceed the conventional arithmetic mean (Cowell, 2008: 20)

Figure (2.4) The Logarithmic Transformation Diagram



Source: Frank Cowell, *Measuring Inequality*, Oxford University Press, 2008, s.20
 darp.lse.ac.uk/papersDB/Cowell_measuringinequality3.pdf, (13.03.2021)

These four figures (2.1, 2.2, 2.3, and 2.4) given above focus on the various characteristics of the distribution separately. The Pen's Parade diagram shows the level and quantity of assets and wealthy people, the Frequency Distribution diagram displays more clearly the middle income group, the Logarithmic Transformation diagram demonstrates the information for other groups as well as the middle group, and the Lorenz Curve indicates income inequality (Cowell, 2008: 20).

2.5.9 Logarithmic Variance

By performing the variance logarithmic, it is possible to solve the problem occurring in the variance. Here, there are appeared two important definitions.

The first is;

$$v = \frac{1}{n} \sum_{i=1}^n \left[\log\left(\frac{y_i}{y}\right) \right]^2$$

The second is;

$$v_i = \frac{1}{n} \sum_{i=1}^n \left[\log\left(\frac{y_i}{y^*}\right) \right]^2$$

The first is called logarithmic variance. The second is called the variance of the logarithm of income. v focuses on the logarithm of the average income, and v_i on the average of the logarithm of income. v_i is more preferred than v (Cowell, 2008: 25).

The fact that logarithmic variance is more sensitive to changes in low income groups is its most important advantage compared to other measurement methods. In addition, logarithmic variance can fully reflect the distance between the variables and the mean (DPT, 2001: 6).

Although the coefficient of variation (C), v and v_i eliminate the problems in variance (V), the criticism of the gini coefficient (G) is directed to all three of them. For example, the decrease in C of the 1 TL transfer amount from a person with income y to a person

with an income of $(y-100)$ remains the same, whether in very high or very low incomes. Thus, although C has the ability to perceive inequality among high-income earners, it may be more limited to reflect inequality at any point in the distribution. In v and v_i , the transfer of 1 TL from 10.100 TL to 10.000 TL income reduces the income inequality more than the transfer of 1 TL from 1.100 TL to 1.000 TL income. However, a transfer of 1 TL from a relatively high income of 100.100 TL to a relatively high income such as 100.000 TL does not reduce the income inequality in the use of v and v_i , on the contrary, it increases (Cowell, 2008: 25).

2.5.10 Atkinson Inequality Index

In terms of measuring income inequality, the Atkinson method adds the social welfare function. The first thing that is accepted here is that after-tax revenues are fairer than pre-tax revenues (Atkinson, 1970: 25). Based on the social welfare function, Atkinson presents the evenly distributed equivalence of income level (y_{EDE}):

1. $U(y_{EDE}) \int_0^{\bar{y}} f(y) dy = \int_0^{\bar{y}} U(y) f(y) dy$
2. $I = \frac{y_{EDE}}{\mu}$

It can be said that if I decreases in equation (2), the distribution will be more equal. When I equals 0, there is perfect equality. When I equals 1, there is a case of complete inequality. If I equals 0.3, it is interpreted as follows: “If income were evenly distributed, 70% of current national income would be needed to maintain the same level of social welfare” (Atkinson, 1970: 250). Atkinson pointed out the following equation by stating that traditional measurements remain constant according to proportional changes:

$$I = 1 - \left[\sum_i \left(\frac{y_i}{\mu} \right)^{1-\epsilon} f(y_i) \right]^{\frac{1}{1-\epsilon}}$$

A criteria which is sensitive to transfers of different income levels is specified here as ϵ . When ϵ rises, more transfer weight is added to the subgroups in the distribution and less to the upper groups. In an extreme case such as ϵ goes to infinity, only transfers to the lowest income groups are taken into account. In the other extreme case, where ϵ equals

0, a linear utility function is obtained that ranks distributions according to total income only (Atkinson, 1970: 256).

2.5.11 Bozdağ Population Efficiency Coefficient (Bozdağ Coefficient)

Generally, per capita disposable income and per capita income criteria are used to compare the level of development between countries. Using only this criterion in cross-country comparisons generates some problems (Tüylüoğlu & Rekin, 2009). This measure gives an idea of neither the quality of life nor the income distribution of the countries. The per capita income criteria does not reveal how much the people living in that country can benefit from this income. That is, it does not demonstrate how the incomes in that country are distributed among individuals. Personal income distribution indicates the distribution of national income among individuals and households. The important element in personal income distribution is the amount of income generated. When measuring the per capita income levels of countries, it is important to what extent this income is reflected or spread to individuals in the society. Therefore, the fact that most of the individuals in the society have an income above the per capita income indicates that the income distribution in the country is decent and healthy. Thus, the percentage of individuals with income above the per capita disposable income in a country indicates the quality of the income distribution in that country. The ratio of individuals with an income above the average disposable income per capita in a country to the total population is called the “Bozdağ Population Efficiency Coefficient” (Bozdağ & Bozdağ, 2013).

2.5.12 Pareto Efficiency (Pareto Optimality)

Pareto efficiency indicates the state of complete equilibrium in the distribution of resources. In the Pareto optimality, the optimum distribution of welfare occurs only when it is not possible to improve the situation of one person in the society without worsening the situation of the other (Çetin, 2010). More clearly, maximum prosperity is achieved when resources are most effectively and homogeneously distributed in the society. For the realization of the Pareto optimality, efficiency must be ensured in both production and consumption. Pareto efficiency has three components: efficiency in production, efficiency in consumption, simultaneous activity in production and consumption.

The distribution of production factors to the various products and services, and the distribution of products and services among individuals in the society are examined in the Pareto activity (Biber, 2008). The Pareto coefficient performs an analysis on individual income distribution, regardless of the income source and the social class in which the household is. The Pareto coefficient is based on the assumption that there is a specific relationship between a certain level of income and the number of people who earn that income or more. This criteria approximately indicates that as the income level increases, the probability of people to move up to the upper income group increases (Öztürk & Göktolga, 2010).

Optimum well-being is considered to be achieved when some individuals are able to improve the condition of any of them without any deterioration. In determining this optimum, Pareto tried to express the fairest method of distribution of wealth. In fact, as he admits, the national income distribution among families in each country looks like a pyramid. At the top of this pyramid, there is a few families with the highest income levels of that society, through the bottom of the pyramid, there are low-income levels as expanding groups. In societies where the income distribution is relatively unequal, the top of the pyramid is very sharp and the bottom is very flat. In general, Pareto saw that the distribution of income in various countries and at different periods gives the same results in terms of equality and considered this as a natural law. According to the income distribution law, which is naturally described, the income distribution will not be equal since the abilities are not equal.

3. GLOBALIZATION AND INCOME INEQUALITY

3.1. Globalization and Inequality

According to Birdsall (2006), globalization has three main reasons that increase inequality; First, only those countries that have the most wealth and resources take advantage of the process. The second reason is that negative externalities such as air pollution, global terrorism and violence created by the international economy and globalization process bring additional costs to developing countries. The third reason is that countries with high economic power benefit more from the rules of global institutions that are effective in guiding the globalization process and are in their favor (Birdsall, 2006: 1). On the other hand, it is useful to add that due to these reasons given regarding inequality, not only developing countries but also all countries are affected such negative externalities and these problems create additional costs throughout the world. In addition, considering the Gini index data, the argument that developed countries benefit most from the process loses its validity.

Another view that globalization increases inequality is the change in the mode of production. Baş (2009) stated that the transition from the capitalist mass production style of production to the flexible mode of production deepens the inequality (Baş, 2009: 49). However, it is observed that mass production uses resources inefficiently, and flexible production enables efficient use of resources in line with needs.

Lucas (2000), one of the neo-classical economists, states that the income inequality experienced in the 20th century will decrease in the 21st century. Lucas attributes this decline to the globalization process. With globalization, the increase in access to technology, and the flow of capital from rich countries to poor countries as international free movement of capital, will enable the convergence process among countries to emerge (Lucas, 2000: 14).

Milanovic's (2018) study revealed that there was a significant decrease in inequality and an increase in convergence. In his study, Milanovic displayed the change in income inequality among countries over the years, with weighted and unweighted Gini Index by World Bank data. In his study, when the populations of countries are considered without weight, the Gini index rises, and inequality increases. However, when each country is weighted according to its own population, Gini index rates have been decreasing since 1980 and therefore, inequality has been decreasing since then (Milanovic, 2018: 179)

There are also economists stating that the effects of globalization on countries are not the same for every country type. The effects of globalization have differences in developed and developing countries. The advocates of this aspect, especially Stiglitz and Krugman, expressed that globalization has a positive effect on economic growth, but the fragilities and deficiencies in economic and institutional structures in developing countries cause this positive effect to disappear (Artan et al., 2015: 126).

3.2. Neo-Liberal Approaches to Income Inequality Due to Globalization

In the distribution of income, along with many concepts that occurred by globalization, there are differences of arguments regarding the positive and negative effects of developments. Globalization concerns almost all countries in one process. There are differences in the speed, scope, and effects of countries participating in this process. While some societies benefit from the advantages of globalization, others are negatively affected by this situation. Whether globalization increases income inequality, widening the gap between the lower and upper strata, and what impact it has on poverty is a matter of debate. The formation of these discussions also reveals different aspects (Kolukısa & Sađbař, 2020).

The phenomenon of neoliberalism has emerged as a term belonging to the economy. Over time, it was associated with the expression "globalization." The origin of the word is liberalism, and when combined with the idiom "neo", it brought a different perspective to liberalism with a new idea. Global events since 1990 have created an advanced level of financialization. Considering that financialization has led people to the dollar as a currency after the 2000s, it is possible to say that it has entered a stage that cannot keep

up. Accordingly, the effect of neoliberal policies plays an important role in the global crisis of 2008 (Kazgan, 2016).

It is stated by neoliberal economists that countries whose income distribution is distorted with globalization have become fair distribution compared to the situation they were in twenty years ago. Meanwhile, they point out that poverty has decreased. They state that the rapid spread of economic integrations and the increase in specialization according to comparative advantages among countries enable more efficient use of the resource allocation in the world. Also, neoliberal economists point out that international trade between countries will have a stable effect on income distribution. In addition, emphasizing the importance of international freedom and agreements to be made, they argued that with the effect of terms of trade, different technologies will be created and income levels will increase (Baş, 2009).

It has been argued by Lucas, one of the neo-classical economists, that income inequality will decrease in the 21st century. He states that as a result of free movement that has occurred with globalization, the income will move from rich countries to poor countries by obtaining technology in poor countries. As a result, the process of catching up with each other will accelerate and real income will increase. On the other hand, according to Heckscher Ohlin's theorem, factor prices will equalize in an open economy and different factor incomes such as wages will converge. In the Kuznets Hypothesis, which Kuznets gave his name, he expressed with the reverse U hypothesis that the income distribution inequality of developing countries will increase with the development. This injustice will be replaced by the improvement in income distribution in time. However, this argument was not well accepted by the economists around him. This opponent group of neo-liberal economists put forward the view that only poverty will decrease in general (Baş, 2009).

There are some advocates who think that globalization will increase income inequality. They express their arguments with a critical view that globalization is a phenomenon that develops nation-states. These states benefit from globalization to advance their positions and deepen their interests. Those who have a pessimistic attitude about globalization constitute an argument in contrast to neoliberals. Poverty and exploitation, which arise due to globalizing neoliberal policies and continue to increase,

comprise an important part of the problems that need to be resolved (Çelikel Danişoğlu, 2004).

A different perspective was brought to neoliberalism by Özgür. The rapid spread of neoliberalism, the deepening of income inequality, the increase in unemployment, the proliferation of authoritarian regimes and the creation of an environment of war and turmoil through interventions in countries have become an important problem especially for the Middle East, Central Asia, the Caucasus geography and North Africans. This situation made the communities of that region compulsory to migrate (Özgür, 2018).

It is also stated by Milanovic that globalization increases inequality in countries with low-income levels. However, he has observed that this inequality is decreasing in countries with high-income levels. Consequently, Milanovic cannot conclude a decision about globalization's effects on global income distribution improvement. His theories prove how rich and powerful countries use globalization for their own purposes. The effects of globalization have led to financial crises. Since these crises are tried to be eliminated by cutting education and health expenditures, the gap between countries is widened in the world where there is already inequality, and the whole burden has been put on the shoulders of the poor (Milanovic, 2005).

In the face of the enrichments that have emerged in some income classes since 1980, the issue of income distribution has become even more striking for the working classes. While the world is getting richer as time passes, there is still not much effort to make a correction in favor of workers and individuals in the subgroup who are going through difficult times. It is clear with the data obtained that neoliberalism, in other words, globalization creates a competitive environment with the innovations it brings, and this competitive environment has eroded workers' income. The deterioration in worker wages is gradually increasing with the widespread advancement of technology (Kazgan, 2016).

Considering this situation in terms of Turkey, it is seen that practices parallel to neoliberal policies are carried out under the program named January 24 decisions. Since the basis of neoliberal policies is lack of supervision, first of all, it was tried to create an uncontrolled price and it was wanted to prevent the state-owned enterprise (SOE) raises. When these requests proposed by the IMF within the program are considered by Turkey, it was understood that it is more than expected. It was aimed to bring neoliberal policies

to the forefront with the programs named "structural reforms" or "structural adjustment" that would come forward later. With the rise in prices and the occurrence of negativities against labor, these policies have been tried to be imposed on the public with different campaigns that there is no alternative. The imposition policies of the IMF on the underdeveloped countries that improved in the early 1970s, when the congestions were experienced, were parallel to the structural adjustment policies implemented by the World Bank. It is considered that the same parallels exist in Turkey in the 1980s (Boratav, 2018).

As a result, neoliberalism has not benefited countries substantially. In fact, neoliberalism does not go beyond the unlimited and uncontrolled use of financial companies in the USA. One of the reasons for the crisis in 2008 is the corruption in some financial companies in the USA. The USA has used the method of government interventions for recovery in the financial sector to suppress the 2008 crisis, even though it is a free-market advocate. Britain, on the other hand, managed to stand in the crisis environment by directing its focus from the financial sector to the manufacturing industry as in the past (Kazgan, 2016).

In brief, apart from the neoliberal process, it is observed that the neoliberal view evaluates the provision of justice in income distribution. However, there is basically no correction of income inequality among the targets in the process from the emergence of neoliberal thought to the implementation of policies. It is stated that neoliberal policies will correct income inequality over time in the global process (Görenel, 2005).

3.3. Causes of Income Distribution Inequality

Globalization has been a common problem for developed and developing countries. This situation negatively affects income distributions in lower and upper groups even in developed countries. It was as if the "invisible hand" was distributing income to the upper groups by shovel. On the one hand, productivity was increasing, but workers' incomes were somehow kept constant. Despite the introduction of different practices to reduce unemployment, real wages were constantly falling or stagnating. Even if people can complain about wages in the countries that have benefited the most from globalization such as the USA, it is not difficult to predict what the situation in other developing countries is like. In addition, if income inequality is mentioned in China where

communism has been still defended, it is obvious how undeniable the problem is. China's Gini coefficient is higher than the USA's. If these issues have been detailed, it is possible to reach the impression that this situation is even more in developing countries (Uyanik, 2008).

It is thought that the cause of poverty in developed countries is due to social services provided to lower-income groups, rather than employment opportunities and economic structure. They defend that these social services are not encouraging people to work. The struggle to divert the reasons of inequality and poverty from power and economic relations by drawing the concepts to these lightweight reasons stands out as a malicious approach. The USA, the IMF, and the World Bank state that social sector expenditures should be reduced (Şenses, 2016).

One of the main determinants of income inequality is the change in ownership of the means of production over the years. Private ownership of the means of production creates a profit-oriented formation. For this reason, it is thought that the aim of meeting social needs is secondary (Kepenek, 2017). As of 1990, especially in the years when a new world order was established, the global steps taken in the Washington Consensus were implemented within the framework of the principles of the World Bank, WTO, and GATT. These steps negatively affected the income distribution between and within the countries, and did not create a beneficial momentum for the income distribution trend (Ertuna, 2006).

The level of public services and the type of distribution of society affect income distribution. In terms of preventing income inequality, methods and economic policies applied in public revenues have a significant place. These policies play a determining role in income distribution. Ensuring that people in need benefit from public services will be an important step towards securing social justice. While trying to benefit from public services, interference of foreign companies with the important needs of countries such as electricity, water, and health services is extremely dangerous for impoverished societies. In a publicly owned enterprise, low-income individuals should always receive services at affordable prices for their basic needs, and the owners of these public services should be locals, not foreigners (Göker, 2016).

The productivity of economies generally decreases due to the increase in informal activities in the economies of countries. In addition, no contribution is made to public revenues since these activities are not taxed. Due to the unregistered activities of some companies among the production organizations, it causes other companies to pull out from the competitive environment. This causes the deterioration of income inequality (Aslanođlu & Yıldız, 2007).

Acceleration of price increases is one of the reasons for the evolution of income differences in the economic development process. Accordingly, the fact that the increases in wages and revenues are not at the same rate is shown as an important economic reason that creates income differences (Kepenek, 2017).

Labor mobility occurs differently from other causes of income inequality. Individuals' desire to move from rural areas to urban areas or to move to different countries with employment and education opportunities due to the inadequacy of their income and the desire to live in prosperity significantly affect the mobility and migration in the labor force. People's will to move from their region to different settlements is seen as a result of inequality in income distribution (Çelik, 2007). In addition, with regard to the workforce, the prevalence and depth of the use of union rights in the society plays an important role in income distribution. Especially in poor countries, the establishment of labor unions can provide protection for working people. As a result, by comparing the standards of workers in different countries, at least some of the inequalities can be suppressed (Rodrik, 2011).

It is observed that the wealthy people pay less tax compared to those who are in more difficult situations. These low tax payments cause wealth increases and widening the gap between rich and poor. Capital owners pay less tax in line with legal provisions by holding their capital under established corporate companies. However, state policies are strong enough to prevent impoverishment. The role of states in the implementation of inequality and tax policies is important (Çalışkan, 2010).

3.4. Effects of Globalization on Income Inequality

Globalization has spread with neoliberal policies all over the world, however, the rate and extent of spreading varies between countries. With the evaluations of those who strongly defend globalization and those who oppose globalization, the process has been driven to an impasse.

Foreign investors and multinational companies create the effects of globalization in the labor sector. Globalization has composed a capital mobility which is difficult to control over the markets. The same process occurred within the labor sector and created an elastic structure in worker demands. As a result of this mobility of multinational companies, they have the convenience of obtaining employment by seeking resources in the workforce. However, this situation reflected negatively on the workforce, reducing the bargaining chances of labor sector workers. This situation has created uncertainties especially for unskilled workers. Although it is thought that foreign currency inflows from outside will positively affect the global distribution, it has increased the income gap between skilled and unskilled employees. It did not have an increasing effect on the demand for unskilled workers, especially in developing countries and underdeveloped countries (Görenel, 2005).

Wage decreases in the labor sector do not only affect those operating in that sector. The produced good creates a certain surplus-value. However, this surplus-value is added to the national income of the rich country. Almost 20 times more than the wage paid to the worker and 7-10 times more than the country where the goods are produced are transferred to the rich country. In this case, the labor sector and developing countries will not be able to gain sufficient earnings. This is true for most of the cheap labor sectors (Chossudovsk, 1999). It should also be noted about the labor market that unregistered work is increasing at the same rate due to the decrease in worker wages. The decrease in labor sector standards has increased informal employment and reduced the benefit of social rights (Durusoy & Selçuk, 2018).

There have been changes in the roles and jurisdictions of states as a result of the neoliberal policies adopted with globalization. In this case, governments have become incapable of realizing their basic goals and duties. They transferred the management of

their capital, which they had grown by giving priority to industrial production in the past, to the management of the countries with economic power in the world. The privatization of state economic enterprises (SEEs) restricts the range of action of the government, and properties are easily transferred to foreigners in times of crisis. On the other hand, nation-states have strictly implemented the necessary practices to increase foreign capital and pave the way for financial flows for the faster progress of globalization. Therefore, the role of states has decreased and their authority to important intervention tools such as foreign trade, exchange rate policies, interest rates, and public management has been restricted. Implementations are made by proposals to the states under the name of liberalization policies in a planned and package form. In order to reduce income inequality, first of all, state intervention tools should not be blocked for governments. The negativities in income distribution can be slightly corrected by moving away from neoliberal policies and concentrating on regional policies (Şenses, 2016).

In the last thirty years, the world economy has developed significantly with globalization. After the developments, trade between societies has become easier, financial progress has reached incredible levels, technology has accelerated, and production and consumption have changed patterns in the sector. While the economy is changing rapidly in the global arena, financial crises have also become widespread. In a world where everything happens so easily, income distributions and living conditions between countries have undoubtedly changed. The world has gradually reached an unequal position in this process leading to capitalism with the effect of globalization (Bakırtaş, 2014). The impact of globalization on growth makes itself felt negatively especially in low and middle-income countries. It is possible to say that such similar countries are fragile and sensitive to global fluctuations. Countries have to seek to protect themselves from global effects by creating local and regional unity. Developed countries should produce alternative policies to minimize the effects of globalization (Karabıçak, 2002).

Finance and capital markets have been liberalized with globalization. Therefore, a growing economic network is emerging. Although this situation creates a positive impression, it causes crises in countries where the direction of economic flows cannot be determined and there are not sufficient control mechanisms. Crises are seen as the most

important cause of globalization for countries. It is not surprising that financial crises affect global inequality (Milanovic, 2005).

It can be stated that globalization is not limited to developing or underdeveloped countries. Even in rich countries such as Sweden and Norway, the income of the top 1 percent of the population has increased rapidly. Inequality is now palpable for all countries of the world. The increase in the income of the top 1 percent population, which is clearly visible in Africa countries and Argentina, and also manifests itself in India and Indonesia, is remarkable (Bakırtaş, 2014).

Quick and reasonable strategies should be determined by countries. This situation is important in reaching a competitive level by getting rid of the negative atmosphere created by globalization. New strategies should be developed from health services to social spending, from education to vocational training, from social security to labor rights. This will have a significant impact on societies, in minimizing the damage while providing the maximum benefit from globalization. Wider opportunities are needed in a world where people's living standards are falling gradually (Çelik, 1999).

3.5. The Effects of Globalization Variations on Income Inequality

The literature on trade, financial and technological globalization and their relationship to income inequality is a topic of debate among researchers. In general terms, some researchers conclude that globalization increases income inequality, while other researchers deduce that it reduces income inequality. For this reason, it is important from which way the concept of globalization is approached. In this part of the research, a literature study has been conducted on the effect of globalization variations on income inequality.

3.5.1. Income Inequality of Trade Globalization

Rudra (2004) studied the relationship between government social spending, trade openness, and income distribution among more developed and less developed countries. Panel data consisted of thirty-five less developed and eleven OECD economies from 1972 to 1996. Fixed effect and two-step least squares estimation methods were used. The results showed that trade only worsened inequality in less developed countries and

government social spending only reduced inequality in OECD countries, but spending on education also reduced inequality in less developed countries. The study concluded that the government social spending affairs and trade conditions for developed economies are much better than less developed economies.

Beckfield (2006) reviewed the relationship between national income inequality and regional integration. Unbalanced panel data were used for 12 European countries from 1973 to 1997. The study used generalized least squares, fixed and random effects methodologies. The results showed that economic integration was positively associated with the Gini coefficient in all three estimation techniques. The study concluded that the increase in regional economic integration between European countries increases income inequality.

Silva (2007) examined the impact of exports and locally oriented agricultural trade on income inequality across the developed southern region and the less developed northern regions of Mozambique. The study used cross-sectional data from 1996 to 2000 using ordinary least squares. The results of the study revealed that locally-oriented agricultural trade has an increasing effect on inequality in southern Mozambique. On the other hand, international product exports have the effect of reducing inequality in northern Mozambique. Thus, the study concluded that income inequality varies by region and type of trade.

Ali and İşse (2007) investigated the effect of foreign aid and trade openness on income distribution. The study used panel data for 150 countries from 1975 to 2000. The simultaneous equation system and the three-step least squares methodology have been implemented in the study. The results showed that there is a positive and significant relationship between international trade and GDP per worker, with government spending and foreign direct investment (FDI) negatively affecting income. They concluded that trade and foreign aid are solid determinants of GDP per capita, and that international trade is complementary to economic performance.

Tian et al. (2008) considered the impact of economic globalization as foreign direct investment (FDI) and international trade on income inequality in China. The study used annual data from 1979 to 2006 using the ADF unit root test and the Johansen-Juselius multivariate cointegration approach. The results showed that trade, FDI, and government

spending tend to improve the state of the income distribution. They concluded that the income inequality in China was not caused by trade liberalization, but by other factors.

Georgantopoulos and Tsamis (2011) studied the impact of globalization on income distribution in Hungary. The study used data from 1990 to 2009 using ordinary least squares. The results of the study revealed that income distribution improved by increasing trade and foreign capital penetration, and remittance had a positive effect. The study concluded that the findings follow the traditional view that opening countries to international trade tends to reduce income inequality and that the globalization process is beneficial for Hungary.

Demir et al. (2012) analyzed the relationship between trade structure, sectoral employment, and income inequality in developing economies. Unbalanced panel data from fifty-five developing countries from 1981 to 2005 were used for estimation using IV-GMM and a two-stage least square (2SLS). The results of the study showed that the trade structure and employment have significantly positive effects, suggesting that the increase in the share of manufacturing exports and industrial employment increased income inequality. The study determined that different trading structure significantly increases income inequality.

Hepenstrick and Tarasov (2015) examined how changes in trade openness contribute to income differences between countries. The study calibrated the year of 2003 model for 86 countries using the OLS and Poisson pseudo-maximum likelihood (PPML) for prediction. The study revealed that if countries are perfectly symmetrical, there will be no inequality due to trade openness. However, for the counterfactual world where countries differ in donations, population size and variable trade cost, income inequality due to trade will increase.

3.5.2. Income Inequality of Financial Globalization

Heshmati (2003) investigated the relationship between income inequality and globalization with the help of two indices for globalization. Panel data were used for 62 countries from 1995 to 2001 and the ordinary least squares technique is used for estimation. The results found that different components of globalization have different effects on inequality. Technology contributes to reducing income inequality, economic

liberalization increases inequality, political participation has no effect on income inequality. The study concluded that developed countries have a more even distribution of income than developing economies.

Milanovic (2005) examined the relationship between openness and income distribution for poor, middle-income, and rich economies. The study used cross-sectional data for 95 countries for 1988 and 113 countries for 1993, using simultaneous equations with decimals and IVGM for estimation. The results of the study found that trade increased inequality while financial depth decreased the inequality. FDI has no effect and democracy increased income inequality. Hence, the study concluded that the benefits of international trade are mostly achieved by the rich, and the share of income is less for the poor in more integrated economies.

Ogunyomi et al. (2013) studied the impact of economic globalization and growth in Nigeria on income inequality. They used annual time series data for the period 1986-2010. The study used the static linear econometric model and the structural equation model. The result showed that trade has a small effect on reducing income inequality, while financial globalization has a significant increasing effect on inequality. Thus, it was concluded that, due to the emphasis on financial globalization, it tends to increase income inequality and reduce economic growth in the Nigerian economy.

Lee (2014) analyzed the influence of international and financial integration on poverty and income inequality. The study used data from 1976 to 2004 for the income inequality model and from 1990 to 2004 for the poverty model. The study applied the ordinary least square as its methodology. The results of the study showed that there is a conditional relationship between international trade, income inequality, and poverty, with financial integration increasing poverty and income inequality overall.

3.5.3. Income Inequality of Technological Globalization

Jaumotte et al. (2008) examined the relationship between income inequality between trade, technology, and financial globalization. The study used data from 51 economies, 20 developed and 31 developing and emerging economies, and the time frame was taken from 1981 to 2003. In the study, the ordinary least square method with heteroskedasticity-consistent standard errors was used. The results found that increased trade tends to reduce

income inequality, while technological and financial globalization tends to exacerbate it. Thus, the study concluded that different forms of globalization have different effects on income inequality.

Gehring (2013) investigated the hypothesis that technological changes are an important factor in reducing income inequality. In the study, the dataset of developed and newly industrialized countries for the period 1995-2011 was used by using the generalized least squares estimation and the least-squares of the instrumental variable. The results show that financial integration is increasing while technology, trade, GDP per capita, investment, and government spending all contribute to reducing inequality. Hence, the study confirms the hypothesis that technological changes reduce the impact of inequality.

Liu and Lawell (2015) examined the impact of innovation as measured by technological changes on income inequality in China. Panel data for Chinese provinces between 1995 and 2011 were used for estimation using the instrumental variable least squares method. The results showed that there is an inverse U-shaped relationship between innovation and the ratio between urban and rural income. Both industrialization and urbanization contribute to increased income inequality. The study concluded that small amounts of innovation reduce income inequality and large amounts of innovation increase income inequality.

4. ECONOMETRIC RESEARCH ON THE EFFECT OF GLOBALIZATION ON INCOME INEQUALITY

4.1. Dataset and Methodology

The aim of this research is to examine the effect of globalization on income inequality. Within the scope of the research, data from 12 developing countries including Bangladesh, China, India, Indonesia, Pakistan, Philippines, South Korea, Malaysia, Singapore, Sri Lanka, Thailand and Turkey were evaluated. The dataset was taken annually from the World Development Indicators, covering the years 1980-2019.

In the research, three different models were examined. Analysis was carried out within the scope of simple regression model, panel data analysis (POLS) and Fixed Effect model. The data were analyzed with the STATA program.

With simple regression model, it is aimed to see the relationship between dependent and independent variables. While examining the relationship between the variables with simple regression, it remained unanswered in terms of observing the effect of the variables changing according to time. Panel data analysis was necessary because the data from 12 developing countries were numerous and changed over time. The interpretations of this study were made through the POLS analysis.

The reason for studying with fixed effect is to eliminate the possibility of biasing the data of dependent variables while reaching the real result. In these three analysis methods, the Gini Index (Git), that is, the income inequality index, is taken as an independent variable. The dependent variables are GDP per capita, GDP Per Capita squared, trade, financial and technological globalization data.

4.2. Results

In this part of the study, the findings obtained are evaluated. There are three different perspectives to analyze the effects of globalization on income inequality. These are the trade, financial and technological aspects.

4.2.1. The Impact of Trade Globalization on Income Inequality

The model for the impact of trade globalization on income inequality is as follows:

$$G_{it} = \alpha_0 + \alpha_1 \ln Y_{it} + \alpha_2 \ln Y_{it}^2 + \alpha_3 TO_{it} + \alpha_4 X_{it} + u_{it}$$

The variables related to the model are as follows:

- **X_{it}** : Control variables
 - **Education** – Primary education enrollment (% net)
 - **FDI** – Foreign direct investment (% of GDP)
 - **Urban Population** – The ratio of city dwellers to total population
- **lnY_{it}** : Ln GDPPC – Logarithmic value of GDP per capita
- **lnY_{it}²** : Ln GDPPC² – Square of logarithmic value of GDP per capita
- **Trade Globalization** : Trade Openness (EX-IM) (% of GDP)
- **u_{it}** : Error value

Table 1. The Impact of Trade Globalization on Income Inequality

	Simple regression	POLS	Fixed Effect
	b/se	b/se	b/se
Ln GDPPC	19.209*** (1.63)	10.918*** (1.21)	7.254 (5.19)
Ln GDPPC ²	-1.197*** (0.12)	-0.318*** (0.07)	-0.334 (0.32)
Education	0.016* (0.01)	-0.012 (0.01)	-0.018 (0.01)
FDI	0.766*** (0.11)	0.218*** (0.07)	0.195 (0.16)
Urban Population	0.014 (0.03)	-0.098*** (0.03)	-0.112 (0.10)
Trade Globalization	0.217*** (0.04)	0.011 (0.03)	0.015 (0.07)
_cons	-38.405*** (6.05)	-17.110*** (4.74)	8.139 (19.66)
R2	0.339	0.891	0.202
N	480	480	480

(***) %1 significance, (**) %5 significance, (*) %10 significance

According to the results of the analysis, the effect of trade globalization on income inequality has a positive effect. Rudra (2004) found in his study that foreign trade deficit increases income inequality. Ali and İşse (2007) showed in their study that there is a positive and significant relationship between international trade and GDP per worker, and that government expenditures and foreign direct investment negatively affect income. They concluded that trade and foreign aid are robust determinants of GDP per capita and that international trade appears to complement economic performance. Georgantopoulos and Tsamis (2011) found that income distribution improves by increasing trade and foreign capital penetration.

When the effect of education on income inequality is examined, it has been determined that it has a negative effect. This shows that income inequality decreases as educational attainment increases and more people receive education. A positive effect of foreign direct investment (FDI) on income inequality has been determined. As FDI increases, income inequality increases.

When the results of previous studies were examined, it was stated that trade was important in reducing income inequality, while it was determined in this study that foreign trade deficit increased income inequality. This situation shows that income inequality is

negatively affected, especially due to mismanagement of developing countries' economies, inefficient use of resources and dependence on imports.

4.2.2. The Impact of Financial Globalization on Income Inequality

The model for the impact of financial globalization on income inequality is as follows:

$$G_{it} = \beta_0 + \beta_1 \ln Y_{it} + \beta_2 \ln Y_{it}^2 + \beta_3 FG_{it} + \beta_4 X_{it} + u_{it}$$

The variables related to the model are as follows:

- **X_{it}** : Control variables
 - **Education** – Primary education enrollment (% net)
 - **FDI** – Foreign direct investment (% of GDP)
 - **Urban Population** – The ratio of city dwellers to total population
- **lnY_{it}** : Ln GDPPC – Logarithmic value of GDP per capita
- **lnY_{it}²** : Ln GDPPC² – Square of logarithmic value of GDP per capita
- **FG_{it}** : The ratio of foreign assets and foreign debt to GDP for financial globalization. (Portfolio assets, portfolio investments and non-gold reserves)
- **u_{it}** : Error value

Table 2. The Impact of Financial Globalization on Income Inequality

	Simple regression	POLS	Fixed Effect
	b/se	b/se	b/se
Ln GDPPC	21.643*** (2.05)	10.837*** (1.16)	7.402 (5.12)
Ln GDPPC ²	-1.348*** (0.14)	-0.316*** (0.07)	-0.348 (0.32)
Education	0.010 (0.01)	-0.012 (0.01)	-0.018 (0.01)
FDI	0.706*** (0.12)	0.219*** (0.06)	0.202 (0.16)
Urban Population	0.035 (0.03)	-0.097*** (0.03)	-0.106 (0.10)
Financial Globalization	0.321*** (0.07)	0.018 (0.05)	0.050 (0.06)
_cons	-49.236*** (7.41)	-16.920*** (4.69)	7.424 (19.55)
R2	0.327	0.891	0.204
N	480	480	480

(***) %1 significance, (**) %5 significance, (*) %10 significance

It has been determined that financial globalization has a positive effect on income inequality. That means financial globalization increases income inequality. This may be due to the lack of a healthy and efficient economic system in developing countries. The negative Ln GDPPC² supports Kuznets' U hypothesis. Milanovic (2005) discloses the relationship between openness and income distribution for poor, rich, and middle-income economies. The results of the study found that trade increases inequality, while financial depth decreases it. FDI had no effect and democracy increased income inequality. Therefore, the study concludes that the benefits of international trade are mostly enjoyed by the rich, and in more integrated economies, the share of income for the poor is less. Ogunyomi et al. (2013) found that trade has a negative effect on income inequality, while financial globalization has a significant positive effect.

4.2.3. The Impact of Technological Globalization on Income Inequality

The model for the impact of technological globalization on income inequality is as follows:

$$G_{it} = \gamma_0 + \gamma_1 Y_{it} + \gamma_2 Y_{it}^2 + \gamma_3 TG_{it} + \gamma_4 X_{it} + \mu_{it}$$

The variables related to the model are as follows:

- X_{it} : Control variables
 - **Education** – Primary education enrollment (% net)
 - **FDI** – Foreign direct investment (% of GDP)
 - **Urban Population** – The ratio of city dwellers to total population
- $\ln Y_{it}$: Ln GDPPC – Logarithmic value of GDP per capita
- $\ln Y_{it}^2$: Ln GDPPC² – Square of logarithmic value of GDP per capita
- TG_{it} : Fixed telephone line subscription rate per 100 people for technological globalization
- u_{it} : Error value

Table 3. The Impact of Technological Globalization on Income Inequality

	Simple regression	POLS	Fixed effect
	b/se	b/se	b/se
Ln GDPPC	17.336*** (1.94)	7.128*** (1.27)	6.299 (3.79)
Ln GDPPC2	-0.969*** (0.14)	-0.164* (0.08)	-0.315 (0.22)
Education	-0.008 (0.01)	-0.011 (0.01)	-0.012 (0.01)
FDI	0.800*** (0.10)	0.223*** (0.06)	0.224 (0.13)
Urban Population	0.130*** (0.03)	-0.139** (0.04)	-0.131 (0.15)
Technological Globalization	-0.228*** (0.03)	0.077* (0.03)	0.133* (0.06)
_cons	-40.556*** (7.18)	-0.543 (5.25)	13.315 (14.38)

(***) %1 significance, (**) %5 significance, (*) %10 significance

According to the panel data results, the positive effect of technological globalization on inequality has been determined. According to Jaumotte et al. (2008), increasing trade tends to reduce income inequality, while technological and financial globalization tends to increase it. Thus, the study concluded that different forms of globalization have different effects on income inequality. Gehringer (2013) examined the hypothesis that technological changes are an important factor in reducing income inequalities. The results show that financial integration, trade and technology is increasing while GDP per capita, investment and government spending contribute to reducing inequality. Therefore, the study confirms the inequality hypothesis that reduces the impact of technological change.

RESULTS

In this study, it was aimed to examine the effect of globalization on income inequality within the trade, financial and technological perspectives. Within the scope of the research, data from 12 developing countries including Bangladesh, China, India, Indonesia, Pakistan, Philippines, South Korea, Malaysia, Singapore, Sri Lanka, Thailand, and Turkey were evaluated.

According to the results of these three different globalization perspective analyzes, the effect of education on income inequality was found to be negative in developing countries. This shows that income inequality decreases as educational attainment increases and more people receive education. A positive effect of foreign direct investment (FDI) on income inequality has been determined. As FDI increases, income inequality increases.

Analysis of trade globalization displays there is a positive effect on income inequality. In addition, it has been found out that financial globalization has a positive effect on income inequality. Therefore, the study results show that trade and financial globalization increases income inequality. This may be due to the inability to establish a healthy and efficient economic system in developing countries. According to the panel data results, the positive effect of technological globalization on inequality has been determined. Generally, studies conclude the aspect of technology globalization reduces income inequality. However, the development of technology also brings financial and commercial mobility. Thus, a one-way increase or decrease should not be expected. Evaluating the concept of globalization unilaterally may not give accurate results because each aspect affects each other and their effects may increase or decrease depending on responding variables.

Despite the extreme inequality and injustice in income distribution in developing countries, the tax system does not provide a relative correction. On the contrary, it causes

inequalities to increase. The absence of a real wealth tax, low personal income tax, and corporate tax rates, the size of the informal economy and the prevalence of tax evasion, as well as the fact that a large part of tax revenues are made up of indirect taxes, further distort the inequality in income distribution. Therefore, the share of taxes on income and wealth in total tax revenues should be increased in order to save the tax system from this structure and make it more effective in terms of the income distribution. If these incomes are taxed fairly, it is certain that it will have a reducing effect on income inequality.

In addition, the market should be monitored and supervised effectively, and the free market mechanism should not be the sole regulator of the market. Because, when the experiences of industrialized countries are examined, it is observed that not everything had been left to the free market mechanism in the industrialization process. For this reason, the government should not completely withdraw its hand from the economy. In particular, the share of investments made in R&D studies in GNP should be increased in order to develop the technological capacity of the country.

Inequality in income is an inevitable consequence of the functioning of the market economy. However, there are debates about the degree of acceptability of inequality in income distribution. The government should be able to take protective measures, if necessary, in order for the domestic industry to develop and compete in the world markets. Especially, global financial capital movements should not be left uncontrolled. Another well-known fact is that the development of an economy depends on its integration within itself, rather than its integration with other economies in the world. In an integrated economy, there are intense input-output connections between sectors. For this, a high level of integration between rural, urban, consumer, and intermediate goods and a demand structure and wage policy that can absorb a significant part of domestic production should be followed.

Inequalities in income are often reflected in inequalities in political power. For this reason, just as it is important to produce goods and services to meet the needs of people in a country, how the production is shared in the society is equally important. Because in countries where income distribution is unhealthy, it is impossible to mention real democracy and social peace. It is known by everyone that a strong middle class in a

country is very important for the existence of democracy and, economic and social stability in that country.

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