ICADE BUSINESS SCHOOL

INEQUALITY: IS IT A RESULT OF GLOBALIZATION?

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Abstract

This paper reviews the trends for the period 1980-2015 of some of the main macroeconomic variables of the countries of greater interest of our sample and investigates the determinants influencing the variance of the Gini coefficients as representative of inequality measurement. The empirical results observed when comparing the results of the regression modelling obtained one clear conclusion can be drawn: the two determinants that are significant for all three country groups are Population and Globalization. Population has a positive effect in increasing inequality of income distribution for all of them, whereas globalization has only a positive effect in European countries and emerging countries, but with a big impact over the same, but in the United States in has a negative effect, reducing inequality levels of income distribution. The question regarding the decisions of the UK and the USA of adopting protectionist measures, and if it is a good idea is answer it terms of globalization and income distribution inequality finding that it would be a positive decision for the UK and a negative one for USA.

Key words: Globalization, Technological progress, Inequality, and International Trade.

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INTRODUCTION

"The idea of comparative advantage—with its implication that trade between two nations normally raises the real incomes of both—is, like evolution via natural selection, a concept that seems simple and compelling to those who understand it. Yet anyone who becomes involved in discussions of international trade beyond the narrow circle of academic economists quickly realizes that it must be, in some sense, a very difficult concept indeed."

Paul Krugman y Maurice Obstfeld[1]

Globalization is the process by which countries or nations open their barriers to exchange capital, goods and services, etc. The International Monetary Fund defines it as follows, *"Globalization refers to the increasing integration of economies around the world, particularly through the movement of goods, services, and capital across borders"*[2]. However, it is a very controversial issue, as it will be seen, and a very popular topic nowadays.

The present times raise a huge interest in the possible consequences of both the Brexit and the protectionist policies the United States of America is undertaking. Many economists give their opinion on this matter, and many agree that not only can there be consequences on the economy, but also on the general welfare of the population.

Over the years, economists have considered free trade as a vehicle to increase total income or welfare of countries as well as their productivity, essentially with a positive focus on exports, which create employment, and negative on imports, which destroy it. Moreover, the theory of endogenous growth tells us that in the case of talking about a small country, this country will not be able to live outside international trade, so we observe a dependence of the modern economy on this activity or a co-dependency between countries.

The problem is that globalization, due to the difficulty to find the correct balance of international trade, is not only a source of income, but also of inequality. This phenomenon is increasingly being studied as a matter of worrisome, as for instance by Professor Elhanan Helpman. Helpman is a professor at Harvard University and is a scholar specialized in economic growth and international trade. This economist argues that the growing inequality that we have been seeing these past years is not created by factors such as the loss of influence suffered by unions or the fall in real terms of minimum wages, but the two following factors: international trade and change or technological advance.

On the one hand, with respect to international trade, developed countries follow a similar trend with respect to their preferences: they import products that are low-skilled labour-intensive and export high-skilled labour-intensive products. This implies a rise in the demand for skilled workers by companies in industrialized countries, which has a positive effect on the salary of this group with respect to workers with a low qualification, which causes an increase of the wage gap between these two groups, or what is equal to a greater inequality.

Technological progress has also been argued to have the same effect as international trade. With a greater use and advance of technology, it is also necessary for workers to have knowledge of how to use this technology, as it is implemented in all sectors. Therefore, with the advance and implementation of technology, the demand for skilled workers, or technology savvy individuals, is also increasing, and thus the salary is also increased with respect to low-skilled workers and, once again, increasing the wage gap between these two groups.

The technological progress lived in the past decades is unique in the history of mankind. There have never been so many discoveries in such a short period of time in both technological and scientific fields. Capitalism and globalization are participants of the huge technological advance due to the creation of greater synergies as result of the global acquaintanceship of today´s economies.

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[1] Krugman, Paul R. And Maurice Obstfeld, *The Economics and Politics of International Trade: Freedom and Trade*, Volume II, page 22

[2] https://globalisms.wordpress.com/imfs-definition/ - International Monetary Fund

Elhanan Helpman gets to the conclusion in his papers that international trade effectively contributes in great amount to the increase of inequality, but it is the technological advance that has most weight in this wage difference.

The statements of this economist are corroborated by the report of the International Monetary Fund (IMF) "*World Economic Outlook*"[3] released this past April of 2017. This report asserts that globalization is necessary for international prosperity because, not only increases the productivity and growth of a country as mentioned above, but also facilitate the access to capital and technology, and this increases welfare and reduces poverty.

The report quantifies the effect of globalization and technology on which Helpman's work is based, with technology being the most explanatory variable of the decline in wages, accounting for 50% of this decline and globalization accounting for 25%, reaching the lowest registered wage level for half a century.

Globalization and technology are having the same effect on the income distribution mentioned by Helpman since, given the shift in activity from production to more capital-focused activities, demand for skilled workers rises with respect to unskilled workers, and this is increasing global inequality. The concern of the IMF is that the impact of these advances in technology and globalization is greater on the wages of the second group mentioned, and not so much on the first, asking countries to strive to take measures for the distribution of income in a more equitable way, in order to reduce these social effects derived from technology and globalization.

After the opening of the Chinese economy in the 1980´s, China has not yet encountered a mechanism to ensure a reduction of its inequality levels. The economic theory asserts the fact that poverty and inequality are inefficient in a market economy. However, the high levels of economic growth experienced by China in the last decade resulted in a greater income distribution and hence, declining poverty. Although, according to Dwayne Benjamin, the reforms have drastically increased China´s inequality. He assures that the rapid economic growth has led to a significant reduction of poverty in rural areas whereas it has only virtually eliminated poverty in urban areas, and all this should be contrasted with the increase of economic inequalities.

The United States of America is nowadays known as the most inegalitarian developed country on Earth. Thomas Piketty, Emanuel Saez and Gabriel Zucman, outstanding global inequality experts have developed studies were it is observable that the past four decades have showed the fastest redistribution effect of income towards the rich people of the entire history. These authors also talk about the abrupt change of trend there was between periods, being the first the period from 1946 to 1980 and the second from 1980 to the present. One of the reasons the authors give for the widening of this income gap is the stock market and the benefits got from capital. The upper class has benefited from speculative bubbles, transferring with these actions colossal amounts of money. Historians often remember that before the emergence of monopolies and financial capital, the American economy was the most socially egalitarian of the Western world, but since the latter part of the nineteenth century the United States has transformed into a country of "*capitalist thieves*".

In India, the problem of inequality may be due to several reasons. There is a religious issue that divides the society between castes or classes that determines from its future labor until the person with whom they can marry. But analysts say that globalization is a factor that helps to intensify this inequality. India is becoming a power in open digital economy. This requires a higher educational level of society, but given the great inequality of society and its distribution by caste that is not an option for a large part of the population. Therefore, globalization could effectively contribute to the increase in inequality in India.

Until 1980 the United Kingdom had remained as a country with really low wealth inequality, but due to the second globalization wave the distribution of wealth in this country changed dramatically. This is shown very clearly in the latest report of Alvaredo, Atkinson and Morelli were they clarify the following: *"The UK went from being more unequal in terms of wealth than the US to being less unequal. However, the decline in UK wealth concentration came to an end around 1980, and since then there is evidence of an increase in top shares, notably in the distribution of wealth*

[3] http://www.imf.org/en/Publications/WEO/Issues/2017/04/04/world-economic-outlook-april-2017

excluding housing in recent years".[4] Nowadays, the UK is one of the developed countries with a greatest wealth gap. The 1% richest part of UK´s population is 20 times wealthier than the 20% part of the population with least resources, according to this report. Moreover, the five richest families are wealthier than 12 million British citizens.

In its last report Oxfam classifies Spain as the second country of the European Union with the greatest inequality growth since the burst of the Great Recession. This country has been experiencing an economic recovery shown by the growth of its GDP since 2014, but this growth has not been reflected in the incomes of the population with the lowest level of rent. As the OCDE and INE data show, in 2015 the poorest segment of the population lost 33.4% of their wealth, whilst the three richest people of the country saw their wealth increase by 3%. The wealth of these three people quantifies as the same as the 30% of the poorest population of the country. It is observable the importance of the wealth gap of this country.

To carry out this end of master project, previous theories and analysis of reliable sources on this matter, as well as using databases of international organizations as a data recollection resource will be used as motivation, being the main references in this aspect the International Monetary Fund, the World Bank and the OECD data webpages amongst others.

OBJECTIVES

The objective of this end of master Project is to effectively quantify the variables which have increased inequality during the years, to see if the United Kingdom and the United States of America are following the correct path into a level of international trade which reduces the inequality in their countries, or if this situation will only worsen the allocation of income, causing more poverty and inequalities.

The is an aim to address if in fact globalization has been a significant variable in order to increase inequality, or if other variables are more significant to see if effectively the United Kingdom and the United States of America are taking the right decision when opting for protectionist policies or measures. The UK and the USA are the highlighted countries because of their recent decisions towards protectionism, to observe the possible effects. This matter is important as there could be a contagion effect within countries as for example the case of France with Marie Le Pain, or the tense situation with the European Union, as people every day are more and more worried about the future of their economies due to the current situation.

This paper will start by talking about previous investigations documenting about this issue. The book *"Capital in the Twenty-First Century"* by Thomas Piketty will be useful in order to get a first image about some of the countries we will be investigating. In this section it will be shown the evolution of inequality documented by this author and the evolution of the 1% richest population of the US, the comparison between US´s and European Union´s wealth and taking also a look at the information recollected about emerging countries.

In the second section of this paper some theoretical information and definition of relevant variables will be provided in order to fully understand the variables that will be studied and presented along this paper. Followed by doing a brief overview of the current information about this issue, doing a comparison of some relevant variables for the countries to analyse. It will be a contrast between developed and emerging countries, which could be relevant in order to determine the importance of factors as globalization or technological advance due to their different stages of development and commercial opening. An analysis of countries or union of countries will be carried out, in economic and political aspects which are developed, as for example countries of Europe as Spain and the United Kingdom or the United States of America, comparing it to countries as China and India, which are developing at a really fast pace in the last years, and could be very illustrative for this study.

After the methodology that will be used will be explained, and the variables of the econometric model that will be used in order to explain the main variable: inequality, as well as trying to do a forecast about the future of some countries. The econometric methodology to be used will be a time series analysis, which will be

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[4] Alvaredo, Facundo, Atkinson, Anthony B. and Morelli, Salvatore, *Top Wealth Shares in the UK over more than a Century,* WID.world working paper series nº 2017/2

helpful for doing a descriptive analysis in the first instance, helping us to understand the data in more depth. Some examples of graph analysis and visually detecting seasonality and trend will be provided, as well as explaining the main problems the model can have and the way of taking out these factors.

Once the study has been carried out, a descriptive analysis of the data, as well as an explanation of the variables used, how they were obtained or created in some cases will be exposed. The estimation of the regression will give a series of values for the betas of each of the variables that are believed to be a determinant of the distribution of the income inequality that will be used as comparison between countries.

Finally there would be exposed the conclusions of the investigation.

RELATED INVESTIGATIONS

The inequality debate and its possible causes is a very in the mainstream topic. There are plenty of scholars investigating the reasons or factors that are causing the increase of inequality worldwide. Between them, we can mention Thomas Piketty, a French economist and author of the book *"Capital in the Twenty-First Century"*, which talks about income and wealth inequality looking at historical data and evolution in the last century.

Generally, when it comes to quantifying the variables and the impact they have on inequality increase, the most used variable to represent inequality is the Gini Coefficient. The report "Empirical Analysis on the Determinants of Income Inequality in Korea" is an example of a report using this variable. This paper published in the International Journal of Advanced Science and Technology and written by Hae-Young Lee, Jongsung Kim and Beom Cheol Cin, will be a motivation for the variables selection of this study, as its aim it to determine the variables affecting the income inequality in Korea. In this study the same will be done for the selected country sample.

Capital in the Twenty-First Century

Although this book talks in great part of the situation of France, it also talks about other countries that result interesting for our study, as for example the US or China amongst others. He and his colleagues make use of simple variables and easy to understand chart illustrations. *"Piketty and his colleagues have deployed their charts to reshape the entire inequality debate"*- The New Yorker.

In the following graph Piketty analyses the income inequality in the US since 1910. It is observable a U shape that we will see in the analysis of inequality of other countries which is representative of a situation of high inequality, followed by an intense decrease of inequality during a prolonged period of time and the successive increase of inequality. It could be due to the stock market crash of 1929 very well known as the "Black Thursday". The crash of the stock market decreases the wealth of the population with higher living standards, that as it is also seen in this book, usually have great part of their returns in financial products, and therefore it decreases the inequality.

Graph 1.1: Income Inequality in the United States
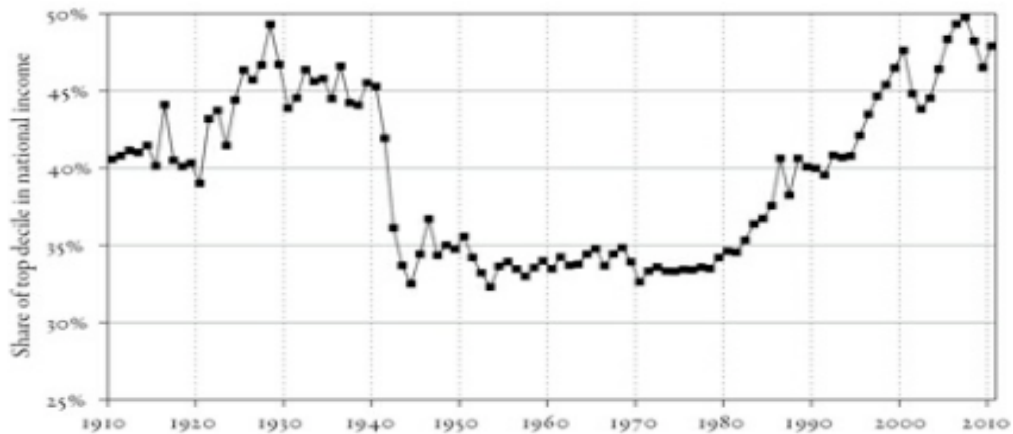
The fact that many rich people tend to invest their money in financial instruments and this could be the reason for the inequality levels from the past due to the Black Thursday could be verified in the following graph. In this graph he analyses the income and wealth of various groups. In the past years it is very common the analysis of the income or wealth of the median or middle class population, but there were not many investigations about the so called "top one per cent" and this author does consider this population "elite". This is observed in the following chart.

Graph 1.2: Decomposition of US´s top income decile

In this graph the U shape mentioned above for the top 1%, 5% and 10% annual incomes is once again observable. Comparing this graph to the previous one it can see that this group's trend follows the total inequality in the US, which could mean it is the principal cause of it. The other two categories in this graph follow a much more stable evolution in an upward trend since 1940. For all three groups it is seen that in the Great Recession their income falls, or slows down at least, but soon they recover. It is the top 1% which represents the greatest part of inequality, being observable that it has a great increase of their income going from a 10% share of national income in 1980 to doubling it to a 20%in 2010.

In the following chart the author introduces data from Europe, and compares it to the US levels. As he clarifies in the text, although Europe had had during great part of the history greater levels of inequality, this changes decades ago for the US to become the country with the highest inequality levels.

Graph 1.3: Wealth inequality in Europe vs. US

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[5] Thomas Piketty, *Capital in the Twenty-First Century,* page 32

[6] Thomas Piketty, *Capital in the Twenty-First Century,* page 297
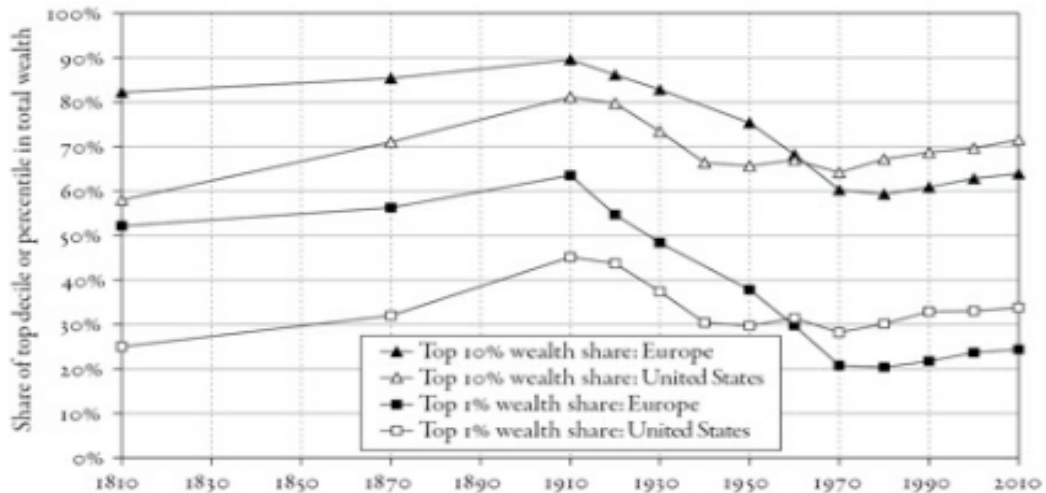
This graph does not talk about income, but about wealth. It is a comparison between the historical levels of wealth inequality of the top 10% and top 1% of United stated and Europe. During the period being observed it is appreciated that Europe has a wealth distribution more unequal than the US. It is in 1960 when this trend changes, and reverts, becoming the US more wealthy unequal than Europe, and this levels have maintained ever since.

Forbes Magazine releases every year a list of the top 10 wealthiest people in the world. In 2010 three of these where from the United States: Bill Gates with 53,000 million dollars, Warren Buffet with 47,000 million dollars and Lawrence Ellison with 28,000 million dollars, which is a total of 128,000 million dollars being owned by only three individuals in the US. There were also three men in this list from Europe, Amancio Ortega, Bernard Arnault and Karl Albrecht, owning between the three of them 76,000 million dollars which, although being immensely high, 52,000 million dollars less that what is owned by the US individuals mentioned before. With this an assertion is not being done about if this people are the main factor of the wealth inequality distribution of course but they do affect upwards when doing a mean, as the mean takes into account these incomes.

Not only he does a comparison with Europe but Piketty also realizes a comparison with emerging countries as we observe in the following chart and which results of great interest for this study:

Graph 1.4: Income Inequality in emerging countries

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[7] Thomas Piketty, *Capital in the Twenty-First Century,* page 355

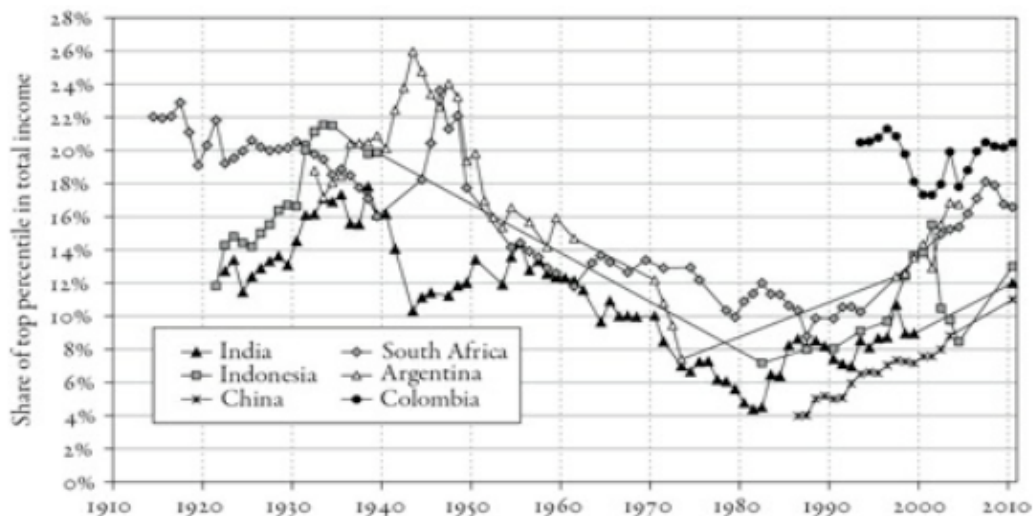[8] Thomas Piketty, *Capital in the Twenty-First Century,* page 333

The famous U shape is once again observed for emerging or developing countries. Looking at the top percentage of inequality reached by this countries, and comparing them to United States levels we can conclude that the US still has much higher inequality levels than emerging countries overall. Although, it is observable than countries as Colombia, Argentina or South Africa is highly income inequitative. It is interesting to observe China´s inequality levels. Although China has been growing exponentially, the inequality has also increased immensely.

Finally there is a graph that illustrates Piketty´s investigation conclusions. The graph illustrates the rate of return of capital after taxes and capital losses comparing it to the worldwide output growth. The rate of return of capital was higher than the growth rate for great part of history, but after World War II until nowadays this exceptionally changed, being the output growth higher than the rate of return of capital, but Piketty believes there are signs showing this is coming to an end, and it will if the tax rate of return on capital continues to be 30%. In the following graph it is also observable the author´s estimates about the future situation.

Graph 1.5: Rate of return of capital versus growth rate of world output
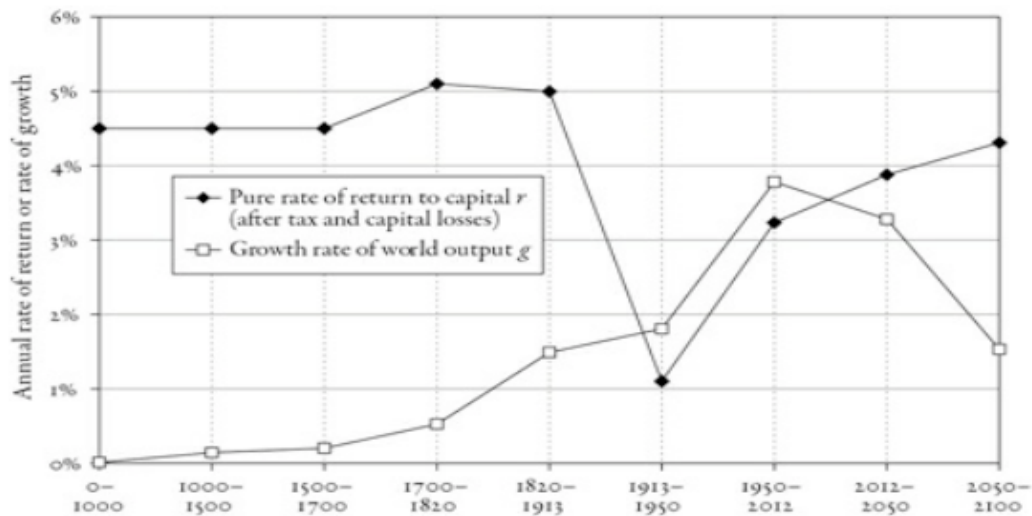
Source: piketty.pse.ens.fr/capital21c[9]

Piketty concludes that there is a "central contradiction" with the theory of capitalism. Growth rate has normally been below the rate of return, which is translated into a steady rising inequality, but *the consequences for the long-term dynamics of the wealth distribution are potentially terrifying"*[10]. When r > g it is a sign that the wealth created in the past grows at a higher pace than the world output and wages, creating a great inequality in society. His solution to this issue is to apply a progressive tax on capital returns, *"This will make it possible to avoid an endless inegalitarian spiral while preserving competition and incentives for new instances of primitive accumulation… This would contain the unlimited growth of global inequality of wealth, which is currently increasing at a rate that cannot be sustained in the long run"*[11]

The difficulty to this thought, as Piketty says, is the necessity of international cooperation also with respect to policy application to achieve an efficacious regulation on capitalism. With the nowadays situation were instead of integrating countries it seems there is an increasing tendency to disharmonize the possibility suggested by this author of integrating policies seems fairly improbable.

Empirical Analysis on the Determinants of Income Inequality in Korea

This paper observes the trends of income inequality in Korea in the time period 1980-2012. Furthermore, this paper tries to find the determinants influencing this income distribution inequality, and will be a motivation source in order to choose the variables in the actual study. The variables used in the Korean Empirical analysis are the following:

Description	Definition
Nominal GDP per capita (in Won)	Ln (GDP/population)

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[9] Thomas Piketty, *Capital in the Twenty-First Century,* page 362
[10] Thomas Piketty, *Capital in the Twenty-First Century,* page 577
[11] Thomas Piketty, *Capital in the Twenty-First Century,* page 578

Yearly consumer price growth rate	%Variation CPI
Share of elderly population	Population over 65/working-age population
Share of middle school students	Middle school students/school-aged population
Growth rate of agricultural product	% Variation in agricultural production
Unemployment rate	Unemployed/working-age population
Female employment rate	Female employment/working-age population
Share of self employed	Self-employed/employed
Foreign direct investment	Ln (FDI)
Trade openness	(Exports + Imports)/GNI
Share of import	Imports/GNI
Share of investment	Investment/GDP
Share of government spending	Government spending/GNI

Source: own creation taken from the report[12]

What the study reveals is that Korea´s inequality increases from 2003 to 2009, when it reaches a peak, and then it starts to decrease in 2010, maintaining a constant level since 2011. The decile ratio for households for both market income and disposable income increased until 2011, being a relevant factor in the increase of the Gini Index. On the other hand, the variable of government spending as a share of GNI was found not to be relevant in the increase of inequality in Korea. The investment share in GDP shows a negative correlation with the income distribution, in other words, as the investment share of GDP increases, the distribution inequality decreases. Another variable that presents a negative estimate over inequality is the level of education or share of middle school students in school-age population

As a factor found to increase income inequality it was revealed to be the share for the elderly in working population. Korea´s population has been having aging problems, just like Spain, and it was found to be one of the variables that most influences the increase of income distribution inequality. Finally, the share of trade volume, or what could also be called globalization, showed a positive, significant estimate, meaning that as the trade volume over GNI increases, income inequality increases.

A remarkable sentence in this paper is "*As Stockhammer (2010) argues, three major building blocks of neo-liberalism – globalization, financialization and rising inequality – are closely intertwined to create the imbalances that caused the most recent global economic crisis.*" At the end of this paper it will be confirmed if this sentence applies to the research that will be carried out in this study.

THEORETICAL FRAME

The previous studies served as motivation to try and quantify the several shocks or factors affecting the level of inequality of the society, that also have to be considered in this study to see what is the real weight globalization is having over the increase of social divergence.

Gross Domestic Product (GDP)

Gross Domestic Product, GDP from now on, is the value given to the final goods and services produced in a country during a determined period of time. It is the most used indicator to measure the economic dimensions of the countries. It is composed by the following variables;

- **Consumption (C):** the goods and services purchased by consumers. It is the largest component of GDP.

- **Investment (I):** the sum of non-residential investment, which is the purchase of new plants or machines by companies, and residential investment, which is the purchase of new housing by individuals.

- **Public Spending (G):** goods and services purchased by the State in all its instances.

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[12] Lee, Kim and Cin (2013), *Empirical Analysis on the Determinants of Income Inequality in Korea*, page 101

- **Exports (X):** purchases of domestic goods and services by foreigners.

- **Imports (I):** purchases of foreign goods and services by consumers, businesses and the State.

To this GDP variables mentioned, there are others that are interconnected, and affect in great measure to the last ones:

- **Inflation**: it is a continuous rise of the general price level of the economy.

- **Inflation rate**: rate at which this price level rises.

- **Unemployment rate:** coefficient between the number of the people unemployed and the active population. High unemployment rate indicates that the economy may not be using some of its resources efficiently; therefore the economy does not work correctly.

    o **Active population** = employed + unemployed

    o **Unemployed:** is the number of people without work but who are looking for one. It is important to make this specification because there are people that have stopped looking and they must not be included in this group.

These last variables will also be studied in this paper for the countries of our interest.

To start off the GDP for China, the United Stated, the European Union, United Kingdom, Spain, the OECD members, India and the World data have been graphed for the period 1960 to 2014, and measured in current US dollars. With this graph it can be seen in absolute terms the comparison between developed and emerging countries.

Graph 2. 1: Gross domestic Product (GDP) current US dollars
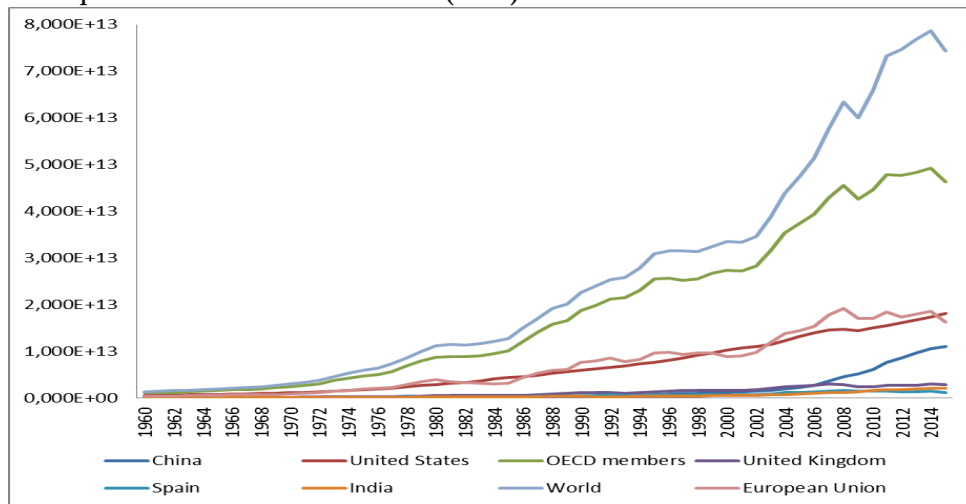
Source: Own creation with data from Worldbank[13]

It is said that there have been two globalization waves, the first around 1960 and a second one around 1980. In the graph it is appreciable that from 1960 United States and Europe grew exponentially being part of the first globalization wave. United States grew in a more stable way, whereas Europe has more peaks and lows but having always the United States as a reference line where it seems to always come back.

On the other hand, China and India do not follow the same trend as the last mentioned. China maintains a really low and stable GDP until 1980 when it takes advantage of the second globalization wave and starts to grow slowly and in 2000 when it starts growing exponentially. China offers preferential fiscal advantages

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[13] http://data.worldbank.org/indicator/NY.GDP.MKTP.CD

to foreign investors, which has made China the greatest enterprise receptor in a worldwide level, which is one of the reasons that explain the GDP growth experienced by this country in the last decades.

India also took advantage of the second globalization wave, but has not grown with the same intensity as China, although it has seen its GDP grow considerably. In 2000 its GDP grows at a further pace, following China´s trend, although in a lower magnitude.

United Kingdom and Spain also see a substantial growth in their GDP since 1980. The UK grew at a faster pace than China did, until 2006, that China´s GDP surpasses the UK´s, possibly due to the financial crisis. Since then UK´s GDP fell until 2010 when it starts to recover, growing at a slow pace. The same happens to the Spanish GDP. Since 1990 it grows, not as much as the countries mentioned above, but above India´s level, until 2008, that the financial crisis strokes the country and India grows above Spain in 2009.

Although the GDP of China and India has increased immensely, especially China´s, what it represents from the worldwide gross domestic product is still far away from the United States and the European Union, although it seems China is going to catch up in the next decade. In 1960 China represented only a 4% of the worldwide GDP and India a 3% compared to a 27% that represented Europe and a 40%, which represented the United States. But contrarian to China´s tendency, Europe´s and United State´s GDP has a downward trend, falling in 2015 to represent a 22% and a 24% of the worldwide GDP respectively, falling the weight of the United States nearly by half of what it represented 55 years ago. China on the other hand, now represents a 15% of the worldwide gross domestic product, which is a huge increase. The growth seen in these emerging countries is not reflected in the same magnitude on the wealth of the population. This will be shown in the following section.

Gross Domestic Product per capita (GDPpc)

The Gross Domestic Product per capita (GDPpc) is the division of the GDP by the total population of a country. United States' per capita GDP follows the same tendency as its GDP, and it´s increase along time is exponential, and the same could be said for the European Union, but China´s per capita GDP compared to its GDP evolution is remarkably low. The growth of the economy has not been observed in the gross domestic product per capita of the Chinese population. In the following chart what can be observed is how the same comparison, with the same countries, leads to the conclusion that although there is an excessive growth of the Chinese economy especially since 2000, this growth cannot be observed in the wealth of the people of this same country. The comparison shows that citizens of the United States or the European Union possess more than the citizens of what is predicted to become the first world power by 2020.

Moreover, countries like Spain and the United Kingdom, with lower GDP and growth levels for the last years have their per capita GDP twice or more bigger than China´s. European countries in general have seen their GDP decreasing since the burst of the financial crisis in 2007, whereas United States and China have grown exponentially, although China´s per capita GDP continues to be far away from the rest of the countries analysed.

Graph 2.2: Per capita Gross Domestic Product
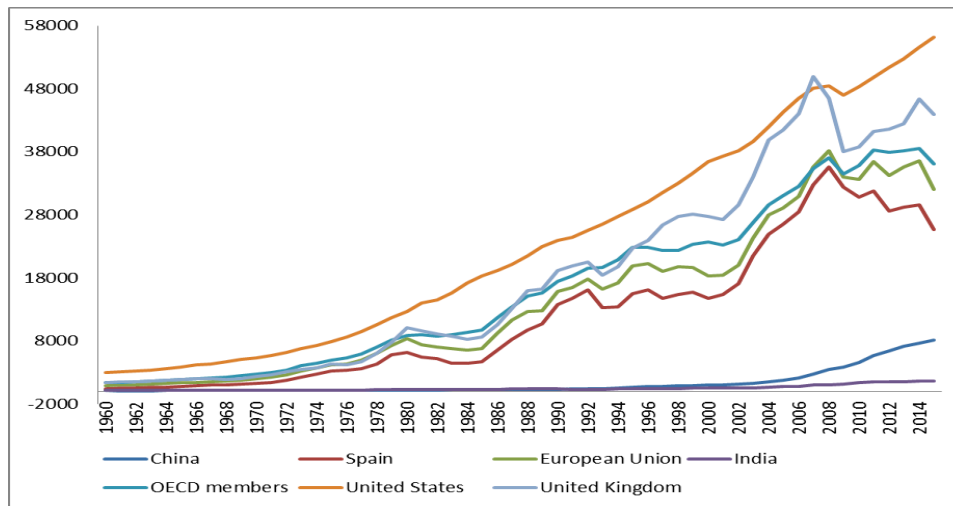
Source: Own creation with data from Worldbank[14]

China is a socialist market economy, the only country nowadays that still works this way. A socialist market economy is a political and economic system that works by combining socialist policies with the principles followed in a market economy. This means, amongst other things, that the state controls salaries, prices, etc. This system was implemented in 1970 by Deng Xiaoping with the principal objective of opening the country to the foreign economic market and by this taking advantage of what globalization supposed.

In a socialist market economy it is supposed that social welfare is more important to the country than other issues, but one of the economic characteristics of China, which has been promoting its economic growth, is the maintenance of cheap, skilled and disciplined labour, which is also very attractive to foreign investors, but this only increases the growth of the country but not so much its citizens wealth, which seems contradictory with the principles of a socialist market economy. Instead of using the economic resources generated to increase the wealth of its citizens, it is being used to further integrate globalization, which looks more like a capitalist market, instead of a socialist market.

The following graph shows the per capita gross domestic product as a percentage of the worldwide per capita gross domestic product mean. In this graph there is only a comparison between the two biggest developed countries and the two developing or emerging countries selected in our sample as a contrast. It is clear that for China being really close to the levels of the United States and the European Union, it is nowhere near in terms of per capita gross domestic product.

Graph 2.3: Per capita Gross Domestic Product as a percentage of worldwide mean

Source: Own creation with data from Worldbank

[14] http://data.worldbank.org/indicator/NY.GDP.PCAP.CD
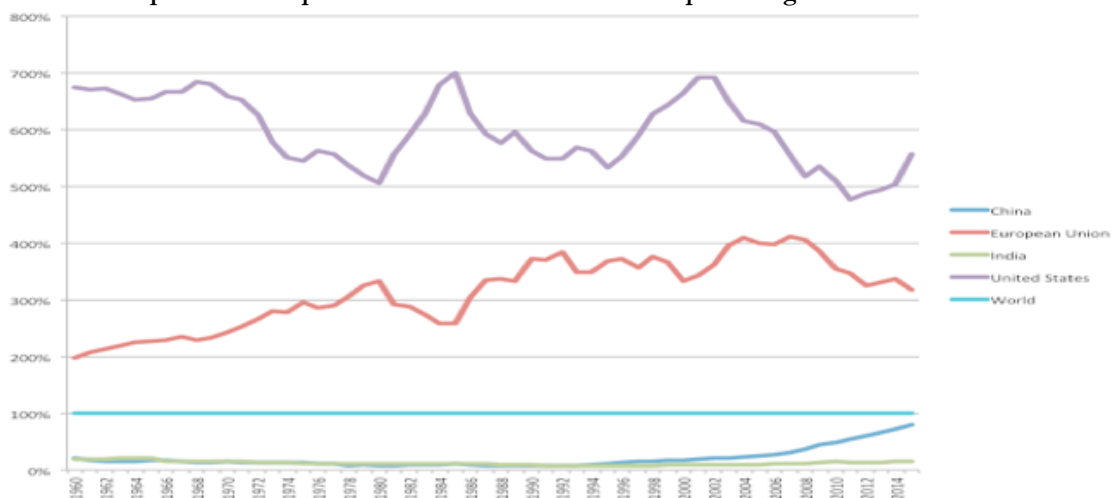
One of the reasons for this disparity between countries could be the population, so it will be checked if this might be the reason in the following section.

Evolution of population

In the previous section there was an issue to clarify: if the low per capita gross domestic product of China was due to the strategy followed by the country with wage levels or if it was due to the difference in population. To check this the elaboration the following graph, which shows the annual percentage growth of the population.

Graph 2.4: Population growth (annual %)
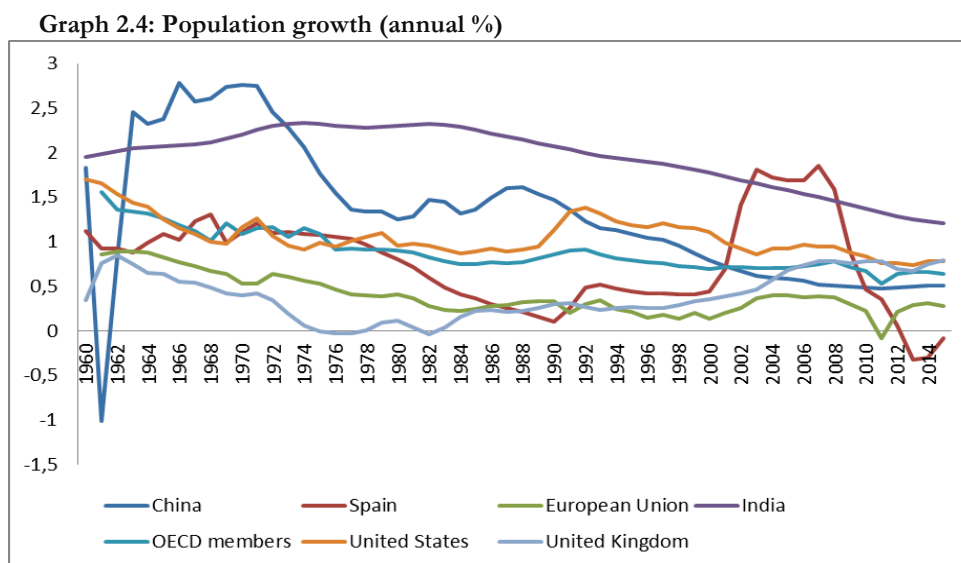
What it´s observed in the graph is that, although China´s population grew very quickly until 1971, then its growth rate decreases rather quickly, and today its population growth is under the rest of the country's population growth analysed in this paper, with the exception of the European Union and Spain. So the lack of dispersion of wealth to the Chinese citizens must be due to de policy established of low wages to maintain a greater incentive for foreign investors and to favour companies with lower costs.

India on the contrary, has the highest population growth of all four countries, although it has a downward trend, it is understood that its increase of gross domestic product is not being reflected in the per capita gross domestic product because of the increase of population. Spain is the country within our selected countries of study, with the least population growth, and this is also why it could reflect higher per capita gross domestic product.

Exports and Imports

Exports and imports are considered a measure of openness of the country or globalization. Several facts have already been mentioned before in this paper, and they will again be observable in the following graphs. The graphs are elaborated with data from the World Bank and show the exports of goods and services measured as a percentage of the GDP.

Graph 2.5: Imports of goods and services (% of GDP)

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[15] http://data.worldbank.org/indicator/SP.POP.TOTL
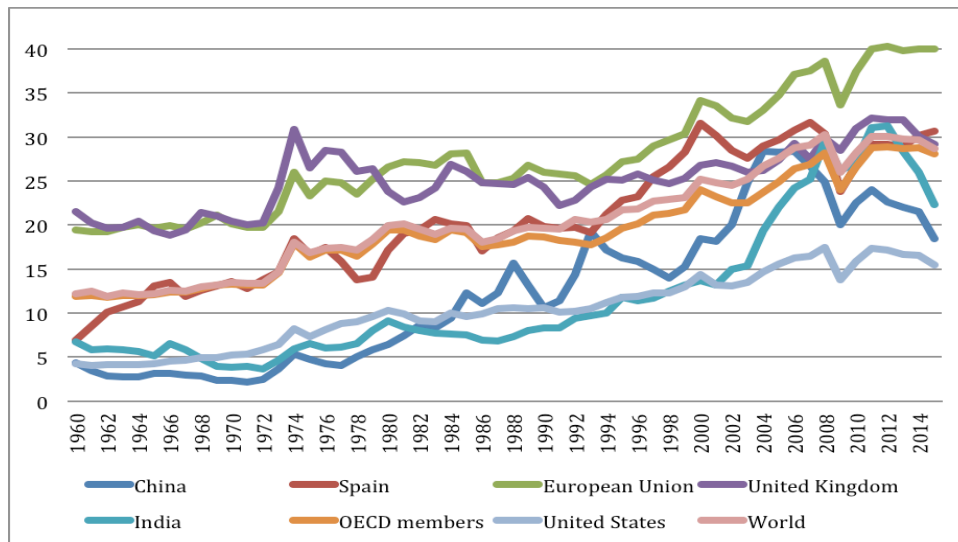
Source: Own creation with data from Worldbank

When looking at the imports it is seen that the United States has maintained a low, constant and stable increase of its imports as a percentage of its GDP, being the country with the lowest percentage of imports with respect to its production of our sample of countries. There is a generalised trend though, that can be observed from the late 90´s to 2006 approximately, were it is observed a great increase for the majority of the representation of imports on the GDP.

Countries as for example Spain, and the UK are the countries that have a greater participation of imports on their GDP. Generally it is seen that countries of the European Union have higher levels of imports. Spanish imports have increased greatly it importance within its GDP since 1960, increasing by nearly five times, whilst the UK has always had an important part of its GDP destined to imports, possibly due to its geographical isolation.

On the other hand, although China and India have increased their commercial openness, and this is seen also in imports, especially in the first years of the 2000´s, both countries have seen a reduction of their imports in the last ten years.

Something similar happens to the exports of these countries seen in graph 2.6 seen as following. The countries of the European Union continue to be the ones that more export in mean as percentage of their GDP. Spanish exports have also raised importance by five times as percentage of its GDP. Since the 2000´s India´s and China´s exports grow six times approximately since 1960, which has been an extraordinary phenomenon. China has decreased by almost 13 porcentual points, not being so affected Indi´s exports decreasing only by 5%.

Graph 2.6: Exports of goods and services (% of GDP)

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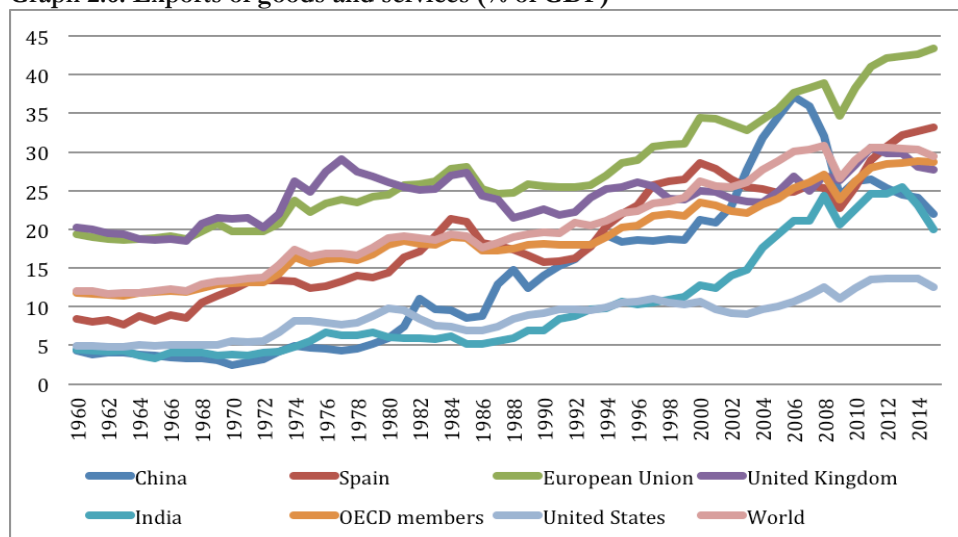
The reduction of exports can be due to the financial crisis that has affected our sample study countries. Another reason could be the increase of generalised GDP of these countries, representing these exports less quantity of the same. Many literates have considered exports and imports as a cause of the increase of inequality, this will be seen when the model is carried out.

Gini Index

The Gini Index is the most used resource for measuring inequality levels of countries accross the globe. It is a measurement of the income distribution and in some cases also of the wealth distribution among population that is performed throughout statistical methods. It generally refers to the inequality in income, as measuring wealth is very difficult.   This index is ranged from 0 to 1, 0 being perfect distribution or equiality, and 1 being the contrary, perfect inequality. Although the possibility of overpassing this range above 1 is possible, because it takes into account the negative income or wealth. But the only case in which the gini index would have a zero value would be if each and every person resident of a country earned exactly the same.

The following graph shows the Gini Index of China, UK, India, US and Spain. The problem with this index is that there is not enough data, and there is no calculation of this index for the European Union as a whole or at a worldwide level, and for some countries for example China and India which the WorldBank only has data of this index for two and one years respectively. Even the countries which have been years calculating this index as for example the US have not registered data in an annual basis, but only with several years of difference.

Graph 2.7: Gini Index (annual %)

Source: Own creation with data from Worldbank[16]

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[16] http://data.worldbank.org/indicator/SI.POV.GINI
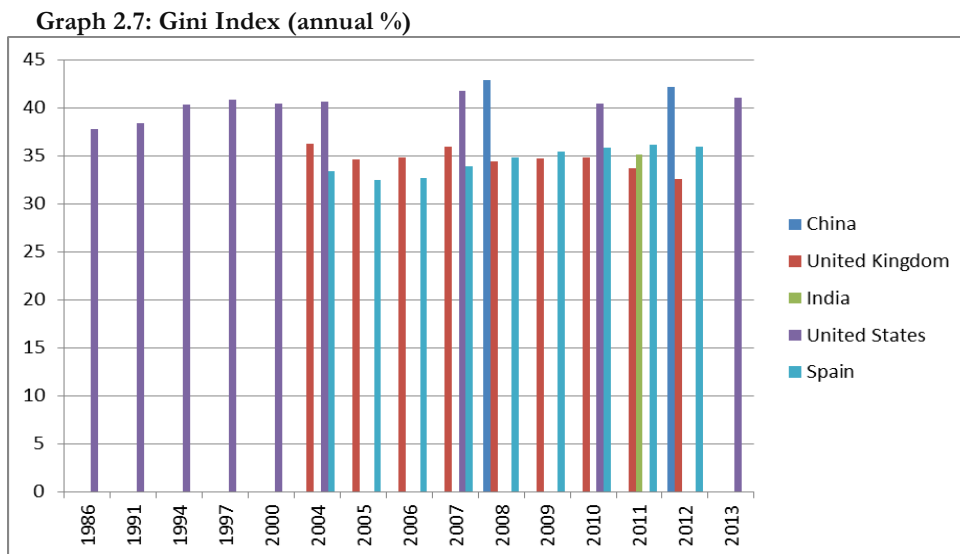
The range of the graph is in percentages from 0% to 100%. As it is observable from the graph, US´s inequality increases from 1986 to 1997 by 3 porcentual points, and since then is has oscillated around a mean of 40%, being its highest value of 41,75% in 2007, and the latest data being 41,06% in 2013. The US is the most inegalitarian country with the exception of China, confirming the assertion of some economists mentioned at the beginning of this paper that it is the developed country with highest income inequality.

The United Kingdom on the contrary has seen a reduction of income inequality since 2004. Its gini index has reduced 3,65% in 8 years, which is approximately the same to US´s increase of inequality. The UK is the only developed country of our sample that has experienced this reduction. Spain for example, being also an European country, has seen an increase of 2,51% of its inequality index for the period 2004 to 2012. The mean gini index for both countries though is similar, around 34,5%, as the UK started with high levels of inequality and Spain with lower levels, and then have experienced contrary trends.

For China we only have available two data: 42,83% in 2008 and 42,16% in 2012. There has been a reduction of inequality in four years, but it should be considered that data could not be as reliable. Finally, India´s gini index is of 35,15% in 2011, but has the same issue of reliability of data as China.

The explanation of these levels could be due to the unemployment levels of each country. This data will be observed in the following section.

Unemployment

As it has been already mentioned before, an important variable to consider in the influence of the increase of inequality is the unemployment rate of a country. Obviously, if a country has higher levels of unemployment, there would be a higher proportion of the population of the country living in worst conditions, and this could be a reason of inequality increase.

In the following graph there are illustrated a recollection of data from 1991 to 2016 of the total unemployment measured as a percentage of the total labour force. The first, and most astonishing evidence got from the graph are the level of unemployment of Spain. Not other country of our sample, not even the European Union mean or the OCDE members reach such levels, for the exception of the period 2004 to 2006 were the European Union has barely the same unemployment as Spain, but still below. In the Spanish trend it can be observed an M form, having its highest peaks in 1994, and 2013. From 1991 to 1994, there is a steep increase, due to the crisis suffered in this country. Since 1994, the unemployment rate starts to decrease rapidly, also incentivised by the creation of the real estate bubble that created a lot of employment. In 2007, the financial crisis bursts, and unemployment grows higher than in 1994. From 20013 to 2016, following with the country´s economic recovery, unemployment has reduced also, by 5%.

Graph 2.8: Unemployment, total (% of total labor force)
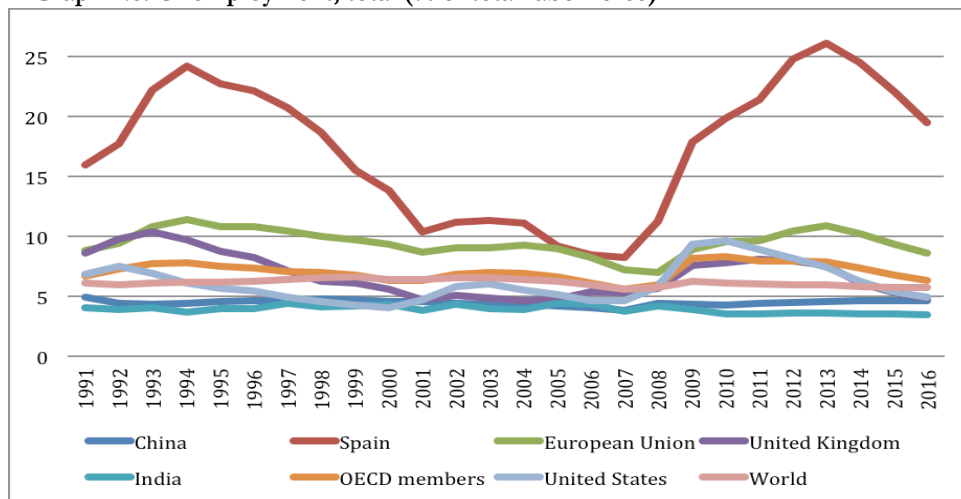
Source: Own creation with data from Worldbank

The rest of the samples of countries selected in this paper have lower, and similar unemployment rates. China and India for example, are the two countries that show a lower unemployment as a percentage of their labor force. Since 1980, when they focus on increasing the commercial openness of the country there is a reduction of unemployment especially for India.

Another country with really low unemployment rates is the United States. This country is considered the most inegalitarian developed country, but it is definitely not due to its unemployment levels. It is observed that it increases in 2007, with the collapse of Lehman Brothers, but it reaches a maximum of 10% unemployment in 2010 and has seen a big increase of its employment since then, reaching a 4%. The United Kingdom follows the same trend as the US, although it never reached such high levels of unemployment during the crisis, the today have the same proportion of unemployment out of their total labor force.

From the study of unemployment it is clear that for some countries unemployment can be an important factor when increasing the inequality levels, as for example Spain, that its employment lack of flexibility in the market has as a consequence a greater impact in the unemployment rates in times of crisis. For others, such as China, India or the US it is obvious that unemployment would not be a significant factor in the increase of inequality.

Inflation

The continuous rise of the general price level could affect the part of the population with less income captation. This could be a factor increasing the existing gap or inequality of incomes within countries, as people with lower incomes, when inflation in high, would not be able to afford many things. This effect is not so significant for individuals with really high incomes or wealth, so with this the income gap increases.

The evolution of inflation is showed in the following graph, for the period 1961 to 2015. What the graph makes clear is the volatility of this variable, by the high number of peaks and troughs observed in it. European Union countries show its highest peaks in 1970s, and since then decreasing until today at a really fast pace.

Graph 2.9: Inflation, GDP deflator (annual %)
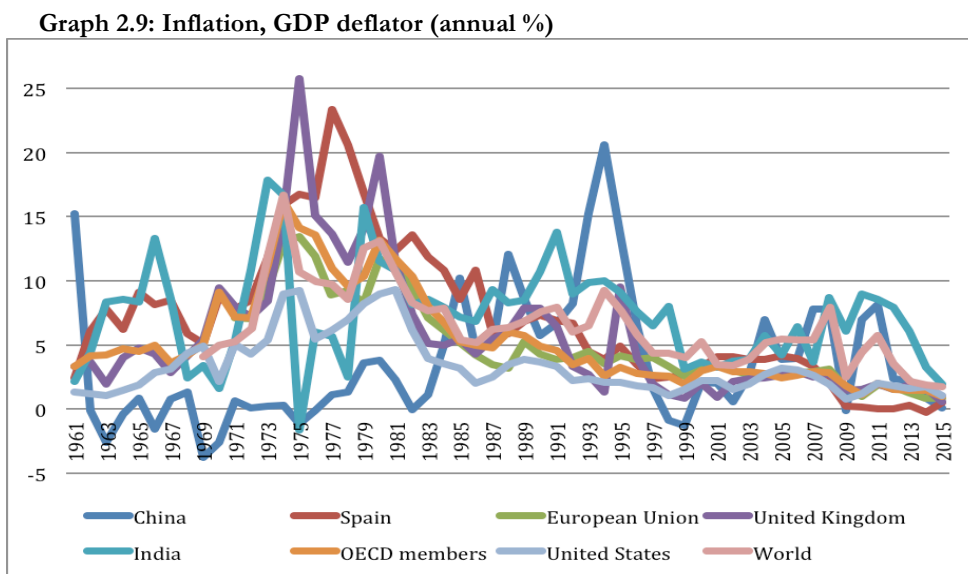
Source: Own creation with data from Worldbank

In the graph we can observe several peaks in inflation such as in 1975 and 1980 for United Kingdom, 1976 for Spain and 1994 for China. With the higher production due to an increase of exports, the production costs as for example

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the costs of workforce, machinery, transport, which is very related also to a possible increase or decrease of costs derived from oil prices, etc., can increase. If these costs increase it could translate into higher product costs., and therefore increase inflation. This could be one of the reasons that explain the evolution of inflation.

The explanation of the last decade's reduction and more or less stabilization of inflation are the monetary policies being adopted with the objective of having an inflation close but below the 2% which is said to be the optimal level of inflation. This is why in the graph it can be observed how the countries of our sample´s inflation converge to be around 2%.

METHODOLOGY

For the carry out of this study a time series analysis would be the correct method in order to see the weight or influence each variable has in order to explain the total inequality. A time series is when data is collected for a variable during time at equidistant spaced time points.

Time series have a fundamental characteristic: the observations are not independent the one from the other, and so when carrying out the analysis this will have to be taken into account, following the chronological temporal order of the observations of the sample data taken. This means that the statistical methods normally used for the independence of the observations are not valid for the analysis of time series, because the observations of a specific moment of time are dependent of values of the past series.

Depending on the observations any quantitative variable can be or discrete or continuous. Discrete variables are values within a given numeric group, but there are no intermediate values. Continuous variables on the other hand, can take any intermediate value between two observable values within an interval.

A temporal series can also be classified into deterministic or stochastic or random. If it is possible to predict exactly the values it is said to be deterministic. If by contrary you can only partially predict the future using past observations but not in an accurate way, using a probability distribution to conclude the future values or predictions but being conditioned to past values the time series is said to be random or stochastic.

Panel data will be used, as the data collected are several variables for a period of time and for different countries. This technique allows to realize a more dynamic analysis as it incorporates a temporal dimension of the data. It will allow identifying information as for example the individual effects and temporal effects.

Time Series

Objectives of time series analysis

The objectives of using a time series analysis will be two: Descriptive and Prediction.

1. Descriptive

When studying a time series, you begin by drawing it, or in other words, by doing a graph with the data to analyse. From this we can identify the following:
- If there is an existence of trend in the data.
- If the data has a stational factor. This is, when there is a trend in a specific month or months of the period selected.
- Identify existing outliers. These are abnormal values within our data, which can distort our results.

2. Prediction

The first objective of description is only an explanation of the past, but by using a time series analysis it is also possible to do a prediction or forecast of the future. This will be possible when all the possible distortions of the data mentioned above are amended.

Components of a time series

The descriptive study of time series is based on decomposing the variation of the series into several basic components. This method is not always the most accurate or appropriate, but it is useful when it comes to identifying a trend or periodicity in the series. This descriptive approach consists in identifying components that correspond to a long-term trend, a seasonal behaviour or a random component. The components to be identified are usually the following:

1. **Trend**: it is a long-term change that occurs in relation to an average level or, in other words, it is a long-term change in the mean.
2. **Seasonality Effect**: it occurs when the time series has a certain periodicity in a certain period repeatedly (annually, monthly, weekly, etc.). For example, in the stock market there is a saying "buy Monday, sell Friday", it is called the "Monday effect". It has been seen for a long period of time that the market has a tendency to fall every Monday. The contrary is seen in the prices of stocks on Friday, with the accumulation of rises in price of the week, it is said to be the best moment to sell, or buy short, to anticipate to "Monday effect". If the seasonality in data is recognised and understood easily, and are measurable, they can be eliminated from the series.
3. **Randomness**: Once we have done the two previous steps of component identification, some random values remain. It is important not to remove trend and seasonality before this step. What it is intended is to identify the kind of random behaviour these residues present, using some kind of probabilistic model that describes them, as for example AR, MA, ARIMA, etc.

Of the three components mentioned above, the first two are deterministic components, while the latter is a random component. Thus, it can be denoted that

$$X_t = T_t + E_t + I_t$$

Where:
- T_t is the trend,
- E_t is the seasonal component, which constitutes the deterministic part,
- I_t is the noise or random part.

The randomness component is crucial when it comes to clarify the behaviour of a series in the long-term. It is necessary to identify and isolate the random component and to study which probabilistic model is the most appropriate. Once we know this probabilistic model we will be able to know the behaviour of the series in the long term. This will be a reason for using Statistical Inference.

The ways to isolate this random component are normally the following:

1. Through a descriptive approach: T_t and E_t are estimated and we obtain I_t as:

$$I_t = X_t - T_t - E_t$$

2. Through the "Box-Jenkins" approach: By using transformations or filters it is possible to eliminate the trend and seasonality from X_t, leaving only the probabilistic part. This probabilistic part is then fitted with parametric models.

Descriptive analysis of time series

The first descriptive tool that will used is the time chart. The construction of a time chart is very useful when it comes to analyzing a time series because it enables us to observe its behavior. There are different types of time series, and each of them will be treated differently.

Classification of time series

Time series can be classified into:

1. **Stationary**: A series is stationary when it is stable, in other words, when the mean and the variance of data are constant over time. This would be observed in a graph when the values of a series oscillate around a constant mean and variance, with respect to that mean also remains constant over time. Basically, it is a stable series over time, without any systematic variation of its values. However, it is also possible to apply the same methods to non-stationary series if they are previously transformed into stationary ones.

2. **Non-Stationary**: As contrary to stationary time series, non-stationary time series mean and variance change over time. These variations in the average determine long term trend increases or decreases, so the series does not oscillate around a constant value.

Trend estimation

In order to estimate the trend an assumption will be made: that it is a non-stationary series without a seasonal component, that is, that the series can be decomposed into

$$X_t = T_t + I_t$$

For the sake of the estimation of T_t it must be assumed some hypothesis about its form. Several cases will be analysed:

a) Deterministic trend

For this case the assumption it will by taken is that the trend follows a deterministic function. The simplest version of this function is a straight line, that is:

$$T_t = a + bt$$

a and b being two constants to be determined. These constants will be estimated throughout a linear regression model and the variables X_t and the time t = 1, 2, 3, . . . , n. In this way, if the parameters â and b are estimated, then the irregular component would be:

$$I_t = X_t - â - t$$

Graph 3.1: Series and linear tendency
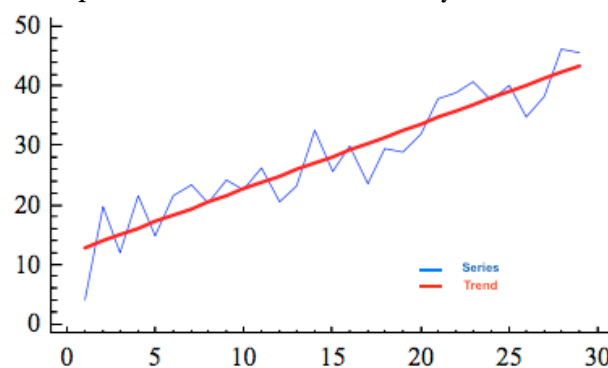
Source: Halweb UC3M[17]

After estimating throughout a linear regression what it is obtained is a stationary series. It is not always possible to adjust the trend of the series by a straight line. If this is the case, the trend should be adjusted by a

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[17] http://portal.uc3m.es/portal/page/portal/dpto_estadistica

polynomial or a curve that adjusts better, having to adjust a nonlinear regression. Another option would be to describe the trend in an evolutionary way or to differentiate the series.

b) Evolutionary trend (moving averages)

An evolutionary trend is a trend that is assumed to be a function that evolves slowly over time and that can be approximated in very short intervals (for example 2 or 5 data). This can be done by a simple function of time, for example a line as we saw for deterministic trends, but now its coefficients change smoothly over time. We assume that the representation of the trend by a line is valid for three consecutive periods of time, t - 1, t, t + 1, and we represent the trends in the three consecutive periods as follows:

$$\begin{cases} T_{t-1} = T_t \text{ - growth} \\ T_t \\ T_{t+1} = T_t \text{ + growth} \end{cases}$$

We now make the average of these three periods of time so that would result as follows:

$$m_t = [(x_{t-1} + x_t + x_{t+1})]/3$$

$$m_t = T_t + [I_{t-1} + I_t + I_{t+1}] /3$$

As the irregular component has zero mean, the mean of these three values can be assumed to be unimportant against the trend. Mt would represent the trend at that moment of time. This operation is called the "triple moving average". When doing this method or operation we lose the most antique and most recent observations. If were to calculate the moving averages of order 5, we will lose the two most recent observations and the two oldest observations.

c) Differentiation of the series

The third and most generally used method for eliminating the trend is to make the assumption that the trend evolves slowly over time, so that at time t the trend should be close to the trend at time t-1. Hence, if we subtract from each value its previous value, the resulting series would be approximately free of trend. This method of eliminating the trend is called differentiation of the series, and it consists in moving from the original series x_t to the series y_t by:

$$y_t = x_t - x_{t-1}$$

In this way, the differentiated series proves to be stationary.

Possible estimation problems: seasonality of data

A seasonal component is a component os the series that is composed by oscillations that are prodcued in periods equal or less to one year and that they repeat themselves regularly throughout different years. If a year is considered as the period or repetition frame, fluctuations of the magnitude can be observed throughout its months, semester, trimester, cuatrimester, etc. The origin of this seasonal variations could be in factors as climatological seasons, cultural or tradition such as Christmas, vacacions, etc. For example, climatology affects the commercialization of icecreams, or summer clothing.

When it is intended in the economic phenomena to analyze its real evolution we must eliminate the seasonal component since its fluctuations can distort the information provided by the series. That is, if we are analyzing sales of ice cream, we can not compare the volume of sales of the second quarter with the volume of sales of the third, because this variable has a strong seasonal component. The fact of being in the third quarter implies a higher level of sales, without which it can be considered an important fact. In order to compare two different quarters, we must eliminate the stational effect. This process is called the deseasonalisation of the observed series.

Graph 3.2: Seasonal data sample
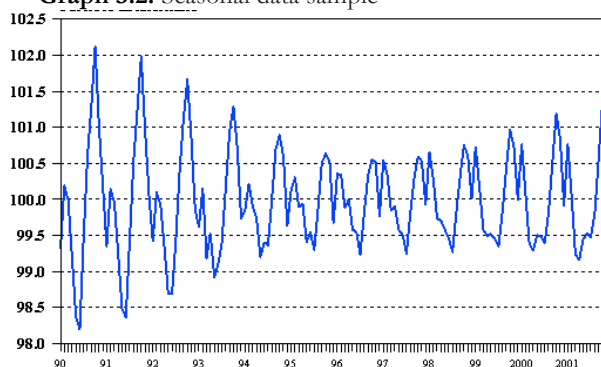
Source: Halweb UC3M[18]

A series is deseasonalized when the seasonal factor and its effect is eliminated. This is done by eliminated from the value of the month or year that presents the seasonality the coefficient. For example, in a monthly seasonal effect, there would be 12 coefficients. In order to estimate them, the mean od the observations for each month has to be calculated (M1….M12). The seasonal coefficient would be:

$$S_i = M_i - M \text{ for } 1 = 1, ..., 12.$$

Being M the total mean of the observations. The sum of all the seasonal coefficients must be zero. A deseasonalized series would look something as the following:

Graph 3.3: Destationalised series
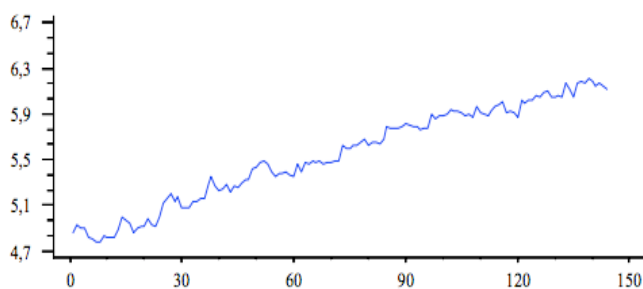
Source: Halweb UC3M[19]

In order to eliminate the trend, we have to apply the procedures mentioned in the previous section to the seasonally adjusted series. This could be done for example by means of differentiating the time series. This would result in a graph looking something as the following:

Graph 3.4: Differentiated and destationalised series
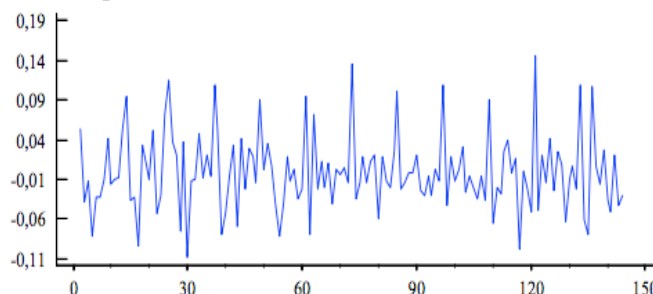
Source: Halweb UC3M[20]

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[18] http://portal.uc3m.es/portal/page/portal/dpto_estadistica

[19] http://portal.uc3m.es/portal/page/portal/dpto_estadistica

[20] http://portal.uc3m.es/portal/page/portal/dpto_estadistica

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However it is observable that this series returns to have seasonaity issues. The problem here is that, in the moment we have differentiated it, the a seasonal effect has appeared again in the series. So it is better explained we will analyze some observations of the series $x_1, x_2, \cdots, x_{13}, x_{14} \cdots$ To seasonally adjust the series, we performed the following transformation:

$$y_1 = x_1 - E_1$$
$$y_2 = x_2 - E_2$$
$$\cdots$$
$$y_{13} = x_{13} - E_1$$
$$y_{14} = x_{14} - E_2$$
$$\cdots$$

So now, when we differentiate the series the result would be:

$$z_2 = y_2 - y_1 = x_2 - x_1 - E_2 + E_1 = x_2 - x_1 - (E_2 - E_1)$$
$$\dots\dots\dots\dots\dots\dots\dots\dots\dots$$
$$z_{14} = y_{14} - y_{13} = x_{14} - x_{13} - E_2 + E_1 = x_{14} - x_{13} - (E_2 - E_1)$$

By this, a seasonal coefficient appears in the series: $(E_2 - E_1)$.

So it is possible to solve this problem, the trend of the seasonally adjusted series should be eliminated by the methods enumerated in the previous section. Another possible solution, which is the most appropriate, is to eliminate first the trend of the series and secondly to de-seasonalise the series.

To verify that the series has a seasonal component, it can be checked by means of a time series graph. The following graph is an example of a graph that shows the seasonal coefficients of the series. As it can be observed these are higher for the months of July and August, and are lower for the months of December and February, which indicates that there is seasonality.

Graph 3.5: Stational coefficients
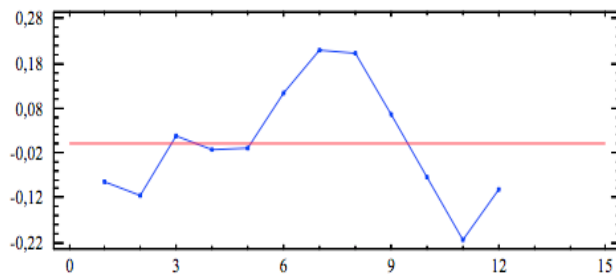
Source: Halweb UC3M[21]

In the following graph an example of the seasonal decomposition of the series. The graph shows red horizontal lines representing each month, which show the mean of the series for each month. The vertical blue lines show the variation of the series for each month in different years. The graph shows a growing trend.

Graph 3.6: Seasonal Decomposition
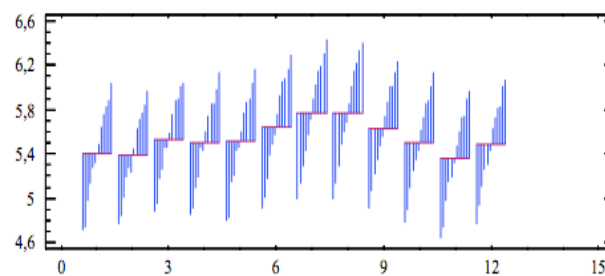
Source: Halweb UC3M[22]

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[21] http://portal.uc3m.es/portal/page/portal/dpto_estadistica
[22] http://portal.uc3m.es/portal/page/portal/dpto_estadistica

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In the following chart year to year series are represented. We can see there is seasonality because the year to year variation of the different months is very similar, which indicates there is seasonality. Moreover, the twelve-year charts are in increasing order: the first year is below the second year, the second year is below the third year, and so on. This indicates that the series has an increasing tendency.

Graph 3.7: Annual Series

Source: Halweb UC3M[23]
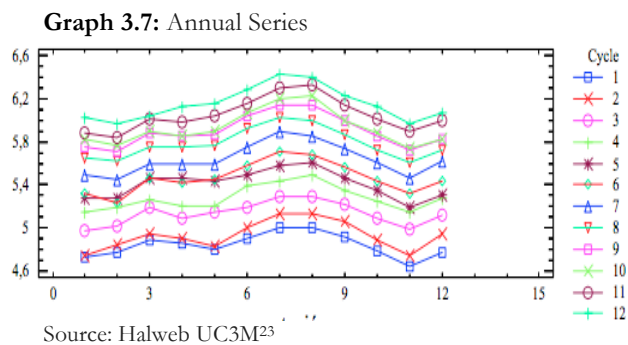
These charts would be useful in case that the simple inspection of the time chart is not enough.

Panel Data

Objectives of Panel Data Analysis

The principal objective of panel data is to capture the non-observable heterogeneity. This non-observable heterogeneity can be between economic agents as for time, as it cannot be detected throughout time series and cross-sectional data. This technique allows to realize a more dynamic analysis as it incorporates a temporal dimension of the data. It will allow identifying information as for example the individual effects and temporal effects.

Individual effects are those that affect unequally to each of the agents of the sample, which are invariable with time, and affect in a direct way. Temporary effects on the other hand, are those that affect all variables equally and do not vary in time. These types of effects are usually associated to macroeconomic shocks, which can affect equally all variables of study.

Specification of a Panel Data Model

The general specification for a panel data regression model would be the following[24]:

$$Y_{it} = \alpha_{it} + X_{it}\beta + u_{it} \text{ , being i} = 1, \ldots., N \text{ and t}= 1, \ldots, T$$

Where:
- i : is the individual or in this paper the country studied
- t : is the period of time
- α : is a vector of interceptors (the value of the dependent variable when all the rest of variables are zero) of n parameters
- β : is a vector of K parameters
- X_{it} : is the ith observation at time t for the K explanatory variables. NxT will give the total sample of observations.
- u_{it} : is the error term. This term has a further decomposition:

$$U_{it} = \mu_i + \delta_t + \varepsilon_{it}$$

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[23] http://portal.uc3m.es/portal/page/portal/dpto_estadistica
[24] Burdisso, Tamara (1997)

Where:
- o μ_i : represents the non-observable effects that differ between the studied units but not in time.
- o δ_t : represents the non-quantifiable effects that vary in time but not within the variables of the sample taken.
- o ε_{it} : Is a purely random effect.

The most common or most used error term model when using panel data is the so-called "one way", which makes the assumption that $\delta_t = 0$. There are different variants to this "one way" model, which differ in the assumptions given to the μ_t. Generally these assumptions are the following:

1) $\mu_t = 0$. This is the simplest assumption as it considers that there is no existence of non-observable heterogeneity between individuals or countries. Given this assumption, U_{it} would satisfy the general linear model and so the least-squares estimation method would produce the best estimators.
2) μ_t is a fixed and different effect for each country or individual. In this case, the unobservable heterogeneity is incorporated into the constant of the model.
3) μ_t is an unobservable random variable that varies between individuals but not over time.

The other error term model is the so-called "two way", which, as contrary to the "one way" model $\delta_t \neq 0$. This model is useful in order to capture the specific temporary effects or shocks that are not considered in this model.

Advantages and Disadvantages of the Panel Data Technique

The panel data techinique counts with several advantages and disadvantages in comparison with the time series technique and the cross sectional technique. Between the uncountable number of each of them[25] the most relevant are the following:

a) Advantages:
- • Possibility to introduce a greater number of observations, increasing the degree of freedom and reducing the collineality between the explanatory variables and, ultimately, improving the efficiency of the estimations.
- • This technique allows to capture the non-observable heterogeneity for both the individuals of the sample as for periods of time.
- • It allows the application of a series of hypothesis testing in order to accept or reject the heterogeneity and how to capture it.
- • This method makes the assumption that the individuals or countries are heterogenious, avoiding the bias that a cross sectional method could have.
- • It allows the ellaboration and testing of complex behavioural models in comparison with the time series and cross section analysis.
- • It enables a better way of studying the dynamics of adjustment processes. This is useful for studies as this one, for the observance of duration and permanence of certain levels of economic condition as for example unemplyment, poverty, wealth, etc.

b) Disadvantages:
- • Generally, the disadvantages associated with the panel data technique are related with the information obtainance and processing of the statistical information of the individual units os the study, if this information is obtained from surveys or interviews or other sources that are not 100% representative.

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[25] For more advantages and disadvantages read Baltagi (1999) and Hsiao (1986)

DATA ANALYSIS

In order to find out the determinants of the Gini Index or income distribution inequality, this paper uses annual macroeconomic series for the period 2005 to 2015 because of the lack of information. For the recompilation of data the World Bank, OCDE and IMF have been, amongst others great and reliable resources. Yet it is true that many countries do not have a register of many variables, normally the ones that are less developed. In this section we will analyze the existing variables per country, which will then be used for our model. Some data related to the Gini Index are estimations from the WorldBank and other sources.

Inequality is defined by the Cambridge Dictionary as "*the unfair situation in society when some people have more opportunities, money, etc. than other people*". "*Although asset and wealth inequality is more appropriate than income inequality to represent the inequality in distribution, due to the lack of data on asset and wealth, this paper uses the Gini index for the measure of the inequality in distribution*".[26] This sentence from the study of inequality in Korea is applicable to our study also, as the income distribution inequality Gini Index is the variable that we will try to explain.

For the index to represent globalization, a calculation of the share of trade volume has been calculation adding exports and imports of the country in a year and then doing the division of the result by GNI. The rest of the data is from the OCDE for European countries and from the World Bank for the United States, China and India.

Table 1: Variable Definition

Description	Definition
Gini Index	Gini Index of income distribution inequality (% from 0-100)
Inflation	Yearly consumer price growth rate
Population	Total regardless of legal status or citizenship
Unemployment rate	Unemployment, total (% of total labor force)
Foreign direct investment	Total investment
Openness Degree	(Exports + Imports)/GNI

Source: own creation

In order to see the determinants of income inequality a regression using the panel data methodology and from this some betas will be obtained. From this the impact of every variable will be observed throughout this beta and it will be possible to compare between the different groups of countries developed and emerging countries. In the following table the countries used for each group will be specified.

Table 2: Sample of countries selected

Developed countries		Developing Countries
United States	Italy	China
Austria	Latvia	India
Belgium	Lithuania	
Cyprus	Luxembourg	
Czech Republic	Malta	
Denmark	Netherlands	
Estonia	Norway	
Finland	Poland	
France	Portugal	
Germany	Slovakia	
Greece	Slovenia	
Hungary	Spain	
Iceland	Sweden	
Ireland	United Kingdom	

Source: Own elaboration

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[26] Lee, Kim and Cin (2013), *Empirical Analysis on the Determinants of Income Inequality in Korea*, page 101

European countries Descriptive Statistics

Table 3: Descriptive statistics of European Countries

	Gini	Population	Openness Degree	Unemployment	Inflation	Foreign Direct Investment
Mean	29,107	17594000	1,9499	8,5838	2,259	4906700000
Median	28,3	8351600	1,1973	7,564	2,1071	-300830000
Minimum	22,5	293580	0,52675	2,251	-4,4799	-1,9074E+11
Maximum	38,9	82501000	19,493	27,466	15,431	2,111E+11
Typ. Deviation	3,9256	23267000	2,7329	4,4637	2,2081	34984000000
C.V	0,13486	1,3224	1,4016	0,52002	0,97747	7,1298
Assimetry	0,33508	1,5123	4,2766	1,7357	1,8231	0,3732
Curtosis	-0,95888	0,84533	19,074	3,7428	75571	10,945
Percentile 5%	23,7	407610	0,62043	3,4329	-0,46054	-27880000000
Percentile 95%	35,61	65309000	6,1526	17,753	5,6739	68183000000
Interquantile range	6,5	14181000	0,94141	4,28	2,3095	1,2924E+11
Missing observations	0	0	0	0	0	0
Intra D.T	3,7708	22733000	2,5583	4,4094	2,1666	34929000000
Between D.T	1,387	6476100	1,203	0,95741	0,56493	4252200000
Nº Observations	297	297	297	297	297	297

Source: Own creation from results from Gretl and data obtained from the Worldbank and the OCDE

United States Descriptive Statistics

Table 4: Descriptive statistics of United States

	Gini	Population	Openness Degree	Unemployment	Inflation	Foreign Direct Investment
Mean	47,109	17594000	1,9499	8,5838	2,259	4906700000
Median	46,9	8351600	1,1973	7,564	2,1071	-300830000
Minimum	46,3	293580	0,52675	2,251	-4,4799	-1,9074E+11
Maximum	48,1	82501000	19,493	27,466	15,431	2,111E+11
Typ. Deviation	0,61066	23267000	2,7329	4,4637	2,2081	34984000000
C.V	0,012963	1,3224	1,4016	0,52002	0,97747	7,1298
Assimetry	0,37365	1,5123	4,2766	1,7357	1,8231	0,3732
Curtosis	-1,0779	0,84533	19,074	3,7428	75571	10,945
Interquantile range	1	14181000	0,94141	4,28	2,3095	-27880000000
Missing observations	0	0	0	0	0	68183000000

Source: Own creation from results from Gretl and data obtained from the Worldbank

Emerging countries Descriptive Statistics

Table 5: Descriptive statistics of China and India

	Gini	Population	Openness Degree	Unemployment	Inflation	Foreign Direct Investment
Mean	45,343	1,2836e+09	0,55707	4,0499	5,4196	-7,9510e+10
Median	47,7	1,3074e+09	0,54882	4,1470	5,1589	-4,9277e+10
Minimum	33	1,1443e+09	0,42691	3,49	-0,70295	-2,3165e+11
Maximum	51	1,3712e+09	0,71431	4,593	11,992	-4,6287e+09

Typ. Deviation	5,9786	6,8889e+07	0,082007	0,39026	3,5021	7,4137e+10
C.V	0,13185	0,053669	0,14721	0,096364	0,6462	0,93243
Assimetry	-1,3869	-0,63364	0,42023	-0,14741	0,2767	-0,72888
Curtosis	0,17335	-0,82148	-0,71406	-1,4822	-0,85892	-0,80467
Interquantile range	2,5	1,1253e+08	0,43173	3,496	-0,38112	1,2209e+11
Missing observations	7	0	0	0	0	0
Intra D.T	4,1781	4,2089e+07	0,075258	0,30359	2,2873	4,0269e+10
Between D.T	7,5345	7,6414e+07	0,050411	0,35098	0,3,7287	8,6860e+10

Source: Own creation from results from Gretl and data obtained from the World Bank

ANALYSIS OF RESULTS

In this section the results of the estimation of the regression will be exposed through the Gretl outputs that have been introduced in this paper. In the final part of this section a comparison between the coefficients of each variable and between countries will be made in order to analyse how each variable affects to a greater or lesser extent to the inegalitarian distribution of income.

European Countries

The results of this analysis are a mean of the European countries selected, and so the possible effects are for the group of countries.

Modelo 1: con corrección de heterocedasticidad, utilizando 297 observaciones
Variable dependiente: Gini

	Coeficiente	Desv. Típica	Estadístico t	Valor p	
const	25.0195	0.444745	56.2560	<0.0001	***
Population	5.25795e-08	6.00885e-09	8.7503	<0.0001	***
Opennessdegree	0.0918425	0.0342199	2.6839	0.0077	***
Unemployment	0.291719	0.0247626	11.7807	<0.0001	***
Inflation	0.170032	0.0894533	1.9008	0.0583	*
Foreign Direct Investment	−8.78558e-12	3.14686e-12	−2.7919	0.0056	***

Estadísticos basados en los datos ponderados:

Suma de cuad. residuos	779.0398	D.T. de la regresión	1.636188
R-cuadrado	0.501855	R-cuadrado corregido	0.493296
F(5, 291)	58.63343	Valor p (de F)	4.43e-42
Log-verosimilitud	−564.6277	Criterio de Akaike	1141.255
Criterio de Schwarz	1163.418	Crit. de Hannan-Quinn	1150.128

Estadísticos basados en los datos originales:

Media de la vble. dep.	29.10741	D.T. de la vble. dep.	3.925567
Suma de cuad. residuos	3413.585	D.T. de la regresión	3.424987

What it is observed from the results given by Gretl is that the variables population, openness degree or globalization, unemployment, and inflation increase the inequality in the distribution of incomes of Europe, having them all a very significant effect, being inflation the less, but still significant variable. Foreign Direct Investment has a negative impact over the Gini coefficient, as for every unit it increases the coefficient decreases −8.78558e-12 units. The model explains a 50,19% of the Gini coefficient.

From these results the United Kingdom might be taking the correct decision when deciding to decrease its commercial and population opening, as both variables would mean that if one unit of each increases, the Gini coefficient would increase by 0,0918 units.

United States

The model in the case of United States´ regression explains a 93% of the variability of the Gini coefficient, which is amazingly high.

Modelo 1: con corrección de heterocedasticidad, utilizando 297 observaciones
Variable dependiente: Gini

	Coeficiente	Desv. Típica	Estadístico t	Valor p	
Population	1.79470e-07	7.06578e-09	25.40	2.45e-07	***
Openness degree	−24.2511	5.91732	−4.098	0.0064	***
Unemploymen	−0.197130	0.0749912	−2.629	0.0391	**
Inflation	0.707564	0.0773722	9.145	9.62e-05	***
Foreign Direct Investment	3.82960e-12	2.10718e-12	1.817	0.1190	

Estadísticos basados en los datos ponderados:

Suma de cuad. residuos	8.287306	D.T. de la regresión	1.175252
R-cuadrado	0.929749	R-cuadrado corregido	0.882914
F(5, 291)	15.88150	Valor p (de F)	0.002098
Log-verosimilitud	−14.05089	Criterio de Akaike	38.10177
Criterio de Schwarz	40.09125	Crit. de Hannan-Quinn	36.84769

Estadísticos basados en los datos originales:

Media de la vble. dep.	47.10909	D.T. de la vble. dep.	0.610663
Suma de cuad. residuos	1.331571	D.T. de la regresión	0.471093

For the United States case we see different results. In this case the Foreign Direct Investment is found not to affect United States´ income distribution inequality, as it results not to be significant. Population once again affects positively the inequality, increasing it, as well as Inflation, which for every unit it increases, the Gini index increases in 0,707564 units.

Contrary to what it was found for European countries the variable of globalization, openness degree and unemployment are significant factors that reduce income distribution inequality. For example, if unemployment increases in one unit, the Gini coefficient would decrease by 0,197 units, and if the openness degree increases in one unit, it would decrease 24,25 units. This result would be a signal that the protectionist measures being taken by the United States Government would have a negative effect for the country, as it would very possibly increase its inequality in terms of income distribution.

Inflation is a variable that for Blinder and Esaki (1978) is only a *"progressive tax in that the poor and middle classes lose relatively less than the rich"*, but this is not what our results for both developed groups of countries show, as for both an increase of one unit of inflation would result in an increase of 0,877596 units of the Gini Index.

Emerging countries

China and India´s mean determinant coefficients show different results than the previously seen for European countries mean and United States.

Modelo 2: con corrección de heterocedasticidad, utilizando 15 observaciones
Variable dependiente: Gini

	Coeficiente	Desv. Típica	Estadístico t	Valor p

const	−31.7872	13.9806	−2.2737	0.0491	**
Population	6.62848e-08	1.11848e-08	5.9263	0.0002	***
Unemployment	−0.371843	1.20746	−0.3080	0.7651	
Inflation	−0.0470978	0.114206	−0.4124	0.6897	
Foreign Direct Investment	1.24174e-11	6.02602e-12	2.0606	0.0694	*
l_Opennessdegree	10.0719	2.17789	4.6246	0.0012	***

Estadísticos basados en los datos ponderados:

Suma de cuad. residuos	15.32601	D.T. de la regresión	1.304948
R-cuadrado	0.932637	R-cuadrado corregido	0.895213
F(5, 9)	24.92092	Valor p (de F)	0.000051
Log-verosimilitud	−21.44534	Criterio de Akaike	54.89068
Criterio de Schwarz	59.13898	Crit. de Hannan-Quinn	54.84542

Estadísticos basados en los datos originales:

Media de la vble. dep.	45.34333	D.T. de la vble. dep.	5.978619
Suma de cuad. residuos	149.5879	D.T. de la regresión	4.076871

Inflation is not a significant variable for the model. This may be biased by Chinese data, as China controls and maintains stable the price of money. Unemployment has also resulted to be a non-significant variable, possibly because of the really low unemployment levels that both countries record. Population on the other hand, is a very significant variable and for every unit increase of population, the Gini Index increases by 6,62848e-08 units. Foreign Direct Investment has also resulted to be a significant determinant of the coefficient and by one unit increase of this variable, the inequality increases in 1,2417e-11 units. But the most significant determinant of the variation of the Gini coefficient has resulted to be globalization or trade openness, which if one per cent increases of globalization, the inequality will increase by 0,100719 units.

Comparison of coefficients of determinant variables between countries

In this section a comparison will be made between the significant coefficients given for each country. In this way the general determinants and its impact over inequality levels are quantifiable.

Table 6: Coefficients of the determinants of the Gini Index

Variable	European countries	United States	Emerging countries
Population	5.25795e-08	1.79470e-07	6.62848e-08
Unemployment	0.291719	−0.197130	-
Inflation	0.170032	0.707564	-
Foreign Direct Investment	−8.78558e-12	-	1.24174e-11
Openness Degree	0.0918425	−24.2511	10.0719

Source: own creation from results obtained

When comparing the results of the regression modelling obtained one clear conclusion can be drawn: the two determinants that are significant for all three country groups are Population and Openness Degree (globalization). Population has a positive effect in increasing inequality of income distribution for all of them, whereas globalization has only a positive effect in European countries and Emerging countries, but with a big impact over the same, but in the United States in has a negative effect, reducing inequality levels of income distribution, and with the greater coefficient in absolute terms of all the variables studied for all countries.

Inflation is a increasing inequality determinant, contradicting what Blinder and Esaki (1978) said about it being only a *"progressive tax in that the poor and middle classes lose relatively less than the rich"*. It has a greater coefficient for the US than for European countries mean.

Unemployment has similar coefficients in absolute terms for both European countries and United States, not being significant for Emerging countries, but with contradictory signs. The same happens to Foreign Direct Investment.

Limitations of our proposed model

It is important to mention that there may be problems of reverse causality. That is, GDP growth can be interpreted as a variable that affects, through our estimated beta, inequality. It can also be argued that changes in inequality stimulate or slow down economic growth.

StatisticsHowTo defines reverse causality as follows: "*Reverse causality means that X and Y are associated, but not in the way you would expect. Instead of X causing a change in Y, it is really the other way around: Y is causing changes in X*".

There is a link between, on the one hand, international financial integration and financial development and, on the other, between financial development and economic growth. However, this does not necessarily imply that the first factor constitutes the cause of the latter is causal to the third. The policy of opening a country's finances may be endogenous or dependent, to some extent, on the development of the financial system and this can be, in turn, endogenous to economic growth. The existence of endogeneity leads us to determine the direction of causality.

Figure 1: Factors That Enable International Financial Integration Contributory to Economic Growth

Reverse causality
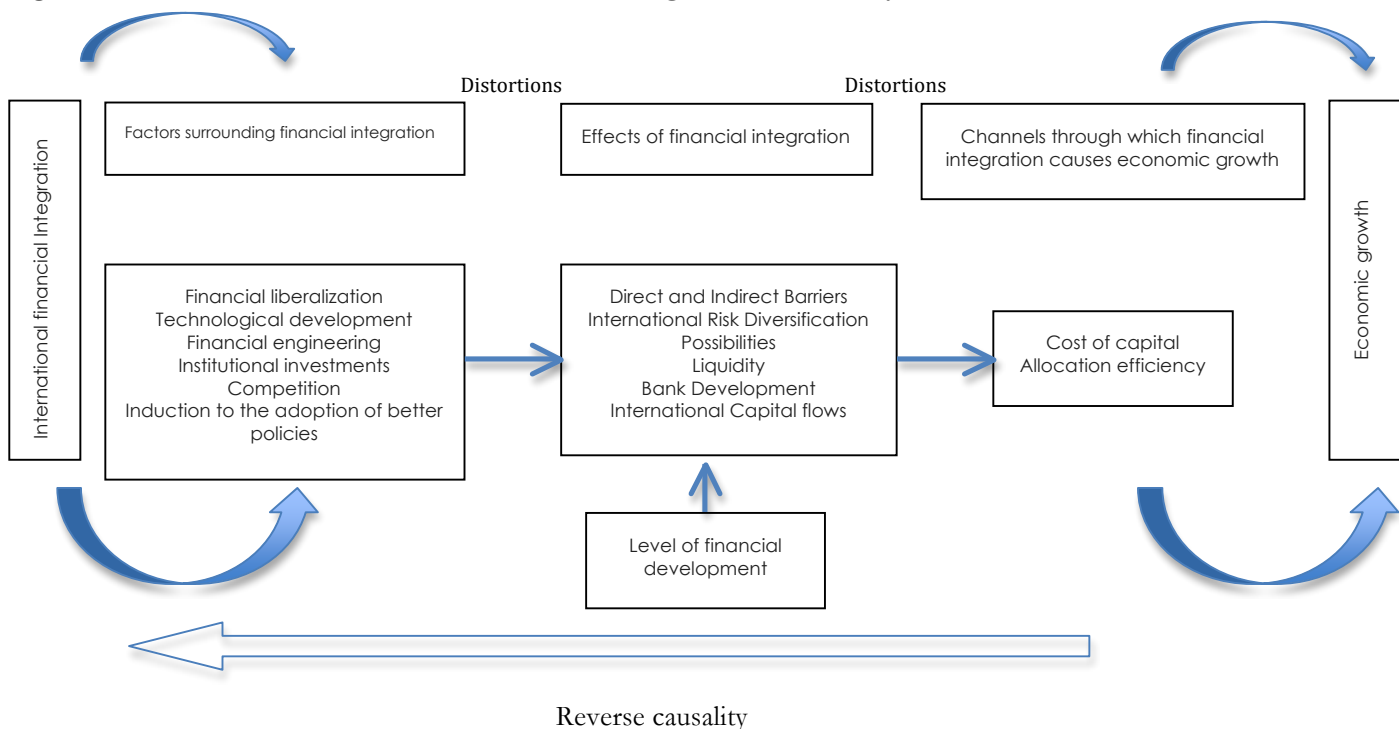
Looking to the diagram from left to right, the first relationship is between the international financial integration and the financial development. It is normal for governments to ensure the liberalization of financial markets, as well as promoting their integration when to circumstances have happened or are about to happen: first, as a response to unusually high levels of demand for investment in the previous years and second, as an anticipation of shocks to marginal productivity of capital. If the governments decided to liberalise the financial markets this would cause the rate of growth of real investment to increase, especially due to the expectations generated. The positive expectations on marginal productivity of capital would cause both an investment growth and a financial liberalization; therefore, although there is an existing correlation between these two concepts, the financial liberalization would not be the cause of the investment increase.

In the second relationship, the financial development may influence the economic growth, and the other way round, having the economic growth an influence over financial development, causing a possible simultaneity bias. The possible problem that could arise from this is what is called an inverse causality to that posed in Figure X. It is also possible for the causality not to exist, and so both effects can be conduced by common omitted variables (Rajan and Zingales, 1998).

If for example we started at a specific period of time, the level of financial development at the beginning of this period predicts the economic growth rate of the years yet to come. (King and Levine, 1993b; Levine and

Zervos, 1998b). So these two authors believed that this factor could be used for doing forecasts about the future economic growth rate. From what these two authors tell us it could be concluded not only that finance is conditioned by the economic activity, but also the level of financial development conditions the future economic growth.

However, there is a problem with the previous statement, and it is that this approach does not properly captures the bias in simultaneity, and therefore, does not determine the existence of causality in the relationship mentioned. Financial development is able to predict growth simply because the financial system is developed in anticipation to future economic growth. It could be thought that if financial development occurs ahead of time, it cannot be produced as a response to necessities of the real economy, but due to or as a cause of economic growth.

However, this argument is not valid formally because financial development can be an early indicator of growth, that is, the financial markets can anticipate the increase of economic activity and develop in anticipation of this activity. Financial markets capitalize on the current value of growth opportunities, while financial institutions lend more capital if they believe the economy will grow. Thus, financial development can simply be an early indicator and not a causal factor (Rajan and Zingales, 1998).

In this sense, some authors have demonstrated that the positive relationship between financial development and economic growth is not due to the simultaneity bias (Levine, 1998 and Levine, 1998). 1999, Levine et al., 2000), but there is a causality in the direction proposed in Figure 1. Now, studies based on samples and different periods have observed that there may be bi-directionality in the causality between both factors (Ahmed and Ansari, 1998, Neusser and Kugler, 1998), although depending on the characteristics of the countries analysed the intensity of causality varies in one way or another. With regard to the present work, the remarkable thing is that there is not only causality in the direction and the growth is higher in countries with greater financial development (Alfaro et al, 2004; M, 2004).

CONCLUSIONS

This paper reviews the trends of some of the main macroeconomic variables of the countries of greater interest of our sample and investigates the determinants influencing the variance of the Gini coefficients as representative of inequality measurement. The trend analysis is for a period between 1980 and 2015, but the regression model estimation only takes values for the time period 2005 to 2015 due to the lack of information of some variables.

On the level of globalization and poverty, the situation between China and the EU is different. In the Chinese economy, the problems of poverty come from the increasingly liberalized economic activity. The authorities act step by step, to fight against this poverty and adapt their policies to the conjuncture. In the EU, poverty problems are less serious, but they are structural. That is to say, in the structure of economies, a non-negotiable part of the population is left out of the process of production and income generation. The institutions try to act with social policies that are insufficient until today.

The empirical results observed when comparing the results of the regression modelling obtained one clear conclusion can be drawn: the two determinants that are significant for all three country groups are Population and Openness Degree (globalization). Population has a positive effect in increasing inequality of income distribution for all of them, whereas globalization has only a positive effect in European countries and Emerging countries, but with a big impact over the same, but in the United States in has a negative effect, reducing inequality levels of income distribution, and with the greater coefficient in absolute terms of all the variables studied for all countries.

Inflation is an increasing inequality determinant, contradicting what Blinder and Esaki (1978) said about it being only a *"progressive tax in that the poor and middle classes lose relatively less than the rich"*. It has a greater coefficient for the US than for European countries mean. Unemployment has similar coefficients in absolute terms for both European countries and United States, not being significant for Emerging countries, but with contradictory signs. The same happens to Foreign Direct Investment.

It is important to mention that there may be problems of reverse causality. That is, GDP growth can be interpreted as a variable that affects, through our estimated beta, inequality. It can also be argued that changes in inequality stimulate or slow down economic growth.

In terms of the questions, which were aimed to answer at the beginning of this end of master project about, if globalization was causing inequality the answer would be that it depends of the case, but generally it does. This leads to the second question, which was aimed to answer: are the United States and the United Kingdom taking a good decision leaning towards protectionist measures? Once again it depends. For European countries as a mean, it was found that the globalization representative variable increased income distribution inequality, and by looking at this result it would be a good idea in terms of reducing inequality, but for the US it was found the opposite result, as this variable reduced its Gini coefficient, being the wrong decision to take.

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ANNEX

Variables used in the regression

European Countries

Country	Year	Gini (%)	Population	Openness degree	Unemployment (%)	Inflation	Foreign Direct Investment
Austria	2005	26,3	8.201.359	1,1424380	5,627999783	2,304765879	193822310,2
Austria	2006	25,3	8.254.298	1,1900711	5,243000031	1,449618451	5581271419
Austria	2007	26,2	8.282.984	1,3579253	4,857999802	2,168599053	10177102307
Austria	2008	27,7	8.307.989	1,3377958	4,127999783	3,21592066	21598079156
Austria	2009	27,5	8.335.003	1,0616790	5,301000118	0,506312509	1264455428
Austria	2010	28,3	8.351.643	1,1142370	4,820000172	1,813535031	7680910617
Austria	2011	27,4	8.375.164	1,2937318	4,56400013	3,266938912	15145339304
Austria	2012	27,6	8.408.121	1,2194936	4,864999771	2,485675087	13230033894
Austria	2013	27,0	8.451.860	1,1674063	5,335000038	2,000157493	10578469481
Austria	2014	27,6	8.506.889	1,1973190	5,619999886	1,605805605	-2589378871
Austria	2015	27,2	8.576.261	1,1111807	5,72300005	0,896567005	7232905919
Belgium	2005	28,0	10.445.852	1,7008171	8,43999958	2,784303489	-1139201857
Belgium	2006	27,8	10.511.382	1,7746598	8,24600029	1,79094071	-8688143202
Belgium	2007	26,3	10.584.534	2,0035165	7,458000183	1,822063641	-13095644187
Belgium	2008	27,5	10.666.866	2,0769463	6,975999832	4,489444205	32847748785
Belgium	2009	26,4	10.753.080	1,6338175	7,907999992	-0,049480455	-61786380962
Belgium	2010	26,6	10.839.905	1,6602054	8,291999817	2,189218922	-53443937320
Belgium	2011	26,3	11.000.638	1,9110507	7,139999866	3,531058241	-31908772417
Belgium	2012	26,5	11.094.850	1,8128870	7,541999817	2,838723095	27171589994
Belgium	2013	25,9	11.161.642	1,8612646	8,425000191	1,11223458	4855245259
Belgium	2014	25,9	11.180.840	1,9185830	8,522999763	0,34	7408952889
Belgium	2015	26,2	11.237.274	1,6544647	8,482000351	0,558102452	8974302409
Cyprus	2005	28,7	733.067	1,1313911	5,303999901	2,558451986	-614353041,3
Cyprus	2006	28,8	744.013	1,1585246	4,543000221	2,495874931	-974613952,3
Cyprus	2007	29,8	757.916	1,3794412	3,921999931	2,372492743	-1032465697
Cyprus	2008	29,0	776.333	2,1008251	3,654999971	4,669171081	2291496850
Cyprus	2009	29,5	796.930	1,8884677	5,363999844	0,374079976	-2069640308
Cyprus	2010	30,1	819.140	2,0507378	6,263000011	2,381258363	3483638096
Cyprus	2011	29,2	839.751	2,0374537	7,855999947	3,289449396	-4209030710
Cyprus	2012	31,0	862.011	1,7091509	11,79500008	2,389768958	2490289577
Cyprus	2013	32,4	865.878	1,7197085	15,87100029	-0,400053061	-461198672,6
Cyprus	2014	34,8	858.000	1,8044489	16,08799934	-1,354988854	-1638538251
Cyprus	2015	33,6	847.008	1,5557839	14,90799999	-2,096997691	9385180818
Czech Republic	2005	26,0	10.198.855	1,4272957	7,927000046	1,846170702	-11628846667
Czech Republic	2006	25,3	10.223.577	1,5337525	7,147999763	2,528104997	-4042665554
Czech Republic	2007	25,3	10.254.233	1,7118075	5,320000172	2,927443471	-8963737209
Czech Republic	2008	24,7	10.343.422	1,7148945	4,392000198	6,350986289	-2257634944
Czech Republic	2009	25,1	10.425.783	1,3346607	6,662000179	1,044811886	-1951523283
Czech Republic	2010	24,9	10.462.088	1,4564850	7,278999805	1,408717924	-4918465928
Czech Republic	2011	25,2	10.486.731	1,6869283	6,710999966	1,936389149	-2592551186

Czech Republic	2012	24,9	10.505.445	1,6431344	6,978000164	3,299073139	-6180626420
Czech Republic	2013	24,6	10.516.125	1,6598243	6,953000069	1,434726602	379979406,5
Czech Republic	2014	25,1	10.512.419	1,8069355	6,107999802	0,337186898	-4014433931
Czech Republic	2015	25,0	10.538.275	1,6744417	5,046000004	0,344782438	1085936218
Denmark	2005	23,9	5.411.405	1,0646884	4,829999924	1,808805419	3372185289
Denmark	2006	23,7	5.427.459	1,1289659	3,897000074	1,890073335	5726180176
Denmark	2007	25,2	5.447.084	1,2634637	3,801000118	1,714031313	8185821306
Denmark	2008	25,1	5.475.791	1,3178103	3,434000015	3,399474759	12133094650
Denmark	2009	26,9	5.511.451	0,9936434	6,006999969	1,326372231	1942771757
Denmark	2010	26,9	5.534.738	1,0076988	7,464000225	2,297730121	11500336082
Denmark	2011	26,6	5.560.628	1,1338244	7,572999954	2,758682261	-760896205,7
Denmark	2012	26,5	5.580.516	1,0838723	7,526000023	2,397914857	5210202439
Denmark	2013	26,8	5.602.628	1,1223457	6,997000217	0,78907178	10625216770
Denmark	2014	27,7	5.627.235	1,1515250	6,589000225	0,56402054	3732464397
Denmark	2015	27,4	5.659.715	1,0472347	6,168000221	0,452034154	5399350145
Estonia	2005	34,1	1.358.850	1,7973752	8,032999992	4,089689921	-2253768927
Estonia	2006	33,1	1.350.700	1,8399840	5,914999962	4,42991487	-675619881,8
Estonia	2007	33,4	1.342.920	1,9735028	4,592000008	6,597638594	-977361941,1
Estonia	2008	30,9	1.338.440	1,9192050	5,454999924	10,36560303	-618602267,5
Estonia	2009	31,4	1.335.740	1,3304822	13,54800034	-0,084776494	-503213311,9
Estonia	2010	31,3	1.333.290	1,6165243	16,70700073	2,975580329	-1351125196
Estonia	2011	31,9	1.329.660	2,0329793	12,32800007	4,977614784	-2487904958
Estonia	2012	32,5	1.325.217	1,9128007	10,02099991	3,934921578	-506081682,4
Estonia	2013	32,9	1.320.174	1,9008475	8,630999565	2,788496796	-236392968,6
Estonia	2014	35,6	1.315.819	1,8755574	7,352000237	-0,144815519	-763249727,6
Estonia	2015	34,8	1.314.870	1,5504024	6,186999798	-0,456766653	185776472,2
Finland	2005	26,0	5.236.611	0,8752698	8,383999825	0,861059229	-390440069,1
Finland	2006	25,9	5.255.580	0,9613477	7,718999863	1,566666667	-2838700281
Finland	2007	26,2	5.276.955	1,0823134	6,854000092	2,510666229	-5461934622
Finland	2008	26,3	5.300.484	1,1243032	6,368999958	4,065951657	10734709538
Finland	2009	25,9	5.326.314	0,8046825	8,25	0,00061529	4918451853
Finland	2010	25,4	5.351.427	0,8485491	8,394000053	1,210357625	2766177847
Finland	2011	25,8	5.375.276	0,9542537	7,781000137	3,416809034	2455848423
Finland	2012	25,9	5.401.267	0,9270037	7,68900013	2,808332326	3445292138
Finland	2013	25,4	5.426.674	0,9299045	8,19299984	1,478288133	-2302767992
Finland	2014	25,6	5.451.270	0,9339756	8,663000107	1,041200006	-17443282593
Finland	2015	25,2	5.471.753	0,7922615	9,376000404	-0,207164371	-17532304205
France	2005	27,7	62.772.870	0,6584308	8,946000099	1,735587081	33679643405
France	2006	27,3	63.229.635	0,7042172	8,93599987	1,68372645	51416740927
France	2007	26,6	63.645.065	0,7756360	8,053999901	1,488073528	48464051603
France	2008	29,8	64.007.193	0,7864163	7,484000206	2,813915043	67954539784
France	2009	29,9	64.350.226	0,6094079	9,147000313	0,088084169	70242406326
France	2010	29,8	64.658.856	0,6445054	9,303999901	1,529639382	33683933606
France	2011	30,8	64.978.721	0,7266257	9,248000145	2,117486809	20268741865
France	2012	30,5	65.276.983	0,7066354	9,81499958	1,9556855	19081607551
France	2013	30,1	65.600.350	0,7195400	10,35200024	0,86360693	-13974523390

France	2014	29,2	65.942.093	0,7397541	10,30500031	0,507700673	47836648622
France	2015	29,2	66.488.186	0,6720728	10,35900021	0,037803733	-1646425318
Germany	2005	26,1	82.500.849	0,8121429	11,16699982	1,546910755	29127076868
Germany	2006	26,8	82.437.995	0,8830601	10,25	1,577429241	60497862973
Germany	2007	30,4	82.314.906	1,0030928	8,657999992	2,29834058	89824664374
Germany	2008	30,2	82.217.837	0,9995360	7,525000095	2,628383067	67063594532
Germany	2009	29,1	82.002.356	0,7963325	7,742000103	0,312737723	42985133316
Germany	2010	29,3	81.802.257	0,8663172	6,96600008	1,103808561	60640054569
Germany	2011	29,0	80.222.065	0,9739394	5,823999882	2,075172931	10349172079
Germany	2012	28,3	80.327.900	0,9277475	5,379000187	2,008491182	33647156576
Germany	2013	29,7	80.523.746	0,9435215	5,230999947	1,504722267	28057010596
Germany	2014	30,7	80.767.463	0,9622415	4,980999947	0,906797035	1,05588E+11
Germany	2015	30,1	81.197.537	0,8685891	4,624000072	0,234429945	62608628931
Greece	2005	33,2	10.969.912	0,5330269	9,994000435	3,54507305	818350755,2
Greece	2006	34,3	11.004.716	0,5731242	9,008000374	3,19594597	-1175033341
Greece	2007	34,3	11.036.008	0,6645989	8,395999908	2,89500102	3303102385
Greece	2008	33,4	11.060.937	0,7293839	7,760000229	4,15279636	-2527382308
Greece	2009	33,1	11.094.745	0,5267496	9,616000175	1,210073956	-322696446,5
Greece	2010	32,9	11.119.289	0,5348237	12,7130003	4,712981576	1163213775
Greece	2011	33,5	11.123.392	0,6418393	17,86499977	3,329870174	725321022,3
Greece	2012	34,3	11.086.406	0,5720861	24,43899918	1,501519795	-984863584,3
Greece	2013	34,4	11.003.615	0,6890923	27,4659996	-0,921271918	-3643182504
Greece	2014	34,5	10.926.807	0,7495983	26,49099922	-1,312242411	318538897,2
Greece	2015	34,2	10.858.018	0,6055735	24,89699936	-1,735902366	990703726,4
Hungary	2005	27,6	10.097.549	1,5044628	7,188000202	3,550808314	-5404639802
Hungary	2006	33,3	10.076.581	1,6996513	7,493999958	3,878312373	-451194078,7
Hungary	2007	25,6	10.066.158	2,1041151	7,406000137	7,935008875	-2485819395
Hungary	2008	25,2	10.045.401	2,2466825	7,816999912	6,066157153	-1399243483
Hungary	2009	24,7	10.030.975	1,7577118	10,02999973	4,209189843	-825238300,6
Hungary	2010	24,1	10.014.324	1,9220732	11,17199993	4,881345076	-3839509481
Hungary	2011	26,9	9.985.722	2,1067935	11,02900028	3,920735315	-1859497934
Hungary	2012	27,2	9.931.925	1,9543857	11,00300026	5,667639606	-2764575024
Hungary	2013	28,3	9.908.798	1,9504506	10,17700005	1,721102477	-151742325,4
Hungary	2014	28,6	9.877.365	2,0466206	7,724999905	-0,222315061	-3546198038
Hungary	2015	28,2	9.855.571	1,8697478	6,813000202	-0,070282476	-1916340138
Iceland	2005	25,1	293.577	0,7376534	2,546999931	4	3352308059
Iceland	2006	26,3	299.891	0,9326142	2,829999924	6,675824176	1576731943
Iceland	2007	28,0	307.672	1,0026227	2,250999928	5,06366784	7452567240
Iceland	2008	27,3	315.459	1,0771272	2,946000099	12,67818916	-2420335044
Iceland	2009	29,6	319.368	0,7550507	7,21999979	12,00581173	2838909471
Iceland	2010	25,7	317.630	0,9001531	7,56400013	5,393595958	-1167232804
Iceland	2011	23,6	318.452	1,1288153	7,027999878	3,990412645	313938110,1
Iceland	2012	24,0	319.575	0,9965145	6	5,1952906	-5553899415
Iceland	2013	24,0	321.857	1,2184143	5,375999928	3,884644993	54485032,75
Iceland	2014	22,7	325.671	1,2180983	4,896999836	2,034999715	-745446301
Iceland	2015	23,6	329.100	1,1210164	3,979000092	1,631284916	-611301522,5
Ireland	2005	31,9	4.111.672	2,3749873	4,342000008	2,431540999	44824253570

Ireland	2006	31,9	4.208.156	2,5450347	4,414999962	3,938894713	20816925829
Ireland	2007	31,3	4.340.118	2,9917082	4,673999786	4,87992471	-4014366973
Ireland	2008	29,9	4.457.765	3,0561076	6,399000168	4,053506283	34905390728
Ireland	2009	28,8	4.521.322	2,6219511	12,00800037	-4,47993767	545425983,9
Ireland	2010	30,7	4.549.428	2,7300270	13,85400009	-0,946166395	-20931725589
Ireland	2011	29,8	4.570.881	3,1510574	14,625	2,578870455	-25201352356
Ireland	2012	30,5	4.582.707	3,1075625	14,67199993	1,692784715	-19621467336
Ireland	2013	30,7	4.591.087	2,9599205	13,04399967	0,502678204	-12371927262
Ireland	2014	31,1	4.605.501	3,3464207	11,26299953	0,196785831	11685685364
Ireland	2015	29,8	4.628.949	3,3096478	9,395999908	-0,294599018	-20249872618
Italy	2005	32,7	57.874.753	0,5765285	7,730000019	1,999065857	15534858722
Italy	2006	32,1	58.064.214	0,6208888	6,77699995	2,06978661	1994653601
Italy	2007	32,0	58.223.744	0,6984350	6,074999809	1,821444594	54034928445
Italy	2008	31,2	58.652.875	0,7033472	6,72300005	3,375044061	77127987930
Italy	2009	31,8	59.000.586	0,5328108	7,749000072	0,750149177	1783220147
Italy	2010	31,7	59.190.143	0,5729832	8,362000465	1,539893392	20790846843
Italy	2011	32,5	59.364.690	0,6517499	8,359000206	2,741438213	17376783155
Italy	2012	32,4	59.394.207	0,6162897	10,65499973	3,04136253	6762717743
Italy	2013	32,8	59.685.227	0,6287294	12,14900017	1,219992129	745082518,8
Italy	2014	32,4	60.782.668	0,6469001	12,68299961	0,241057543	3380852443
Italy	2015	32,4	60.795.612	0,5851432	11,89599991	0,03878675	1066725286
Latvia	2005	36,2	2.249.724	1,1360067	10,03299999	6,723585912	-584616668,2
Latvia	2006	38,9	2.227.874	1,2412386	7,03000021	6,5	-1492584400
Latvia	2007	35,4	2.208.840	1,3807481	6,052000046	10,14084507	-1944230967
Latvia	2008	37,5	2.191.810	1,2892917	7,738999844	15,43052003	-1090405680
Latvia	2009	37,5	2.162.834	0,8090764	17,51499939	3,471196455	-160862601,2
Latvia	2010	35,9	2.120.504	1,0674188	19,48200035	-1,070663812	-355624241,3
Latvia	2011	35,1	2.074.605	1,3774924	16,20599937	4,401154401	-1392764811
Latvia	2012	35,7	2.044.813	1,3948651	15,04699993	2,211472011	-917304687,2
Latvia	2013	35,2	2.023.825	1,3607596	11,86699963	0	-495702652
Latvia	2014	35,5	2.001.468	1,3476031	10,84599972	0,631057021	-493053256
Latvia	2015	35,4	1.986.096	1,1911186	9,873000145	0,179171333	-635862920,4
Lithuania	2005	36,3	3.355.220	1,2542946	8,324999809	2,643462936	-346333208,8
Lithuania	2006	35,0	3.289.835	1,3524283	5,78000021	3,745037021	-1565337680
Lithuania	2007	33,8	3.249.983	1,4220460	4,25	5,730244104	-1376421163
Lithuania	2008	34,5	3.212.605	1,6025396	5,826000214	10,92741147	-1636444109
Lithuania	2009	35,9	3.183.856	1,0368017	13,78499985	4,451512479	234964448,4
Lithuania	2010	37,0	3.141.976	1,3548340	17,81399918	1,319184445	-808279863,2
Lithuania	2011	33,0	3.052.588	1,7666661	15,39000034	4,130300688	-1398191305
Lithuania	2012	32,0	3.003.641	1,7358553	13,36499977	3,089983269	-300831263,8
Lithuania	2013	34,6	2.971.905	1,7986670	11,77000046	1,047466621	-281361074,9
Lithuania	2014	35,0	2.943.472	1,7084194	10,69799995	0,103789914	-17091877,75
Lithuania	2015	37,9	2.921.262	1,5158289	9,119999886	-0,884108435	-789739198,9
Luxembourg	2005	26,5	461.230	9,7443782	4,487999916	2,489582068	8433893478
Luxembourg	2006	27,8	469.086	13,6052893	4,730999947	2,675833333	-11909357875
Luxembourg	2007	27,4	476.187	13,7606072	4,065000057	2,303365771	74681264989
Luxembourg	2008	27,7	483.799	15,1119878	5,059999943	3,400264976	31652837225

Luxembourg	2009	29,2	493.500	12,3649751	5,122000217	0,369816243	19216072628
Luxembourg	2010	27,9	502.066	11,3382981	4,361000061	2,273404833	-18806912181
Luxembourg	2011	27,2	511.840	15,7427083	4,901000023	3,409795876	-32661356219
Luxembourg	2012	28,0	524.853	17,0321716	5,139999866	2,664199548	-92114810809
Luxembourg	2013	30,4	537.039	19,4931289	5,84800005	1,734030794	-1,38092E+11
Luxembourg	2014	28,7	549.680	17,3247377	5,852000237	0,629749069	59814232666
Luxembourg	2015	28,5	562.958	15,1686781	6,669000149	0,474513795	2,11102E+11
Malta	2005	27,0	402.668	3,1360055	6,922999859	3,007966525	-10836581582
Malta	2006	27,1	404.999	4,2630319	6,797999859	2,773264171	-10169806468
Malta	2007	26,3	405.616	6,0005439	6,472000122	1,251349406	-20955526177
Malta	2008	28,1	407.832	6,9401287	5,977000237	4,256736946	1324324761
Malta	2009	27,4	410.926	5,8954997	6,888999939	2,085357332	-7540424529
Malta	2010	28,6	414.027	5,2987981	6,847000122	1,516833766	-5916362403
Malta	2011	27,2	414.989	6,6109480	6,377999783	2,721905169	-12176874387
Malta	2012	27,1	417.546	6,2228933	6,308000088	2,417624644	-11581403391
Malta	2013	27,9	421.364	6,1448161	6,386000156	1,374906203	-9348296226
Malta	2014	27,7	425.384	5,9629569	5,803999901	0,311500058	-8646598173
Malta	2015	28,1	429.344	5,0292461	5,390999794	1,099931591	-9738046700
Netherlands	2005	26,9	16.305.526	1,7753188	4,723999977	1,674081313	56654578521
Netherlands	2006	26,4	16.334.210	1,8621138	3,904999971	1,16765306	1,4814E+11
Netherlands	2007	27,6	16.357.992	2,2153668	3,178999901	1,614180118	-1,37496E+11
Netherlands	2008	27,6	16.405.399	2,2054510	2,75	2,486550321	77155323458
Netherlands	2009	27,2	16.485.787	1,7419573	3,413000107	1,189904616	44369432327
Netherlands	2010	25,5	16.574.989	1,9284466	4,449999809	1,275552568	75769696494
Netherlands	2011	25,8	16.655.799	2,1688806	4,977000237	2,341070178	39568402457
Netherlands	2012	25,4	16.730.348	2,1079761	5,821000099	2,455547653	-1729671274
Netherlands	2013	25,1	16.779.575	2,1934403	7,243000031	2,506898527	87166306611
Netherlands	2014	26,2	16.829.289	2,3413810	7,415999889	0,97603508	-43728626933
Netherlands	2015	26,7	16.900.726	1,9995413	6,872000217	0,600248147	9594525634
Norway	2005	28,2	4.606.363	0,9021990	4,381000042	1,522058824	21676267877
Norway	2006	29,2	4.640.219	0,9514286	3,398999929	2,332150359	6643671611
Norway	2007	23,7	4.681.134	1,0268583	2,493000031	0,728997098	-1881082807
Norway	2008	25,1	4.737.171	1,0561839	2,549999952	3,766160764	15747871947
Norway	2009	24,1	4.799.252	0,7290581	3,102999926	2,166847237	1332335635
Norway	2010	23,6	4.858.199	0,8229623	3,520999908	2,399257688	8307773566
Norway	2011	22,9	4.920.305	0,9344422	3,214999914	1,300970874	2699870111
Norway	2012	22,5	4.985.870	0,8594980	3,122999907	0,709219858	-164481753
Norway	2013	22,7	5.051.275	0,8125470	3,423000097	2,131709174	9506946684
Norway	2014	23,5	5.107.970	0,7851662	3,483999968	2,025096285	21338176146
Norway	2015	23,9	5.166.493	0,6841283	4,296000004	2,17364832	14349832531
Poland	2005	35,6	38.173.835	0,8489544	17,74600029	2,107050758	-6907000000
Poland	2006	33,3	38.157.055	0,9282836	13,84000015	1,114943945	-10670000000
Poland	2007	32,2	38.125.479	1,0259496	9,602000237	2,388059701	-17445000000
Poland	2008	32,0	38.115.641	1,0397110	7,118000031	4,349378235	-9908000000
Poland	2009	31,4	38.135.876	0,7695469	8,166999817	3,825977877	-8094000000
Poland	2010	31,1	38.022.869	0,8987287	9,637000084	2,707452359	-8879000000
Poland	2011	31,1	38.062.718	1,0340905	9,631999969	4,258333333	-13670000000

Poland	2012	30,9	38.063.792	0,9798556	10,0880003	3,556869954	-6031000000
Poland	2013	30,7	38.062.535	1,0185991	10,32600021	1,034269836	-4206000000
Poland	2014	30,8	38.017.856	1,0815462	8,989999771	0,106951872	-12977000000
Poland	2015	30,6	38.005.614	0,9872029	7,500999928	-0,991300366	-9815000000
Portugal	2005	38,1	10.494.672	0,7636769	7,581999779	2,293867255	-1807286112
Portugal	2006	37,7	10.511.988	0,8783527	7,646999836	2,743315096	-4425908061
Portugal	2007	36,8	10.532.588	0,9775698	7,964000225	2,805070127	2453534189
Portugal	2008	35,8	10.553.339	1,0154858	7,552000046	2,590407797	-2372931122
Portugal	2009	35,4	10.563.014	0,7757077	9,43200016	-0,835530022	-2022596466
Portugal	2010	33,7	10.573.479	0,8396713	10,77000046	1,402572899	-12132551379
Portugal	2011	34,2	10.572.721	0,9242155	12,67700005	3,653011004	5819618003
Portugal	2012	34,5	10.542.398	0,8724061	15,52700043	2,773338541	-17061519055
Portugal	2013	34,2	10.487.289	0,9162938	16,18300056	0,274416667	-3934101821
Portugal	2014	34,5	10.427.301	0,9590814	13,89400005	-0,278153367	-3601461072
Portugal	2015	34,0	10.374.822	0,8701739	12,44400024	0,487938624	-1222606315
Slovakia	2005	26,2	5.372.685	1,6448812	16,25600052	2,709084946	-2909275666
Slovakia	2006	28,1	5.372.928	1,8171097	13,37300014	4,483331204	-5198966252
Slovakia	2007	24,5	5.373.180	1,9316584	11,14299965	2,756723716	-3415742672
Slovakia	2008	23,7	5.376.064	1,8885393	9,508000374	4,598179763	-4119402470
Slovakia	2009	24,8	5.382.401	1,4106069	12,02499962	1,615104641	971700226,6
Slovakia	2010	25,9	5.390.410	1,5799837	14,37899971	0,957018133	-876870211,3
Slovakia	2011	25,7	5.392.446	1,9277480	13,61699963	3,919285991	-2731568056
Slovakia	2012	25,3	5.404.322	1,8601559	13,9630003	3,606102635	-3009616220
Slovakia	2013	24,2	5.410.836	1,9281210	14,22099972	1,40047369	272619005,6
Slovakia	2014	26,1	5.415.949	1,9493377	13,18400002	-0,07616533	642488635,5
Slovakia	2015	23,7	5.421.349	1,7797902	11,48099995	-0,325219777	6431971,158
Slovenia	2005	23,8	1.997.590	1,2528595	6,506000042	2,477454396	88500000
Slovenia	2006	23,7	2.003.358	1,3718916	5,949999809	2,462561564	214483506,1
Slovenia	2007	23,2	2.010.377	1,6043033	4,81799984	3,611165333	331238039,9
Slovenia	2008	23,4	2.010.269	1,6236808	4,370999813	5,65184627	250730681,5
Slovenia	2009	22,7	2.032.362	1,2078792	5,856999874	0,855920114	685805559,1
Slovenia	2010	23,8	2.046.976	1,2707234	7,236000061	1,840965347	-119288908,5
Slovenia	2011	23,8	2.050.189	1,4990127	8,166000366	1,810579921	-889654081,9
Slovenia	2012	23,7	2.055.496	1,4440641	8,840000153	2,598297643	-599895589,6
Slovenia	2013	24,4	2.058.821	1,5010126	10,10200024	1,760351239	-71956748,04
Slovenia	2014	25,0	2.061.085	1,5560315	9,668000221	0,200074858	-806579715,7
Slovenia	2015	24,5	2.062.874	1,4698591	8,961999893	-0,518126124	-1370123685
Spain	2005	32,2	43.296.338	0,6531704	9,145999908	3,369714479	17342536453
Spain	2006	31,9	44.009.971	0,6934846	8,451999664	3,515374911	72310788511
Spain	2007	31,9	44.784.666	0,7849374	8,232000351	2,787030473	72878932143
Spain	2008	32,4	45.668.939	0,7612208	11,25500011	4,075660764	-3891886888
Spain	2009	32,9	46.239.273	0,5722133	17,85700035	-0,287996835	2417396306
Spain	2010	33,5	46.486.619	0,6092137	19,86000061	1,79988133	-3190839141
Spain	2011	34,0	46.667.174	0,7127137	21,39100075	3,196146412	13204883170
Spain	2012	34,2	46.818.219	0,6734627	24,78700066	2,446000185	-27432527182
Spain	2013	33,7	46.727.890	0,7118990	26,09399986	1,408546292	-24739214246
Spain	2014	34,7	46.512.199	0,7417840	24,44099998	-0,150870313	9500120896

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Country	Year	Gini	Population	Openness degree	Unemployment	Inflation	Foreign Direct Investment
Spain	2015	34,6	46.449.565	0,6673261	22,05699921	-0,500461321	32529145626
Sweden	2005	23,4	9.011.392	0,9789718	7,486000061	0,453170853	17494702867
Sweden	2006	24,0	9.047.752	1,1416743	7,065999985	1,360214686	-449796007,8
Sweden	2007	23,4	9.113.257	1,2827166	6,160999775	2,212168834	9747824805
Sweden	2008	24,0	9.182.927	1,2931527	6,235000134	3,437049106	-6671950489
Sweden	2009	24,8	9.256.347	0,8717163	8,350999832	-0,494460544	17513961647
Sweden	2010	24,1	9.340.682	1,0853107	8,609999657	1,157988027	21497722411
Sweden	2011	24,4	9.415.570	1,2136076	7,803999901	2,961150738	16794642421
Sweden	2012	24,8	9.482.855	1,0972614	7,975999832	0,888377507	13221654816
Sweden	2013	24,9	9.555.893	1,0536475	8,052000046	-0,04429297	26368845165
Sweden	2014	25,4	9.644.864	1,0231303	7,953000069	-0,179638494	4784231040
Sweden	2015	25,2	9.747.355	0,8747785	7,43200016	-0,046784745	8785612927
United Kingdom	2005	34,6	60.182.050	3,4616162	4,75	2,049668311	-92742954100
United Kingdom	2006	32,5	60.620.361	0,8785388	5,349999905	2,333527794	-61381481566
United Kingdom	2007	32,6	61.073.279	0,9628193	5,262000084	2,321035915	1,6088E+11
United Kingdom	2008	33,9	61.571.647	0,9112729	5,614999771	3,613498886	1,03242E+11
United Kingdom	2009	32,4	62.042.343	0,6766729	7,537000179	2,166231372	-62945021961
United Kingdom	2010	32,9	62.510.197	0,7543192	7,787000179	3,285714286	-12327098017
United Kingdom	2011	33,0	63.022.532	0,8794413	8,036999702	4,484239645	53821554015
United Kingdom	2012	31,3	63.495.303	0,8339575	7,886000156	2,821709747	-34727249184
United Kingdom	2013	30,2	63.905.297	0,8098599	7,526000023	2,554546687	-8222267228
United Kingdom	2014	31,6	64.351.155	0,7964011	6,111000061	1,460191609	-1,90739E+11
United Kingdom	2015	32,4	64.875.165	0,7288973	5,301000118	0,050020842	-1,14504E+11

Source: own creation with data from the Worldbank and OCDE

United States

Country	Year	Gini	Population	Openness degree	Unemployment	Inflation	Foreign Direct Investment
USA	2005	46,4	295516599	0,314490658	5,099999905	3,392746845	-76402000000
USA	2006	46,6	298379912	0,349922991	4,599999905	3,225944101	1772000000
USA	2007	46,9	301231207	0,382215842	4,599999905	2,852672482	1,92876E+11
USA	2008	47	304093966	0,392818144	5,800000191	3,839100297	18990000000
USA	2009	46,3	306771529	0,31579836	9,300000191	-0,355546266	1,59938E+11
USA	2010	46,9	309346863	0,356203137	9,600000381	1,640043442	95231000000
USA	2011	46,9	311718857	0,387934772	8,899999619	3,156841569	1,82996E+11
USA	2012	47,5	314102623	0,381722354	8,100000381	2,069337265	1,35212E+11
USA	2013	47,6	316427395	0,378322426	7,400000095	1,464832656	1,17657E+11
USA	2014	48,1	318907401	0,377705576	6,199999809	1,622222977	1,36072E+11
USA	2015	48	321418820	0,356011949	5,300000191	0,118627136	-30787000000

Source: own creation with data from the Worldbank

Emerging countries

Country	Year	Gini	Population	Openness degree	Unemployment	Inflation	Foreign Direct Investment
China	2005	48,3	1303720000	0,660844833	4,139999866	1,821647757	-90379127564
China	2006	48,7	1311020000	0,697868708	4	1,463189043	-1,0015E+11

China	2007	48,4	1317885000	0,714311211	3,75999999	4,750296622	-1,39095E+11
China	2008	49,1	1324655000	0,690889186	4,360000134	5,864383723	-1,14792E+11
China	2009	49	1331260000	0,510449566	4,290999889	-0,702949137	-87167067370
China	2010	48,1	1337705000	0,567142036	4,199999809	3,314545929	-1,8575E+11
China	2011	47,7	1344130000	0,617028249	4,340000153	5,410850058	-2,31652E+11
China	2012	47,4	1350695000	0,557133655	4,46999979	2,624920936	-1,7625E+11
China	2013	47,3	1357380000	0,533641713	4,539999962	2,627118644	-2,17958E+11
China	2014	46,9	1364270000	0,511571641	4,592999935	1,996847084	-1,44968E+11
China	2015	46,2	1371220000	0,459019105	4,585000038	1,442555384	-62058344183
India	2005	33	1144326293	0,426911451	4,400000095	4,246353323	-4628652265
India	2006		1162088305	0,468537115	4,330999851	6,145522388	-5992285935
India	2007		1179685631	0,501303325	3,723999977	6,369996746	-8201628958
India	2008		1197070109	0,600961994	4,153999805	8,351816444	-24149749830
India	2009	33,9	1214182182	0,462227067	3,905999899	10,87739112	-19485789183
India	2010		1230984504	0,54555397	3,549999952	11,99229692	-11428785746
India	2011	35,15	1247446011	0,603877279	3,536999941	8,857845297	-23890659988
India	2012		1263589639	0,568418889	3,622999907	9,312445605	-15442447343
India	2013	51	1279498874	0,552083937	3,573999882	10,90764331	-26388082470
India	2014		1295291543	0,53995357	3,529999971	6,649500151	-22890162761
India	2015		1311050527	0,465863457	3,49000001	4,906973441	-36495216491

Source: own creation with data from the Worldbank,
https://www.indexmundi.com/facts/indicators/SI.POV.GINI/compare#country=cn:in:us and
https://www.statista.com/statistics/250400/inequality-of-income-distribution-in-china-based-on-the-gini-index/