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Income inequality and Stagnation

A causal relationship?

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The aim of this thesis is to investigate the relationship of income inequality and economic development.

The literature review will begin with a literature review that will cover the basic economic theories behind income generation and income distribution. After this the theory behind the business cycle, economic growth and stagnation is explained with the help of economic literature. After the basic concepts have been covered, the study moves on to determine income inequality and how it is measured. The mechanisms that create income inequality are discussed after this and the literature review will close with the effects that income inequality has on the economy, and how these effects can be seen in the latest economic crisis.

The research describes the development of the measure of income inequality, the GINI coefficient, in 16 countries chosen randomly. This development is then compared to the development of the economic growth of each country. Lastly, we will analyse the data gathered in order to answer our research question: Do increasing income inequalities cause stagnation in the economy and does increased income inequality make recovery from a crisis more difficult?

Keywords	Income inequality, stagnation, economic growth and development

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1 Introduction

"The distribution of wealth and income are very important from the macroeconomic point of view. They affect output and investment in the short and the long run and the pattern of adjustment to exogenous shocks" (Galor and Zeira 1993: 51).

In the wake of the latest economic crisis, the search for the reasons why the crisis happened has become what seems like a mission to find a culprit. One explanation has been given by organisations such as IMF and OECD. They have concluded that one of the main reasons for poor economic growth and the crisis it self has been due to the fact that income inequalities have been rising. The quote from Galor and Zeira in 1993 does indicate that there is in fact a correlation between how income is divided within in an economy and how well the economy itself works. The question this study aims to answer is whether the development in income inequality preceding the crisis can be pointed out as the reason why the global economy slumped and has been stagnant for several years after the crisis started. The topic is important, as economic growth is not only important for the well-being of the economy, but also considered to be one of the key factors in improving living standards.

In order to understand the whole process of how income inequality occurs and affects the economy, we will start with some basic concepts in economics. The study will start with a literature review that will cover the basic economic theories behind income generation and income distribution. After this the theory behind the business cycle, economic growth and stagnation is explained with the help of economic literature. After the basic concepts have been covered, the study moves on to determine income inequality and how it is measured. The mechanisms that create income inequality are discussed after this and the literature review will close with the effects that income inequality has on the economy, and how these effects can be seen in the latest economic crisis.

Before the research for this study, the methods that have been chosen and used are discussed briefly. The research itself describes the development of the measure of income inequality, the GINI coefficient, in 16 countries chosen randomly. This development is then compared to the development of the economic growth of each country. Lastly, we will analyse the data gathered in order to answer our research question: Do increasing income inequalities cause stagnation in the economy and does increased income inequality make recovery from a crisis more difficult?

Hopefully by the end of this study we will be able to conclude whether the worry of the IMF and the OECD is legitimate, or if the culprit should be sought elsewhere.

2 Literature review

Throughout the history of economics, several different definitions of what the study itself is have been given. However, no single definition has risen to be the one in general use. The Oxford dictionary defines economics as: "The branch of knowledge concerned with the production, consumption and transfer of wealth" (Oxford online dictionary 2014). Another way of defining economics was given by Lord Robbins in 1932: " Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses"(Ison and Wall 2007: 2). Adam Smith, who is considered to be one of the fathers of modern economics, defined economics in 1776 as:" an inquiry into the nature and causes of the wealth of nations" (Smith 1776). Economics has also been defined as the study of how societies organize the production, distribution and consumption of goods and services. Even though there is no agreement on the specific wording of the definition of economics, from these definitions we can conclude that income and the distribution of income is at the heart of the study of economics. Even thought the agreement for the definition of income is yet to be found, money can be seen as the easiest measure. This central position in the field provides an endless number of literature on the topic of income and income distribution.

In order to understand the reasons behind income inequality and how it has become such a hot topic as it is today, the literature review will start by reviewing theories on the topic of how income is generated and distributed in an economy. After these theories, the economic cycle theory will be explained. As a part of the economic cycle theory, growth and stagnation are defined with reference to statistics and their effects on economy and society are explained. Income inequality is determined after these topics, along with the ways of measuring income inequality.

The reasons behind the rise of unequal income distribution are discussed after the basic theories and terms have been explained. The role of the government or the state and how income inequality should be addressed is then briefly discussed, before going into detail concerning the various externalities arising from income inequality. The literature review will close with a summary of how income inequality can be connected to stagnation.

2.1 How the economy works in creating and distributing income

Goods and services are the main sources of income. Money income is generated when goods or services are produced and sold. Factors of production are the resources that are used to produce goods or services that generate income (Bade, Parkin 2009:36). In economics, the classical approach considers there to be three factors of production: Land, Labour, and Capital. Recently some economists have included entrepreneurship to the list (Bade and Parkin 2009:36). Land, labour and capital are the sources of money income, but it should also be kept in mind that they are not the only sources that produce value. In his book from 1986 Marc Tool discusses the concept of real income and how economies and societies organise the distribution of real income. Real income can be seen as the resources that are publicly available for everyone and also create value, such as health care and education (Tool 1986:4). As human capital is seen as one of the sources of lessened income inequality, for example by the OECD, human capital should thus be considered as one of the factors of production.

Even though the factors of production can be seen as self-explanatory, the definitions are as follows:

> “Land is the Gifts of nature”, or natural resources that we use to produce goods and services ….. Labour is the work time and work effort that people devote to producing goods and services….. Capital is the tools, instruments, machines, buildings and other items that have been produced in the past and that business now use to produce goods and services… Entrepreneurship is the human resource that organizes labour, land and capital” (Bade and Parkin 2009:36-38).

The explanation of entrepreneurship by Bade and Parkin is somewhat lacking, as it seems to actually describe management. Entrepreneurship can perhaps be better explained as the ability to bring together the other factors of production to successfully produce and sell goods and services (Hubbard and O’Brien 2009:50)

As to how an economy organises the distribution of income, there are two principal concepts: Functional distribution of income and personal distribution of income. The functional distribution measures how much income is received by each factor of production, i.e. how total income or profit is divided between land labour and capital (Gallo 2002: 13). The problem with this model is, that it presumes that there are only three classes in the society: labourers, capitalists and landowners (Gallo 2002: 13). The personal distribution of income model shows the distribution of income between individuals or households (Bade and Parkin 2009:40). The latter model is perhaps more relevant in the modern day society as there is more fluctuation in the roles that each individual has within the society. On the other hand, the first model helps in identifying what sectors or social forces are important within the economy. For example a strong and organized work force would mean that it could potentially earn a higher proportion of the income generated. On the other hand in an economy that is more based on market exchange, those with capital would most likely get the higher proportion of income. For example, in Germany 62 % of all employees are covered by collective bargaining. In the UK the reflective number is 29% (Worker-Participation EU 2013). As we later will find, this difference can be reflected on the level of income inequality in these two countries.

In order to explain how income flows within the economy, the circular flow model of income can be used. At the basic level, the circular flow (CF) describes the flow of income and expenditure between households and firms (Dawson, Anand et al. 2006: 202). At a more detailed level, the CF model can be used in order to determine the flow of expenditures and incomes that result from the decisions made by the authorities (government) and how those choices determine what and how much goods and services are produced and how and to whom the income resulting of production is distributed (Bade and Parkin 2009:42).

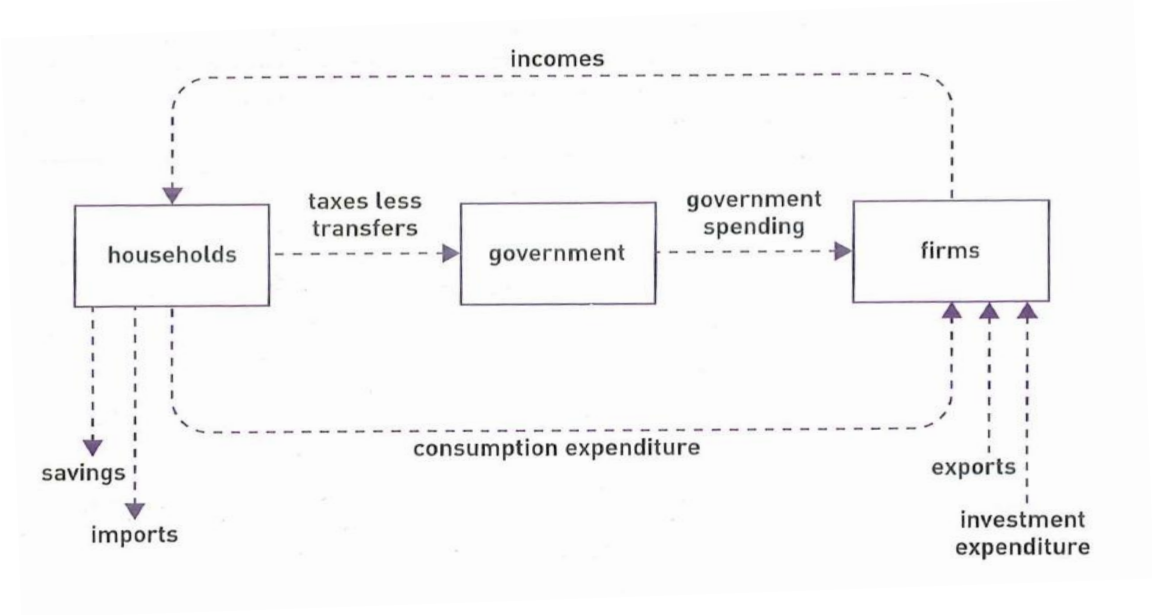

Figure 1 (Dawson, Anand et al. 2006: 322)

As this model shows, there are several factors that affect the income distribution in an economy. The government plays a central role as the stabilizing institution. As can be seen from the picture, the government can use taxation, regulation and government spending as tools to control the flow of income between firms and households. This topic will be discussed further in chapter 2.4. Even though the diagram does not show it, it should be kept in mind that firms also contribute to the CF model in the form of paying tax and/or national insurance.

2.2 Determining Business cycle, growth and stagnation

When economists first became interested in the cyclical developments in business, the business cycle model described just what it says: the fluctuation in businesses (Galbraith 1958: 37). In his book from 1958 Galbraith states the following:

The study of the business cycle was isolated in a separate compartment until very recent times. Prices, wages, rents and interest, all of which were profoundly affected by depression, were studied very largely on the assumption that depression did not occur. Normal conditions were assumed…"(Galbraith 1958:37)

As he writes, the study of business cycle was isolated from prices, wages, rents and interest, and state of *ceteris paribus* (with other things remaining the same) was assumed when it came to the study of business cycle (Galbraith 1958:37).
Galbraith mentions the readjustment following the First World War and the collapse of the stock market in 1929 as events that made it clear that these two studies had rhythmic similarities and are actually related and even intertwined. Today the business cycle is determined as "*The periods of boom and recession that succeed each other in market economies"* (Dawson, Anand et al. 2006:27). The business cycle has four stages:

1. Expansion
2. Peak
3. Recession
4. Trough (Bade and Parkin 2009:379)

The movements from one phase to another are hard to predict. The business cycle is not regular, and the intensity can vary (Bade and Parkin 2009:379). The cycle itself is pushed from one phase to another by several factors. A change in the business cycle comes from changes in aggregate demand, consumer behaviour and from both private and public investment (Dawson, Anand et al. 2006:27). Historically, periods of expansion or recession tend to last three to eight years before moving to the next stage of the cycle (Dawson, Anand et al. 2006:27). According to Galbraith, for a long time the business cycle was seen as self-adjusting and it was considered natural that a period of depression would follow a period of growth (Galbraith 1958:38).

Because recession was seen as a natural outcome, it was thought that nothing needed to be done by the government in order to avoid or soften the blow of a recession. At times, it was even considered unwise to try to meddle with the cycle (Galbraith 1958:38).

The growth in the business cycle happens in the expansion period, which is also regarded as the usual condition of the economy (Bade and Parkin 2009:379). In the period of expansion the real gross domestic product (GDP) is rising. The GDP consists of the market value of all the final goods and services produced within a country in a given period (Bade and Parkin 2009:366).

The real GDP per capita is calculated by dividing the inflation-adjusted GDP of a given nation by the population (Bade and Parkin 2009:379). Even though the real GDP is also used as a measure of the standard of living (Bade and Parkin 2009:380), it does not tell us how the income is divided between individuals within the economy. The standard of living is the amount of goods and services that people enjoy on average, calculated by average income per person (Bade and Parkin 2009: 366).

As the GDP measures the level of economic activities, there are also other factors that have long-term effects on GDP and growth. These non-economic variables change slowly but nevertheless have an important influence on the economic growth level. These variables include population, education level, urbanization and land use (Ayres 1998:8).

As we have already established, real GDP is also considered to be a measure for standard of living within an economy. The higher the real GDP is, the higher the standard of living usually is (OECD 2011: 47). Emerging economies, such as China and India have real GDP's per capita of 6,091 $ (China) and 1,489 $ (India). Developed countries have much higher real GDP's, for example Finland 45, 721 $ and the United States 51,749 $. Less developed countries such as Mali (694 $) and Nepal (690 $) have considerably lower GDP's (all figures from World Bank 2014). This data helps us in understanding why growth is considered a must. The growing real GDP should also mean that the standard of living is growing within the economy. When the growth of the real GDP slows down or stops entirely, this is referred to as stagnation.

When an economy enters stagnation, unemployment and loss of income follow (Dawson, Anand et al. 2006:306). This can lead to a situation, where the effects are multiplied and a recession will follow (Galbraith 1958: 92-93). The online business dictionary defines economic stagnation "*Stage in an economic cycle in which little (1 per cent or less) or no growth or decline occurs"* (Online Business dictionary). Other sources claim that even when the economy grows 2-3 %, it is considered stagnant. The chief financial economist of Japan's (Japan has beenknown for slow economic growth in recent decades) largest bank, bank of Tokyo-Mitsubishi, Chris Rupkey stated in February of 2014:" There is a dividing line between a slow-growth economy that is not satisfactory and above-trend growth with a tide strong enough to lift all the boats and put people back to work. That number is 3 %"(CNBC, 10 February 2014). In their book " The Endless Crisis" John Foster and Robert McChesney state that looking at the historic growth statistical stagnation can actually be seen as the normal state of affairs in capitalism (Foster and McChesney 2012: 4).

As already stated, stagnation can lead to a serious economic down turn. As the growth of real GDP is also considered a measure for the growth in standard of living, it can be drawn that at times of stagnation, the standard of living will not grow. In the worst case scenario, if stagnation leads to a recession, the standard of living within the economy will also decrease.

2.3 Determining income inequality and how it is measured

We have already discussed the distribution of income, and how economics explains how income is distributed between members of the economy. We also came to the conclusion that from the distribution models, the model of personal distribution is more relevant in today's society. Income inequality can be explained as the gap between the rich and the poor (OECD 2011:17). Another way of describing income inequality is "*A measurement of the distribution of income that highlights the gap between individuals or households making most of the income in a given country and those making very little"* (Business dictionary online).

Income inequality has always existed, but the growing concern is due to the gap between the rich and the poor of the world growing even larger (OECD 2011:18). In measuring income inequality several different methods can be used. These methods are very similar to each other, so it does not usually matter which method is used (Wilkinson and Pickett 2009:17). The most commonly used method in use measuring income inequality is the GINI coefficient invented by an Italian sociologist Corrado Gini. It is calculated by using a Lorenz curve that plots the cumulative percentage of total income received against the cumulative number of recipients, starting with the poorest individual or household. Algebraically, the GINI coefficient is defined as half of the arithmetic average of the absolute differences between all pairs of incomes in a population, the total then being normalized on mean income (Subramanian and Kawachi 2004:78). When using the GINI coefficient, inequality across the whole society is measured instead comparing the extremes (Wilkinson and Pickett 2009:17).

The GINI coefficient ranges from 0 (when everyone has equal income) to 1 (when all income goes to only one person. Thus, the lower the GINI coefficient the higher the income equality within the society or economy and vice versa (Wilkinson and Pickett 2009:18). There seems to be a tendency that the more egalitarian the country is, the smaller the country's GINI coefficient is (OECD 2011:17). The following graph shows the change in the past 20 years in the GINI coefficient of selected OECD countries. How and why income inequality occurs and why it has begun to rise again after several decades of decline will be discussed in the following chapters.

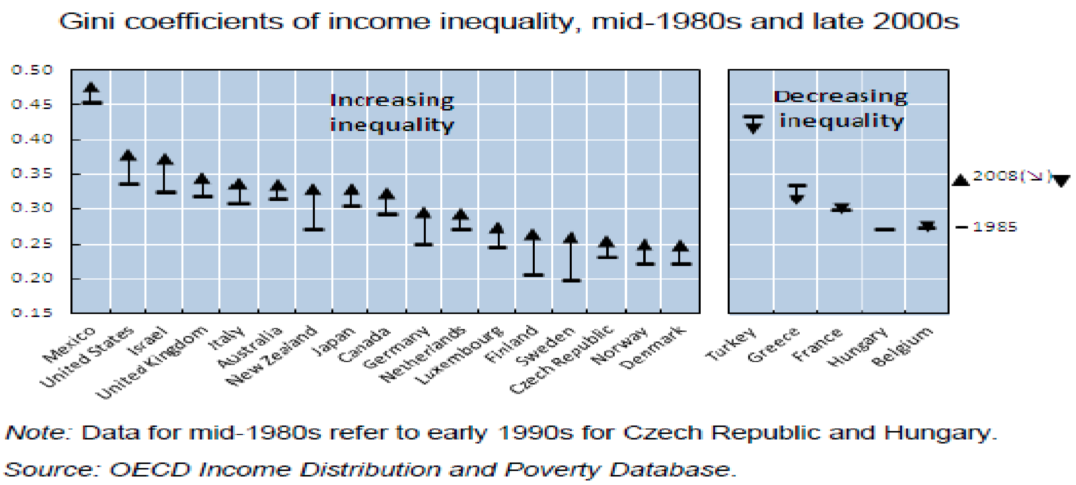

Figure 2

2.4 The market economy as a creator of income inequality

As we can see from table 2, the past decades have brought with them a rise in the unequal distribution of income. The reasons behind this are numerous. It would be narrow minded to say that a single explanation could be given for the rise in income inequality. First we need to start with a look at the history of modern capitalism, and how the rise of the current system has affected income inequality in the past 200 years.

It is almost impossible to say when exactly capitalism was created or how it came to be. Institutions, such as banks and insurance companies, date back to the Middle Ages (Zetterberg 2006:854). Mercantilism was the common practice and ruling system between 16^{th} century and 18^{th} century (Zetterberg 2006:1262). As the industrial revolution began in the 18^{th} century, it did not only change the way of manufacturing and living, it also changed the economy for good. Previously land was the main source of income, but the industrial revolution brought with it a blue-collar working-class. Capitalism as such is defined by the Oxford English dictionary as: "*An economic and political system in which a country's trade and industry are controlled by private owners for profit, rather than by the state".* This definition however, does not include the states role within an economy. In his book from 1994 Nicholas Barr stated: "It is a fundamental error to imagine that capitalist economics means an absence of government intervention" (Barr 1994: 29).

As the economy changed, new ideas and concepts began to rise. Adam Smith is considered to be one of the fathers of the modern system by many. Galbraith described him as "the first figure in the central economic tradition" (1958:21). Whereas in mercantilism, the government dominated the economy completely, Smith and his colleagues promoted liberal ideas where regulation was a natural effect of competition and the markets (Galbraith 1958:21). The ideas of Adam Smith were quickly adapted in practice all over the world. After Smith, economists such as David Ricardo, Alexander Hamilton, Friedrich List and Milton Friedman have promoted liberal economic ideas where state intervention should be as minimal as possible, or even that there is no need for government regulation in the economy.

It would be idiotic to claim that capitalism has brought with it only negative externalities. As we have already established, economic growth is the best way to influence general living standards. European countries experienced a boom in economic growth between the 17th century and 20th century. The change can be seen in the following table. In what are today called developing countries (in this graph, former colonies) the rise has also been significant. The fact is though, that the change has happened later in these countries. As the economies of these given countries grew, so did the standard of living.

Table 1 Levels of GDP per capita in European Colonial Powers and Former Colonies, 1500-1998

	1500	1700	1820	1913	1950	1998
Britain[a]	762	1 405	2 121	5 150	6 907	18 714
France	727	986	1 230	3 485	5 270	19 558
Italy	1 100	1 100	1 117	2 564	3 502	17 759
Netherlands	754	2 110	1 821	4 049	5 996	20 224
Portugal	632	854	963	1 244	2 069	12 929
Spain	698	900	1 063	2 255	2 397	14 227
China	600	600	600	552	439	3 117
India	550	550	533	673	619	1 746
Indonesia	565	580	612	904	840	3 070
Brazil	400	560	646	811	1 672	5 459
Mexico	425	568	759	1 732	2 365	6 655
United States	400	527	1257	5 301	9 561	27 331
Ireland[b]	526	715	880	2 736	3 446	18 183

(Maddison 2001:90)

What has this rise in GDP then historically meant to income inequality? All the data would indicate that in the beginning of the 20th century income inequalities were very high in all of the countries described in the previous table. As the table shows, the real GDPs grew fastest in the period from 1950 to 1998. In the beginning of 20th century GINI coefficient was soaring at over 50 % in the UK (The Poverty site). Throughout the first 50 years of the century, income inequality in the UK was decreasing till it reached the lowest point in the beginning of the 1960s. After this a steady incline began. Relatively, in the US the GINI coefficient was also very high in the beginning of the 20th century counting just below 50%. A similar decline can be seen throughout the first 60 years of the century. GINI reached a low point in the US in 1968 counting at 38% (Brescia R. 2010). After this, the income inequalities were on the rise in the US as well. In Finland, income inequality decreased similarly throughout the first 60 years of the century.

The difference in Finland was, that the GINI coefficient stayed fairly stable for nearly 20 years between 1970's and 1990's after which the incline started (Finnish Statistical Centre). The relationship of growth and income inequality will be researched and analysed later on in this paper.

The reasons behind the rise of income inequality will be discussed further in the following chapter.

2.4.1 Reasons behind the rise of the unequal income distribution

As was already pointed out, it is impossible to find a single explanation to the rise of income inequality. Some economists even claim that it is neither possible nor desirable to aim for full equality: "Some inequality is integral to the effective functioning of a market economy and the incentives needed for investment and growth" (Berg and Ostry 2011). Galbraith listed in his book some of the reasons why the defenders of income inequality see that some income inequality is needed for the functioning of the markets. These theories include the following; Income inequality is essential as an incentive, the resulting effort would increase production and thus bring greater incomes to all. Income inequality is essential for the formation of capital. When the income is equally distributed it is also equally spent (Galbraith 1958:67). In their paper for the IMF Berg and Ostry go on to say that in order for the market economy to function properly some inequality is needed, mainly because of one of the reason mentioned by Galbraith. According to them without income inequality there would be no capital accumulation and thus no investment, which would then lead to no growth.

A paper by Galor and Zeira in 1993 established and explained the theoretical linkage between income distribution and macroeconomics, through the investment in human capital. In their paper they claim that the distribution of wealth and income affects tremendously the aggregate economic activity. Even more so in the long run, as those who can afford to invest in education and schooling will do so and hence the division of income increases (Galor and Zeira 1993: 51).

In his book “Fault lines”, Raghuram Rajan, the former chief economist of the IMF, states that *“the gap between the growing technological demand for skilled workers and the lagging supply because of deficiencies in the quantity and quality of education is just one, albeit perhaps the most important, reason for growing inequality”* (Rajan 2010:23). It would seem that there is somewhat of a consensus between economists and research that education and technology are among the key elements in the rise of income inequality. The 2008 OECD report “Growing Unequal” listed the following reasons for the rise in unequal distribution of income:

- Changes in the structure of population. This is partly because in many OECD countries the population is getting older, thus their income levels are lower when retired than what they were when still working, but also because there are more single person households today than ever before, meaning that the division of income between households has become wider.
- The wage gap increasing between full-time workers, high earners becoming even more so
- Higher unemployment due to wage disparities
- Capital income and wage income are very unequally distributed. The OECD does not believe that taxation is a solution to the widening income gap, but as we will later in this chapter discuss, the policy changes that have resulted in the difference between capital income and wage income taxation is seen as one of the key reasons for higher income inequality by other sources.

It is clear that the previously stated causes have a significant effect on the distribution of income. But what has led to the situation where for example high earners have become even more so, or where education in some societies has become the privilege of the rich?

As we previously saw, income inequality began to rise again after a long period of decline both in the US and the UK in the end of 1960’s. This period also marked the beginning of the rise of neoliberal policies in both of these countries.

One explanation of how neoliberal policies are actually to blame, is given by George Irvin, the author of *Super Rich*:

> Underlying the Reagan-Thatcher political project were structural changes in both the USA and the UK; notably, the decline of industrial capital and the trade unions, the rise of the international financial sector and the growing importance of the two-trier service economy; i.e. low-wage and low skill and high-tech. The much-hyped 'new economy' has helped fragment labour markets, change the structure of remuneration, weaken job security, undermine the bargaining power of trade unions and spread neo-liberal ideology (Irvin 2008: 10)

Irvin is not the only one claiming that government policies are to blame of the rise in income inequality, many economist share his views. George Monbiot wrote in 2013 that reduction of tax rates and tax enforcement has actually been one of the sources of not only the rich getting richer but also for the increase in income inequality (Monbiot 2013). As mentioned in the previous chapter, there would seem to be a link in the time frame when income inequality stopped decreasing and the beginning of the period where more liberal economic policies came to be used by for example the US and Great Britain. According to Irvin, Thatcher's main goals during her period of power were to reform the economic policies and to reduce union power in the UK. He also states that the real achievements of Thatcher's period in power were that when she left office, nearly all of Britain's traditional industries (coal, mine, shipping, cars) were either gone or in serious decline (Irvin 2008: 78). These changes caused mass unemployment and a serious decline in employment in various manufacturing industries, especially in the well-paid blue-collar jobs that were available.

Decreases in the taxation of the rich have also been seen as a reason behind the rise of inequality. In the U.S., the liberal tax policies practised by both Bush administrations and the Clinton administration (Irwin 2008: 23) decreased the taxation of the high earners. The same claim about the effect of taxation has been made in other countries; in Finland a tax reform took place during one of the worst depressions of the country in 1993. In this reform the division of taxation on income from wages and the taxation on capital was made even more distinguishable.

Whereas the wage income taxation is progressive, the taxation on capital income was with one percentage that was much lower than that of a wage income (Raivio 13.11.2008 Helsingin Sanomat). This reform led to increased incomes from capital investment, which then caused income inequality to grow faster than it has in other OECD countries.

In the 1970's, companies were mainly run by their owners. The owners were also financially invested and financially responsible for the company. Most of today's CEO's, especially in the financial sector, do not have an ownership relationship in the companies. Instead they have a "responsibility" towards stockholders to produce as much profit as possible. This can be reflected in the changes in how companies today are run. CEO's do whatever they need in order to sustain their job, and keep the shareholders happy. According to the Economist in 2007, the growth in CEO pay has been tremendous in the previous 20 years. In 1992 S&P 500 companies issued 11 billion U.S. dollars worth of options. In 2000 the number had already reached 119 billion U.S. dollars (The Economist 20th January 2007). According to Irvin there are three main factors that have contributed to this change; share options, leveraged buyouts and the growth of financial corporations (Irvin 2008: 25).

Globalisation has also been blamed for the rise in unequal income distribution. In the book *Contemporary Capitalism and its Crises* it is stated that economists argue that "globalization contributes to the increasing skill premium, the significant decline in the blue-collar payroll share, and the increasing gap between nonproduction and production workers in the U.S. industries" (McDonough, Reich and Kotz 2010: 125). To a degree, this would seem to be a logical explanation at the time when most companies have outsourced their production to cheaper countries. The same source also claims that even if globalisation has had a part to play in the increase of income inequality, "it has contributed the least modestly to increased income inequality within affluent democracies since the 1970's" (McDonough, Reich and Kotz 2010: 126). This is because increased and faster globalisation is also a result of liberal economic policies, and as such can only be partly to blame of the increase in income inequality.

Different sources depending on their political agenda give different explanations as to why income inequality is on the rise. OECD explained the rise of income inequality in the 2011 report as follows: "*The single most important driver has been greater inequality in wages and in salaries… The labour market should therefore be the first place to act"* (OECD 2011:17). In the same report by the OECD it is stated that benefits and taxation play a less important role in the redistribution of income: "*Strategies focusing only on reshuffling income would be neither effective nor financially sustainable, especially in the constrained fiscal climate that prevails today"* (OECD 2011: 18). It would seem that the OECD leaves the responsibility of decreasing income inequality to the markets. This is partly this can be seen a consistent approach, as the OECD also concludes that the markets do suffer from the rise of unequal income distribution. How ever, the markets are to a degree to blame for rising income inequality, then how could the markets alone solve the problem? According to Market equilibrium theory, the markets will always self adjust according to three factors, price, supply and demand (Bade and Parkin 2009:99). How ever, the market would seem to be unable to self adjust, due to cumulative causation caused by the multiplier effect and due to the reasons explained later through Keynes's theory.

The link between income inequality and aggregate demand is one that economists mostly agree on. The agreement on whether income inequality is a cause or an effect is still to be found. One of the first economists to stress the effect of income distribution on aggregate demand was Keynes in 1936. Keynes established a link between inequality and a slowdown in economic growth. Keynes claimed, that marginal consumption rates are fairly equal in all income brackets (Galor and Zeira 1993: 35). Hence aggregate consumption depends on changes in aggregate demand. The problem here is the following: Knowing that economic slowdown increases income inequality, and claiming that income inequality is in fact causing the economic slowdown would mean that income inequality is both the driving force and the effect that follows. We will return to this topic later on.

However, one theory that can be dismissed using Keynes's theory of marginal income is the ever so popular trickle down theory. With advocates such as Reagan and Thatcher, the trickle down theory became very popular in the 1980's (Timmins 2011).

The basic idea of the trickle down theory is, that even if the rich got richer their income and wealth would trickle down in the income scale so that all incomes would rise, even the lowest ones. A study made in 2010 pointed out that in the beginning of the latest economic crisis political and economic pressure made high-income individuals save and the low-income individuals to sustain consumption through borrowing (Berg and Ostry 2011). As the crisis evolved, the low-income individuals were not able to pay their credits, which led to an even greater decline in the aggregate demand thus multiplying the effects of the crisis.

The same reverse multiplying effect can be seen for example in the urbanisation process of Finland. Since the beginning of the industrial revolution and throughout the 20^{th} century there has been a strong movement of population from the country towards the cities. In 1995, 61% of the Finish population were living in the cities or other build up areas, Helsinki being the biggest city, with 500 000 inhabitants (Greyer 2002: 243). The most important motive for the move of the population has been securing income. Why then have all the jobs moved away from the country, where it would actually be more logical to invest, as the starting costs would often be lower? Investment how ever does not seem to follow such logic. Companies tend to invest in areas where other companies have already been successful. This leads to regional investment of companies in the same areas, such as for example Silicone Valley (Porter 2000: 15). The multiplying effect in the case of urbanisation can be seen as the process where investment is not spread equally but localized in some areas. This investment then creates jobs and income, and thus people move towards these areas gaining investment. Other companies are attracted by the previously successful examples, and more investment to the same area is created.

To summarise, this quote from Hyman Minsky explains the Keynesian theory: "instead of the demand for low-wage workers trickling down from the demand for the high-wage workers, such a policy should result in increments of demand for present high-wage workers 'bubbling up' from the demand for low-wage workers" (Minsky 1968: 338).

2.5 Effects/ externalities arising from unequal income distribution

As we found in the previous section, the reasons behind the unequal distribution of income are many. This chapter will show that effects of income inequality in a society are as numerous, if not even more so. The effects can be categorised into 3 levels; those occurring on the Personal-, Society- and the Economic levels. As this study focuses on the economic aspects of income inequality, the others will only be discussed briefly even though they are also are significant. It can also be said, that the effects on the society and on the personal level have an effect on the economy as they create costs.

Personal effects are just that, individual people notice them in their everyday lives. These affects are usually related to health and social issues. The statement "poverty is bad for the health" (using measurements such as mortality, morbidity and quality of life) is an undisputable fact even amongst the scientists, but the relative distribution of income in a society also seems to contribute to the level of public health (Kawachi and Kennedy 1997:1037). There seems to be a cumulative relation between the average health status of a society and the level of income inequality (Kawachi and Submanian 2003). In their book "The spirit level; Why more equal societies almost always do better" Wilkinson and Pickett list the following areas as areas in which more egalitarian societies do better than those in which income inequalities are higher: Mental health and drug use, physical health and life expectancy, obesity and educational performance.

Wilkinson and Pickett list the effects on the level of the society as a whole as follows in their book: Violence, imprisonment, social mobility and social coherence. These affects could also be included in those listed at the individual level, and the ones listed on the individual level could also be included here as they do have an effect on the society as a whole.

As mentioned earlier, the effects on the economy arising from income inequality have been a topic of much discussion lately. One school of thought thinks that income inequality is essential to the working of the economy, and even that income inequality is justified, as the people who get more deserve it more than those who are less well off (Galbraith 1958: 67). However, many institutions (OECD, IMF) and economists have in the past years come to the conclusion that income inequality is actually hindering the development of the economy and growth. Many studies have shown, that there is a negative correlation between income inequality and economic growth. When income inequalities rise, the economic growth starts to decline. In their paper for the IMF from 2011 Berg and Ostry concluded that equality seems to be an important factor for promoting and sustaining growth (Berg and Ostry 2011).

There are several measures for the functioning and the well being of the economy. Unemployment and productivity are two such indicators. According to the literature, the relationship of these two with income inequality is one of negative correlation. The OECD 2011 report states that unemployment, especially long-term unemployment could lead to higher levels of income dispersion (OECD 2011: 128). The same report also states that unemployment affects the economy also because as unemployment rises, the costs to the government rise and the income in tax revenue decreases. The positive effect of the economic stimulus or investment from the state is cancelled out by the effects of unemployment (OECD 2011: 42). Why then does unemployment matter? In his book Paul Krugman explains that unemployment matters "partly because potentially productive workers are not being used, preventing the economy from producing as much as it might; partly because high unemployment breeds persistent poverty" (Krugman 1994: 29). On top of increasing poverty and income inequality, unemployment also adds to the social cohesion within a society. When income inequalities rise, the social cohesion within the society decrease and social exclusion increase (Kawachi and Kennedy 1997:1494).

Another measure of the economy is productivity; it measures how efficiently production inputs (such as labour and capital) are being used in an economy to produce a given level of output (Krugman 1994:11). According to Krugman, the only way of achieving sustained long-term growth in living standards is by raising productivity (Krugman 1994:12). The OECD 2011 report seems to contradict these findings.

The report claims that the advances in technology in the past 30 years have actually increased productivity in general (OECD 2011:153). The key to higher productivity is more output or in other words total product (Bade and Parkin 2009:259). In order to increase productivity more output per unit of input is needed. Input is the cost or the investment that is made to produce output. In the past years technology has been a key source of low cost (compared to hiring more labour) output increase. According to a study made in Oxford in 2013, the same development is likely to continue; in fact nearly 50 % of all workforce could be replaced by automation in the US within the next 20 years (Frilander 2013 YLE News). This has led and is likely to lead to even lessened numbers of well-paid blue-collar jobs. While the OECD report saw the increase of income inequality to be due to the technological advances, it does not support the argument of decreased productivity due to technology. There are also opposing views to this topic. In their paper from 1997 Kawachi and Kennedy studied the health affects that high income inequalities had on the individuals, but also found that income inequalities affect productivity. The higher the income inequalities were in the society the lower the productivity of that economy would usually be (Kawachi and Kennedy 1997: 1037). Kawachi and Kennedy are not the only ones to find negative correlation between income inequality and productivity. In the book "Economic Growth and the high wage economy: Choices constraints and opportunities in the market economy", Morris Altman states the following: "Statistics suggest that higher levels of per capita GDP and labour productivity tend to coincide with relatively lower levels of income inequality" (Altman 2012: 64). Berg And Ostry also stated in their paper for the IMF that efficiency could be improved by improving equality (Berg and Ostry 2011).

Comparing statistics and finding relationships between the measures of economy and income inequality is relatively easy. Even though unemployment and productivity seem to correlate with the rising income inequality, the cause of these two would seem to be the same. According to Irvin, they are both results of the liberal economic policy of the past decades (Irvin 2008: 79). If this were true, it would lead to the conclusion, that income inequality is not a driving factor for unemployment and productivity, but among one of the externalities that arise from policy changes.

How ever, as we have already established, there is a link between the aggregate demand within an economy and income inequality. The notion that marginal consumption rates are fairly equal in all income brackets would mean that as inequality increases, it leads to a lessened aggregate demand as explained by Keynes. As a result, a situation where the diminishing aggregate demand is unable to support a necessary level of output in order for economies of scale to occur and this then leads to higher costs of production. In order to cut costs, companies would then end up laying off labour, where this then would lead to higher unemployment. These findings would leave us to conclude, that the relationship of income inequality and unemployment is complex, and the to name one as the driving force to another is difficult.

After discussing unemployment and productivity, the relationship of economic growth and income inequality will be discussed through the latest economic crisis and the role of income inequality in the crisis.

2.6 Relationship of stagnation and income inequality

As we have already concluded from the literature, growth is the most important economic indicator as it is also the indicator of improving living standards. As mentioned previously, economic growth is measured by the change in real GDP. After the economic crisis began in 2008 the growth rates of most economies decreased and have stayed very low until today. According to a study made in 2011 the difference with countries that can sustain rapid growth for many years or even decades and the many others that see growth spurts fade quickly may be the level of inequality (Berg and Ostry 2011).

The topic of aggregate demand and its effects on income inequality was briefly discussed in the previous chapters. In Keynesian macroeconomic theory the proportion of an aggregate raise in income that an individual uses for the consumption of goods and services is calculated as the consumption divided by the change in income. In his doctoral thesis from 2012, Tuomas Malinen found that the concentration of income to the rich decreases aggregate consumption, whereas the poor consume their incomes more efficiently and thus increase consumption (Hara 2012 YLE news).

The latest crisis showed us how the effects of unequal income distribution on aggregate demand were multiplied in the beginning of the crisis. The OECD 2009 report described what it called the reverse multiplier effect. The more unequal wages have created a situation where more people need the help of social protection to maintain their living standards. Even though the sheer volume of social distribution increased it also meant that the government had less to spend on investing in new projects and creating more jobs. The decrease in investment decreased the money in circulation, which then decreased the incomes of some individuals (OECD 2008). The policies of trying to cut costs and decrease government spending could be making the situation even worse. According to U.S. economist Robert Reich the effects of policies focusing on austerity are not only harming individuals but also to the economy and growth in general. Savings in the time of crisis lead to a slowdown in the economic growth thus increasing public debt to GDP ratio, which makes the situation even worse and the economy to remain stagnant (O'Hara 18 March 2014).

In the beginning of the current economic crisis, many resorted to borrowing and to credit in order to sustain their living standards. Michael Fetcher cites a study that clearly showed how the stagnant income of the bottom 95 % of wage earners has made it impossible for them to consume as they did in the years before the down turn (Fletcher 2014). This has led to a situation where the aggregate consumption has also remained stagnant and as a result the economy as a whole.

Even though there is no agreement whether the latest economic crisis was due to income inequality, there is agreement amongst economist that were it not the main reasons it was at least one of the contributing factors. In February 2014 the IMF released a study where it stated: "It would still be a mistake to focus on growth and let inequality take care of itself, not only because inequality may be ethically undesirable but also because the resulting growth may be low and unsustainable". The head of IMF, Christine Lagarde, also stated that creating economic stability is impossible without also addressing inequality (Reuters, Yukhananov 26 February 2014).

3 Outcomes of literature review

The rise in income inequality is sometimes seen as a political topic instead of an economic one. As income distribution is at the heart of economics, the importance of the research of the causes and effects that the rising income inequalities have is essential in the study of economics itself.

As the literature review shows, the reasons behind income inequality are various, but all draw from the economic system and the increased popularity of liberal economic policies. It would seem that the most important causing factors behind income inequality are the changes in economic policy together with drastic changes and the liberalisation of corporate governance. The examples given in the literature review from Finland, the US and Great Britain show us that decreases in the taxation of the rich, and the change in capital taxation in Finland has led to a situation where redistribution of income has lessened. It would seem that there is a multiplier effect actually increasing the income of those who are already rich, and a reverse multiplier effect decreasing the income of the lower income classes (Raivio 13.11.2008 Helsingin sanomat). Combined with other factors such as availability of education, and increased globalisation income inequalities have been rising in the past 10 years after several years of decline. This has alarmed both international organisations such as the IMF and the OECD, and also many nations are paying more attention to the rising income inequalities.

The options on how to decrease income inequality are also various but they depend ultimately on the state. Without going into too much depth, amongst the balancing instruments are progressive taxation, government spending and equality in education. It should be clear by now, that if left for the markets to self- adjust income inequalities will only increase.

The effects that income inequality has are numerous on the level of the society and economy as a whole, as well as on the individual level. The correlation of the rise in income inequality and slow economic growth has been established by many different sources. At the same time as income inequalities began to rise, the economy has been stagnant or not growing at all.

Together with the current economic crisis and the continuing rise of income inequality, one question remains; are income inequalities causing economic down turn, or are they both the result of poor economic policies and in particular the liberalisation of the economy?

4 Methodology

In the introduction a quote from the paper by Galor and Zeira from 1993 established the importance of income distribution from the macroeconomic point of view. The literature review showed us that income inequality seems to be the topic of much research and discussion. The main concern seems to be in reference to the possible effects of income inequality on the economy as well as economic growth and thus the living standards within the given economy. The causality between the two is hard to detect; which is actually causing the other? The point of this research is to find a causal relationship between the growth and stagnant periods within an economy and the rise and decline in income inequality.

As the data collection for this study is secondary, the research done in order to answer the research question is based on theory and literature. Primary evidence does not contribute to the findings. The research conducted is quantitative in nature, as it is based on numerical data, figures and statistics. This is also one of the weaknesses of the study: as David Coates establishes in his book "Models of capitalism", economic growth is "not the easiest thing to measure" (Coates 2000: 2).

The measurements and the facts of how these measures actually reflect economic growth and economic performance are under debate even amongst the economists. Also, the fact that statistics can be interpreted in various ways depending on the point of view of study makes a quantitative analysis of any form debatable. As Leamer put it "This is a sad and decidedly unscientific state of affairs we find ourselves in. Hardly anyone takes data analyses seriously. Or perhaps more accurately, hardly anyone takes anyone else's data analyses seriously" (Leamer 1983: 37).

In order to be taken seriously, the research and ultimately the findings of this study will try to establish an objective view of the results from the data analysis, instead of an opinion or a point of view.

4.1 Research question and objectives

As established in the literature review, rising income inequalities correlate with the decline of economic growth. However, the question remains whether income inequality is the cause of the slow or no economic growth or just one of the effects of the poor economic policies and decisions made in the past. The aim of the research is trying to find out whether income inequalities have a direct causal effect on the economy. The research question we will be trying to answer is the following: Do increasing income inequalities cause stagnation in the economy and slow the recovery from a crisis?

4.2 Research approach

For the purpose of our research, the measures that will be used in order to establish the relationship of income inequality and stagnation in the economy need to be defined. The measure used in this study to represent income inequality is the GINI coefficient, which was discussed already in the literature review. This measure was chosen above other measures of income inequality such as the Robin Hood-index, because of the availability of data. Amongst other institutions, the OECD and the IMF use the GINI coefficient in their studies, and also the World Bank and various other resources list the GINI coefficients of countries.

As for the measure of the economy, the change in the real GDP growth rate was chosen as a measure. As discussed in the literature review, the growth rate of an economy is considered one of the key factors in defining whether an economy is thriving and thus bringing prosperity to the society, whereas a declining or a stagnant growth rate is considered to bring negative externalities.

In order to establish a credible causal relationship between the GINI coefficient and the GDP growth rates, more than one example of this pattern needs to be established. Thus, more than one economy needs to be analysed. The research will be covering the statistics of 16 countries in regards to the change in the GINI coefficient and the relative change in their GDP growth rate. The purpose of this sample is to cover countries in completely different economic situations before the crisis hit. As most of the world's economies have been experiencing stagnation after the latest economic crisis began in 2007, it should be fairly easy to find statistics in order to establish the linkage of income inequality and the stagnant economy.

To be able to answer our research question in the affirmative (Do increasing income inequalities cause stagnation in the economy and slow the recovery from a crisis?), we should find that income inequalities began to rise before the economic crisis hit. This would establish that there is a causal relationship: That the time of stagnation has been prolonged because of growing income inequalities.

4.3 Data Collection and analysis

The data that has been used in the research has been primarily gathered from three sources, the World Bank database, the OECD database and the Trading Economics database online. Other sources have also been used when the necessary data was not available from these three sources. Additional sources such as the Finnish statistical centre, other national databases and the CIA World Fact Book have been used.

The countries chosen for the research was random. The aspect of how income inequality affects economies in different stages (Less developed, developing, developed) could also vary. This is why the countries chosen are from the different stages of development. This should help in finding out, whether the starting situation of the economy has a role to play (for example if the effects are more severe in one development stage or the other). It would also support the findings if our hypothesis is right; that regardless of the economical situation of the country, stagnation is prolonged by income inequality. The analysis of the data gathered has focused on the timing of the changes in growth rates compared to changes in the changes in GINI coefficient.

The aim of the analysis is to find out whether our research question can be answered reliably using the data available. This would mean that the data gathered should indicate a rise in the income inequality before the economic crisis hit in a majority of the economies and also that no recovery has happened since the crisis because income inequalities are still growing or remaining on a high level. Analysing the findings is essential in order to be able to conclude that the impact has been consistent.

5 Research

As we have already established, the research will focus on the economic development right before and after the 2007 economic crisis, compared to the GINI coefficient. As the research aims to find whether the rise in the GINI coefficient is the cause of stagnant economies, we will take a longer frame of time to portray the changes in the GINI of the economies under investigation. Depending on the data available, the period varies from the minimum of 10 years prior to the crisis, to possibly a lengthier period where the data has been available. The countries that have been used in this research are in alphabetical order as follows: Argentina, Australia, China, Croatia, Denmark, Egypt, Finland, Germany, Italy, Japan, Nigeria, Russia, Singapore, Spain, United Kingdom and the United States. These countries were chosen to be able to conclude also how the different economic situations affect the hypothesis of income inequality having an affect on the economic development.

We will first portrait the data of each country’s development in GINI coefficient, following with the development of economic growth after the latest economic crisis. It should be noted that each country has its unique characteristics and even though the economic development might seem similar just by looking at economic growth compared to the GINI coefficient the reasons and driving forces behind these developments might be very different. In order to understand the unique situation of each country portrayed, the study focuses on some of the main features leading up to the crisis.

The results and findings will be analysed further in chapter 6.

Development of GINI coefficient in Argentina 1995- 2010

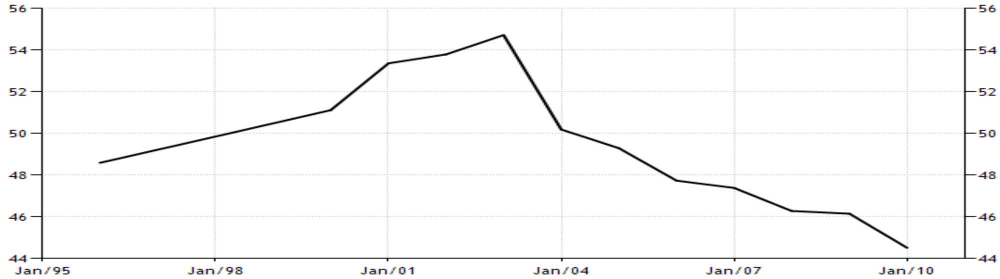

Figure 3 Source Trading economics online

The annual GDP Growth rate in Argentina 2000-2014

Figure 4

The data from Argentina indicates that income inequality was on the rise through out the 1990's, and reached its peak in 2003. After this income inequalities have been decreasing according to statistics. The latter figure here shows us how there was a slump in the Argentinian economy in late 2001, and a steady stagnant development after the crisis passed with growth rates remaining under between 0 and 4 %.

According to the OECD, Argentina is considered to be a developing country. The situation in Argentina is in the beginning of the 21st century was unique, as the country went through a very serious economic crisis. The public debt ratio of the GDP was over 50%, and the public debt was at 90 billion pounds in 2001 (The Guardian 20.12.2001). The economic situation led to the collapse of the government and after the formation of a new government. The new government led by Nestor Kirchner took drastic measures, and defaulted on international debt and ended the pesos convertibility system.

The restructuring of the economy has been an on going process ever since these unconventional measures were taken, and as such Argentina is not perhaps the best example as it has not been functioning as a "typical" market economy in the past 14 years. How ever, we can see that in the first 3 years of the economic crisis, which were also the worst years, the income inequalities were still rising. Even though this can be seen in the statistics, as there are several external factors in play in the situation in Argentina, it is perhaps not the most conclusive example

Development of GINI coefficient in Australia 1995-2010

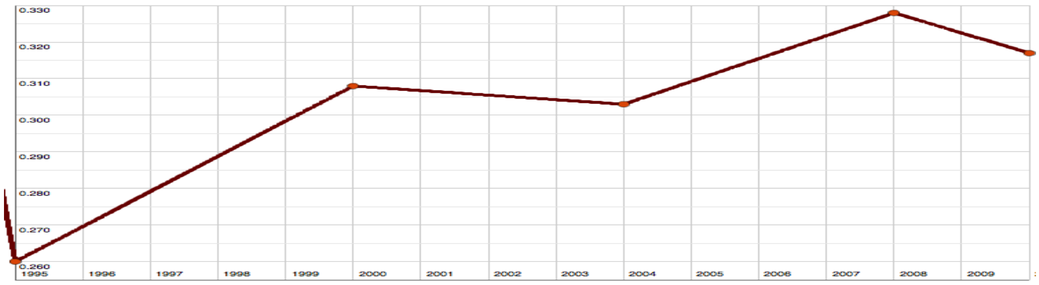

Figure 5 Source OECD database on income distribution and poverty

The annual GDP growth rate in Australia 2000-2014

Figure 6

As for the development in Australia, similarly to Argentina, income inequality has been on the rise since mid 1990's. Relatively, throughout the 21st century the Australian economy has been experiencing negative development in the GDP rates, and only growth rates of 2% or less.

Australia is listed as a developed country according to the OECD 2011 report. The Australian economy was in great condition before the crisis hit the globe in 2008. In Australia, there was no public debt, the economy was in general considered to be in great shape with significant assets and running surplus budgets (Alexander 28.8.2013 The Guardian). So when the crisis hit, Australia was and still is considered to be one of the countries that was well prepared for the crisis. Stimulus packages were given, even to a degree where each taxpayer got money directly from the government in order to increase aggregate demand and to stimulate the economy. Yet, the growth rates in Australia have not differentiated from any of the other countries hit by the crisis. What is note worthy is, that there is a similar pattern of increasing inequality before and during the crisis as in all of the countries hit by the crisis.

Development of GINI coefficient in China 1995-2010

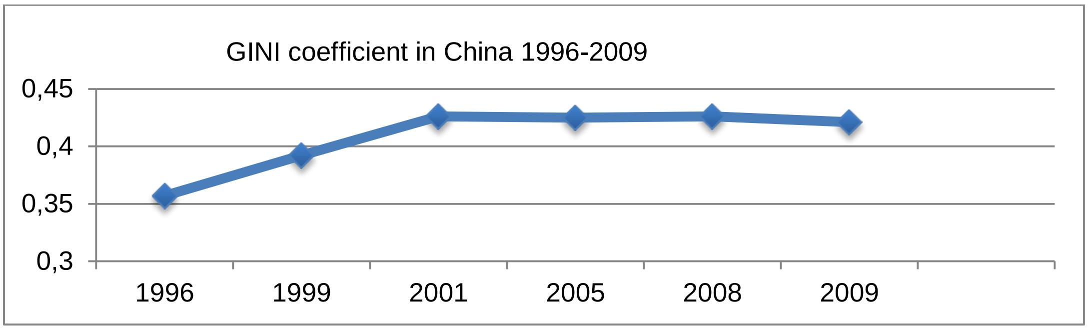

Figure 7 Source World Bank data

The annual GDP growth rate in China 2000-2014

Figure 8

China is one of the few economies that have managed to keep its growth rates in the past decade above the limit of what has earlier been defined in this paper as stagnation (3%). Even after experiencing several years of growth, China is still considered to be a developing country by the OECD.

The reasons behind the remarkable growth in annual GDP even during the economic crisis (6 to 10%) in Chinas case are more political than anything else. According to the World Bank, the market reforms that were initiated in 1978 have moved China from planned economy towards a market-based economy, thus the liberalisation of the markets have enabled rapid growth (The World Bank online 2014 China Overview). These remarkable growth rates can also be partly explained with globalisation, investments in infrastructure, and FDI.

The data from China tells us that income inequalities have been on the rise throughout the 20th century, reaching a recorded high in 2001. The reliability of the data is one factor and also, the fact that there is no data available prior to 1996 makes the data somewhat uncertain. How ever, we can see that as the GINI reached its recorded high in 2001, at the same time growth rates of the economy were consistently at its lowest. This development is consistent with the argument that higher inequality would lead to stagnation.

Development of GINI coefficient in Croatia 1998-2010

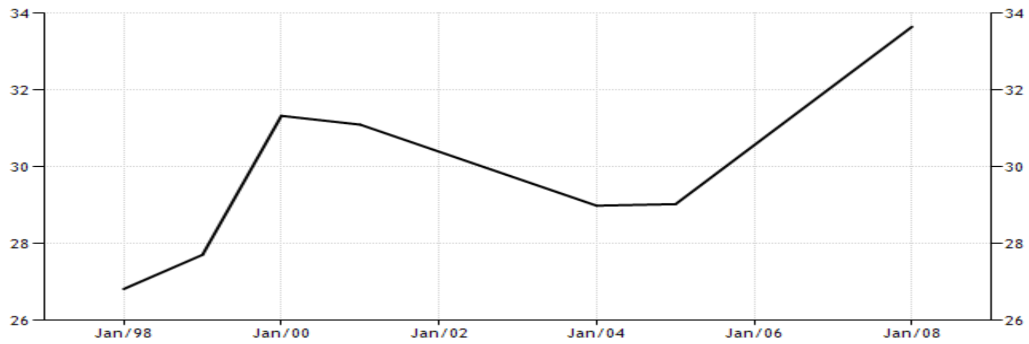

Figure 9 Source Trading economics online

The Annual GDP growth rate in Croatia 2000-2014

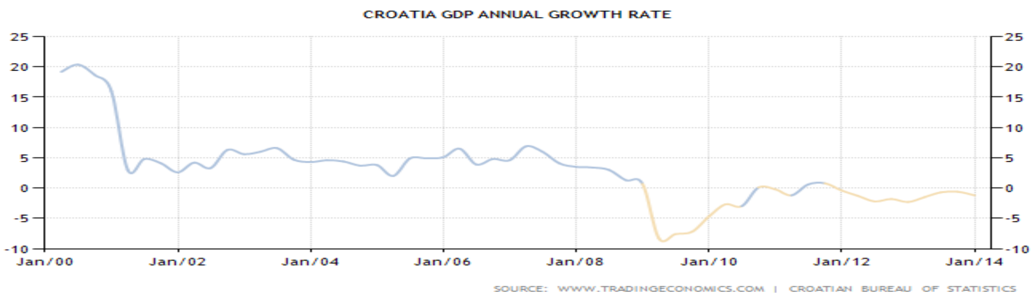

Figure 10

Also Croatia is considered to be a developing country according to the OECD. Prior to the global economic crisis, Croatia's economy grew steadily with growth rates between 4-5 % (World Bank online 2014 Croatia Overview). Croatia was hit by the crisis badly, and the 6 years of recession has led to a loss of 12 % in the country's output and poverty has risen from 10% before the crisis to 18% in 2013 (World Bank online 2014. Croatia Overview).

As can be seen from these figures, income inequality has had an ascending trend for the most part in Croatia in the past 15 years up until the 2005. As mentioned, economic growth was around approximately 5% annually until the economic crisis hit Croatia in 2009 after which the country has been in recession. The data shows us, that in the years leading up to the crisis Croatia has experienced a surge in GINI. This would support our hypothesis that higher inequality can lead to a prolonged recession or lessened growth.

Development of GINI coefficient in Denmark 1995-2010

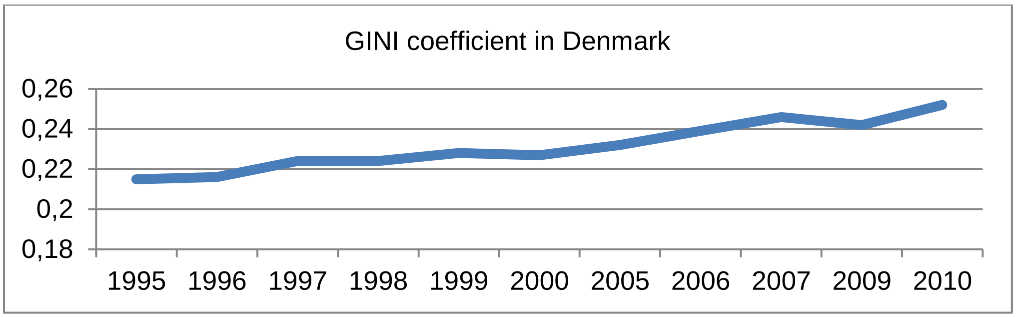

Figure 11 Source OECD database on income distribution and poverty

The Annual GDP growth rate in Denmark 2000-2014

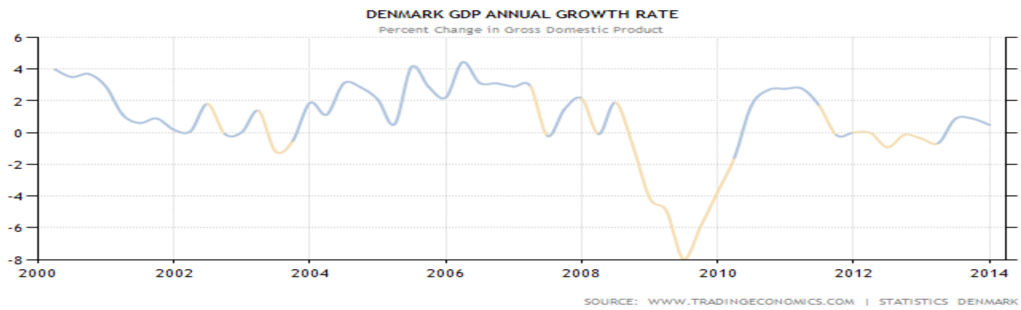

Figure 12

Denmark has been and still is amongst the most egalitarian countries in the world. Economically, it is also considered to be a developed country according to the OECD. The strength of the Danish economy has been named as "Flexicurity", which the Economist describes as "a peculiarly Danish blend of a flexible labour market, generous social security and an active labour-market policy with rights and obligations for the unemployed" (The Economist 7.9.2007). This has meant that the Danish employers are able adapt fast to changes in the economy without substantial problems.

According to the data, income inequalities have been on the rise in Denmark like in other OECD countries since the mid 1990's. The annual growth in Denmark has slumped to the negative side 4 times since 2000. The growth rate has also remained very low throughout the period, between 0 to the high of 4 % in 2006. Thus it would seem that there is a link with the growing inequality and the ability to get the economy growing even with the flexicurity system.

Development of GINI coefficient in Egypt 1995- 2008

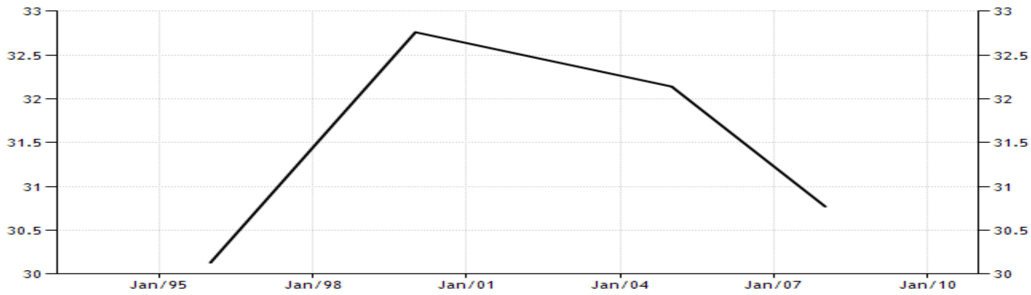

Figure 13 Source Trading Economics online

The Annual GDP Growth rate in Egypt 2000-2014

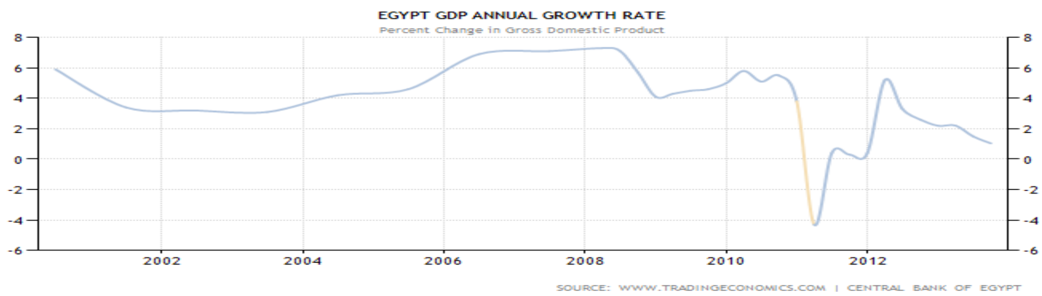

Figure 14

The OECD lists Egypt as developing economy. The data from Egypt is somewhat incomplete and leaves room for interpretation. It would seem that until 2000 income inequality was on the rise in Egypt and after 2001 started a slow decline. The economic growth since the beginning of the 21st century was promising, topping at 7% in 2008. After this a decline in the growth rate occurred. This could also be due to the political situation being unstable, in the beginning of 2011 elections were held and Hosni Mubarak was chosen as the president. This lead to the beginning of what can be called a revolution, demonstrations were held, and eventually the government was overthrown in February of 2011 (World bank data 2014 Egypt Overview). The political situation continued to be complicated up until elections in February of 2014. During this time, the country's economy suffered from the lack of governance and the political turmoil affected tourism, one of the main industries of the country, severally. These developments make it very hard, if not impossible to examine the relationship of economic growth and income inequality during this time in Egypt.

Development of GINI coefficient in Finland 1995- 2010

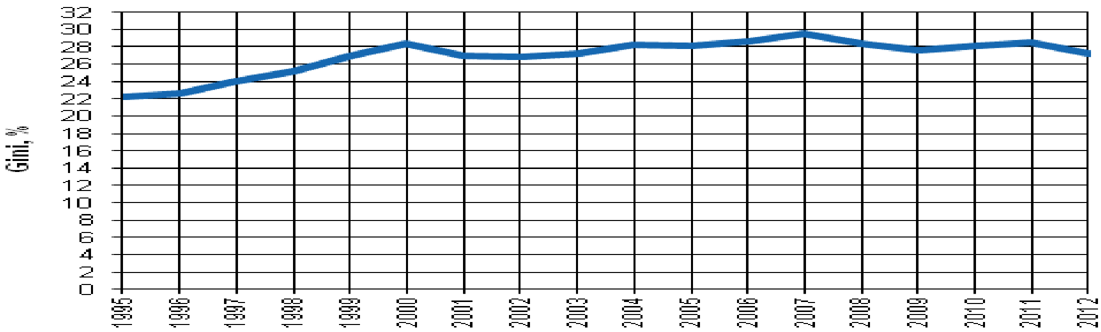

Figure 15 Source Finnish Statistical centre

The Annual GDP growth rate in Finland 2000- 2014

Figure 16

With Denmark and Sweden, Finland is considered to be one of the fore runners in the area of equality. Contributing to this status, has been the strong welfare system together with the support of the government to employers. Finland is considered to be a developed country economically according to the OECD. The Finnish economy suffered from a severe recession in the beginning of the 1990's. Figure 11 shows, there has been a steady incline in income inequality since mid 1990's when the recovery after the crisis began. Leading up to the crisis of 2008, there was a small but yet note worthy incline in income inequality. The annual growth rate has been slow and can be mostly considered to be stagnant in the 21st century. This example would again support the hypothesis of rising inequalities making it harder to recover from an economical crisis.

Development of GINI coefficient in Germany 1995- 2008

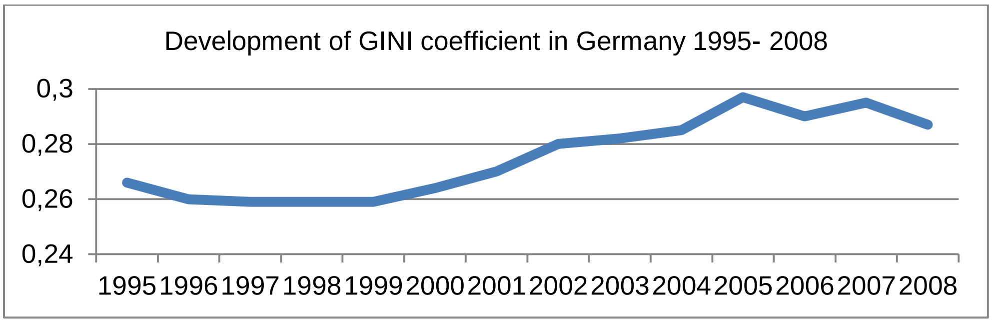

Figure 17 Source OECD database on income distribution and poverty

The annual GDP growth rate in Germany 2000-2014

Figure 18

Germany is one of the strongest economies in Europe, however even the economy in Germany has suffered from the global economic crisis. We can see that income inequalities have been on the rise since mid 1990's. Relatively, stagnation has been constantly present since the beginning of the 21st century.

As the political atmosphere has been quite steady, without massive turmoil or changes, the findings from Germany would again support the hypothesis that growing income inequalities make it harder for an economy to survive from a recession.

Development of GINI coefficient in Italy 1995- 2010

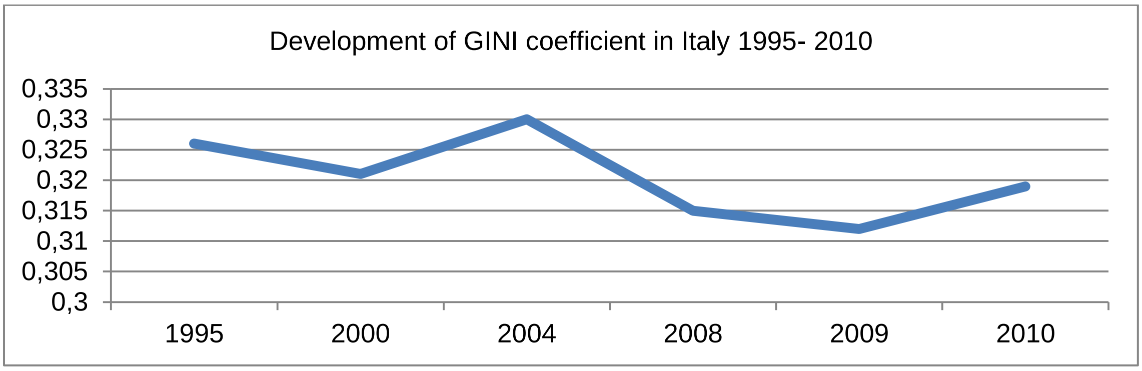

Figure 19 OECD database on income distribution and poverty

The Annual GDP growth rate in Italy 2000-2014

Figure 20

Italy is considered to be a developed country according the OECD. According to Index Mundi's Economy Profile for Italy in 2013, the economy is mainly driven by the manufacturing of high quality consumer goods produced by small and medium sized companies (Index Mundi online 2013). Thus, it is quite natural that the economic crisis of 2008 hit Italy severally. The information regarding the development of the GINI index in Italy is somewhat lacking, as there are results only every 4 years. What can be said is that there seems to be little to no change in the GINI between 1995 and 2010 varying from 31 to 33 %. As for the growth rate, Italy like other countries so far has experience very little to no growth or negative growth rates in the 21st century. As there is very little change in the GINI during this period, growing inequality can hardly be seen as a driving force behind the stagnation and recession.

How ever, as the income inequality is higher compared to countries such as Denmark, Finland and Germany, this can perhaps be seen as a factor in the economic development as the economy in Italy was more affected by the crisis than the other listed countries.

Development of GINI coefficient in Japan 1995- 2008

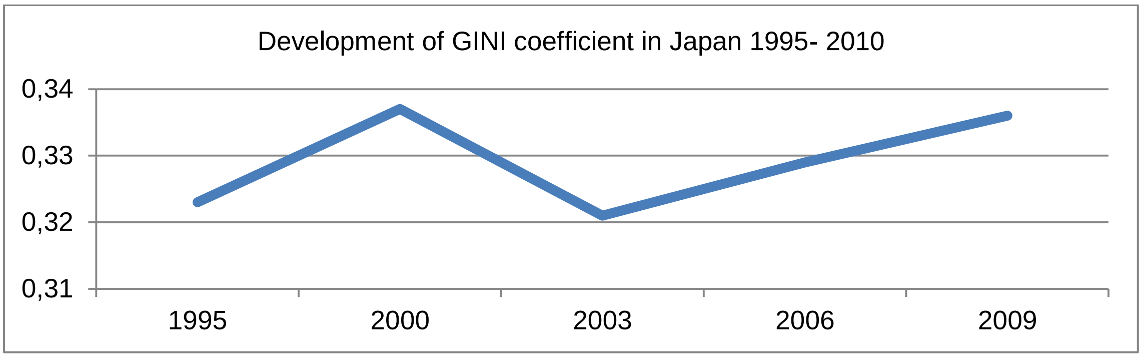

Figure 21 Source OECD database on income distribution and poverty

The Annual GDP growth rate in Japan 2000-2014

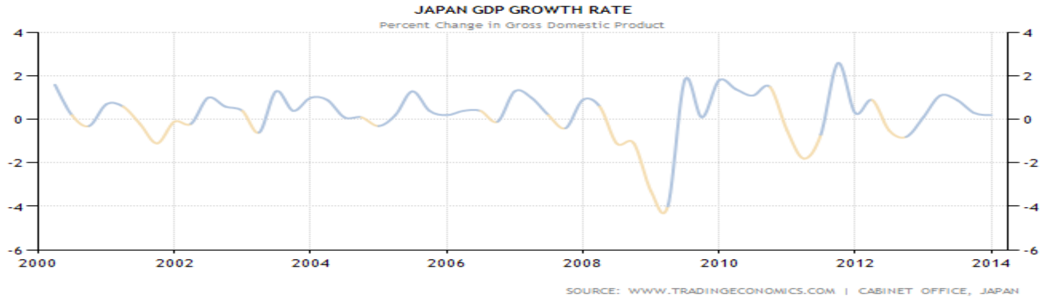

Figure 22

Japan secured its position as a developed country during the years after the Second World War High growth rates continued to the end of 1980's after which the economy in Japan has experienced severe difficulties (CIA world factbook online). As in the case of Italy, The information from Japans GINI index is not yearly. Also, the fluctuation in the GINI index in Japan seems to be fairly minor. Japan has struggled with persistent stagnation and negative growth rates throughout the 21^{st} century. The tsunami of 2011 made the economic situation even worse, as it affected the manufacturing industry.

As for the relationship of stagnation and income inequality, the same as in Italy's case can be said. Other developed countries that survived better from the crisis have had lower GINI rates. But to draw a direct conclusion that income inequality is the driving for of persistent stagnation in Japan would be jumping into conclusion.

Development of GINI coefficient in Nigeria 1995- 2008

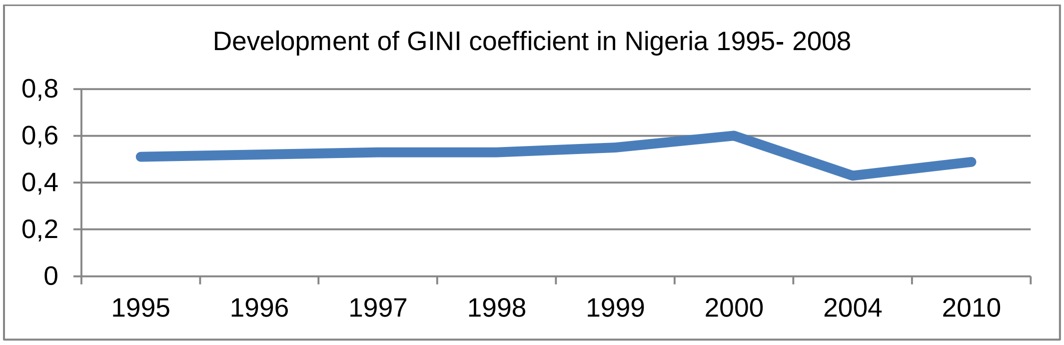

Figure 23 Source Tradineconomics and Bakare A.S. 2012

The Annual GDP growth rate in Nigeria 2005-2014

Figure 24

Nigeria with its 158 million population constitutes the largest country in Africa. Like other developing countries, Nigeria has had its share of political turmoil. In 2011 elections were held to move the country away from the military regime in power since 1999 (World Bank data 2014 Nigeria overview).

During the last 10 years, ambitious reforms have been on the agenda in Nigeria, the growth rate has averaged at 7,6 % between 2003 and 2010 (World Bank data 2014 Nigeria overview). The changes in the GINI in Nigeria were through out the 1990's minor. How ever, there was a slight incline in the GINI between 1995-2000.

As typical for a developing country, the growth rate has had much fluctuation, with rapid growth spurs, and fast declines (OECD 2011: 28). As in the case of the other developing countries, a correlation between income inequality and economic development is hard to find due to the nature of the economic development.

Development of GINI coefficient in Russia 1995- 2008

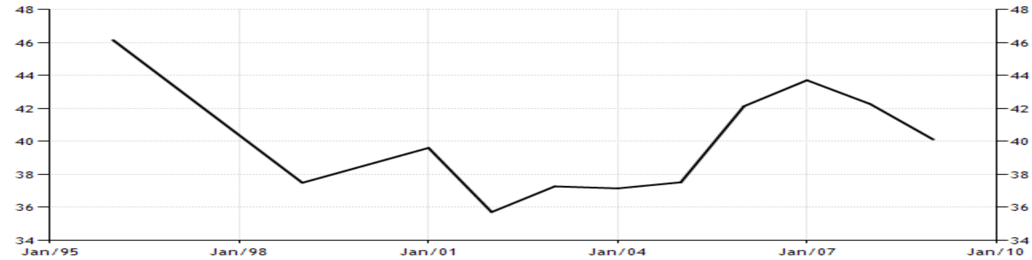

Figure 25 Source Trading economics online

The Annual GDP growth rate in Russia 2000-2014

Figure 26

The case of Russia is similar to China, but in Russia the change from the command economy to a market economy has been rapid and more liberal. According to Index Mundi country profile there is still heavy state intervention in the private sector. The most important industries in the same profile are listed as natural resources (oil, gas), and the metal industry (Index Mundi online 2013 Russia Economy overview). The fact that Russia is highly reliably on commodity exports makes it vulnerable to boom and bust cycles and the following swings in global prices. (Index Mundi online 2013 Russia Economy overview).

Surprisingly, after the move from a command economy towards a market economy income inequality has been decreasing since significantly 1995 to 2002. Income inequalities started rising again 2004 prior to the global economic crisis. The annual growth of GDP has been very positive growth rates up in till a slump in 2009. This progress could again be seen as supporting the hypothesis that growing income inequalities have an affect on how well and fast the economy can rise from a downfall.

Development of GINI coefficient in Singapore 1995- 2008

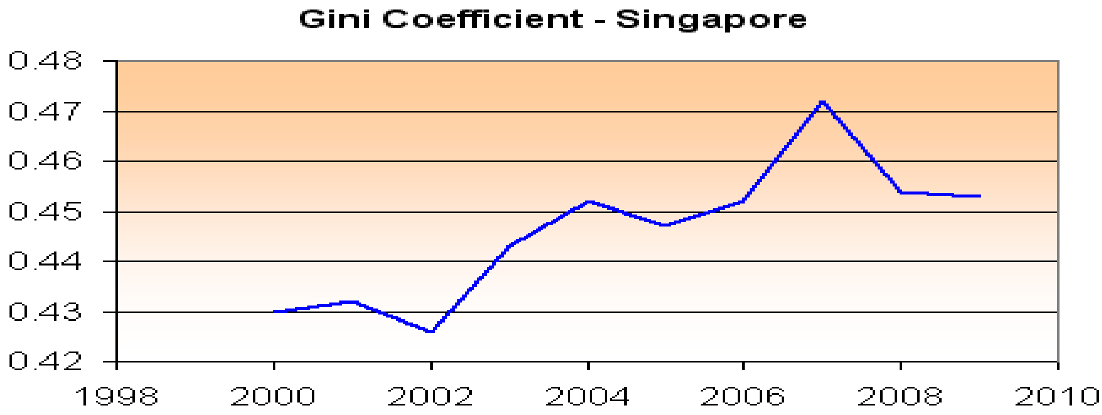

Figure 27 Source Straits Times Online

The Annual GDP growth rate in Singapore 2000-2014

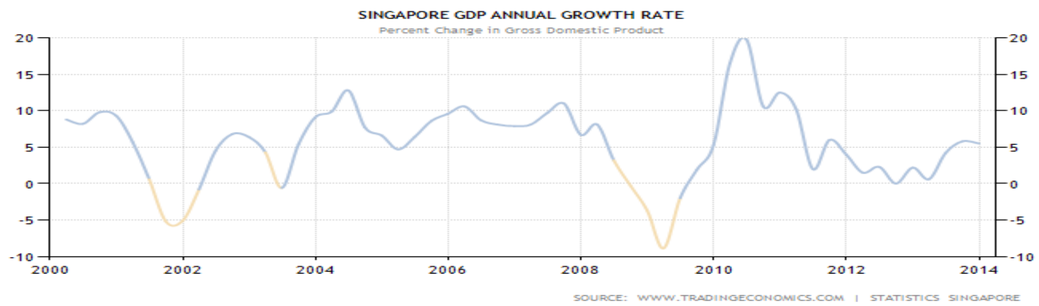

Figure 28

According to World Bank data, Singapore is "a high-income economy". The same date suggests, that Singapore also offers the world's most "business friendly regulatory environment" (World Bank data online. Singapore overview). After gaining its independence 1963, Singapore quickly developed from a low-income country to a high-income country. There are strong manufacturing and service industries, which are described as the twin pillars of the economy.

The data available for income inequality in Singapore starts from 2000. Income inequality in Singapore was decreasing from 2000 to 2002. After this a rapid incline in the GINI can be seen in figure 31. The economy of Singapore has fluctuated quite significantly in the beginning of the 21st century, from high growth rates of over 20% to negative growth rates depending on the year. It would also seem that Singapore was able to bounce back from the 2008 low point in the economy quite fast.

Development of GINI coefficient in Spain 1995- 2008

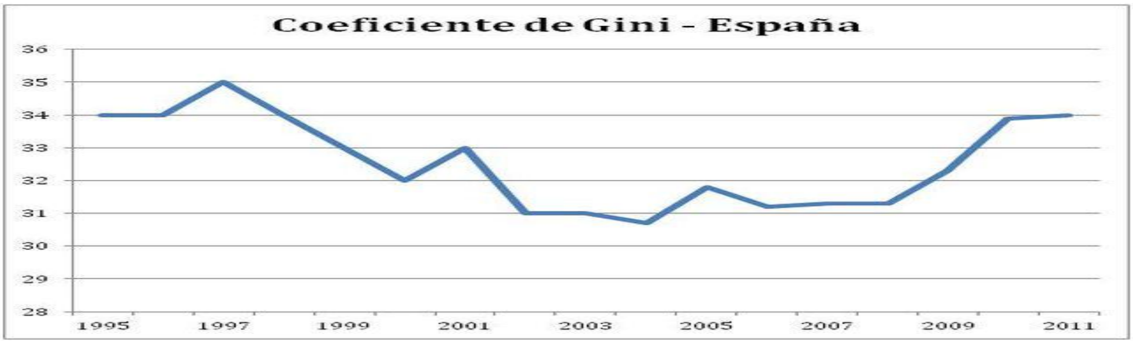

Figure 29 Source El Diaro Online

The Annual GDP growth rate in Spain 2000-2014

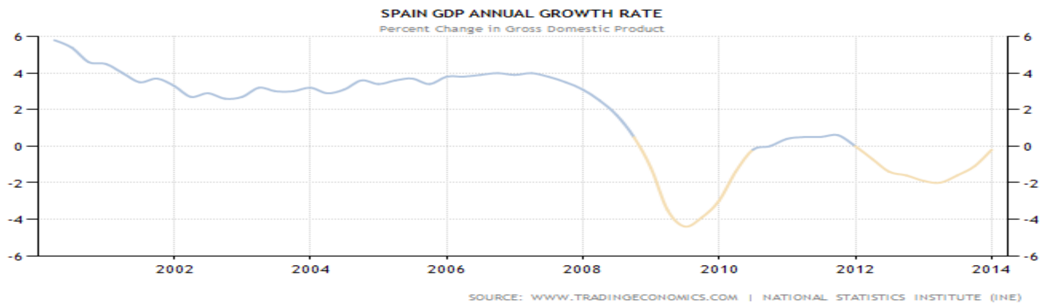

Figure 30

Up until 2008, income inequality was mainly on a decreasing slope in Spain. After 2008, there has been an incline back to almost the same level where the decline started. After almost 15 years of above average economic growth, the Economy in Spain has suffered from stagnation and negative growth rates after 2007. Without much political turmoil or other outside factors it would seem that the economy has suffered from the rising income inequalities, and the rising trend in inequality since 2004 could have contributed to the stagnant development and the force of the crisis to the economy.

Development of GINI coefficient in Great Britain 1961- 2008

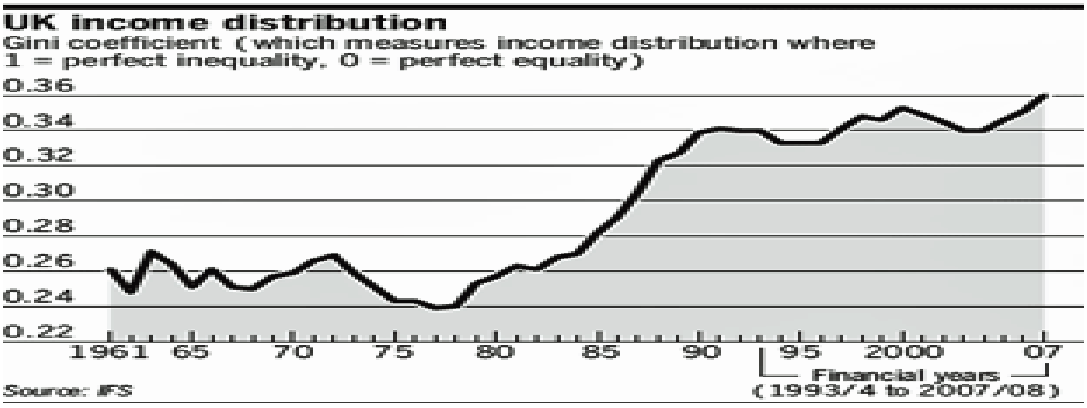

Figure 31

The Annual GDP growth rate in Great Britain 2000-2014

Figure 32

The UK is the third largest economy in Europe after Germany and France. With significant privatization actions by the government in the past two decades, the driving industries behind the GDP growth in the UK today are the insurance and banking sectors (CIA World Factbook online). The privatisation together with the grown importance of the banking and insurance sector were mostly to blame why the 2008 global financial crisis hit the UK as hard as it did.

In the UK, income inequality has been on the rise since the 1960's. The latest development in the GINI coefficient in the 2007 was a slight increase to the highest figures yet since the beginning of the 20th century. The economy in the UK has for the most part in the 21st century grown until 2007 with growth rates between 2 and 6%. These are fairly good figures compared to the other countries in this study. Japan, Italy and even Germany had lower figures of growth during this period (2000-2007).

After the crisis started in 2008, the annual growth rate plummeted to -7 %. After this the economy has only experienced very slow growth rates.

Again, it can be drawn that these result would support the hypothesis, as there were a incline in the income inequality prior to the crisis and the inequality has not decreased after the crisis it would seem that there has been some causality in their relationship.

Development of GINI coefficient in United States 1995- 2008

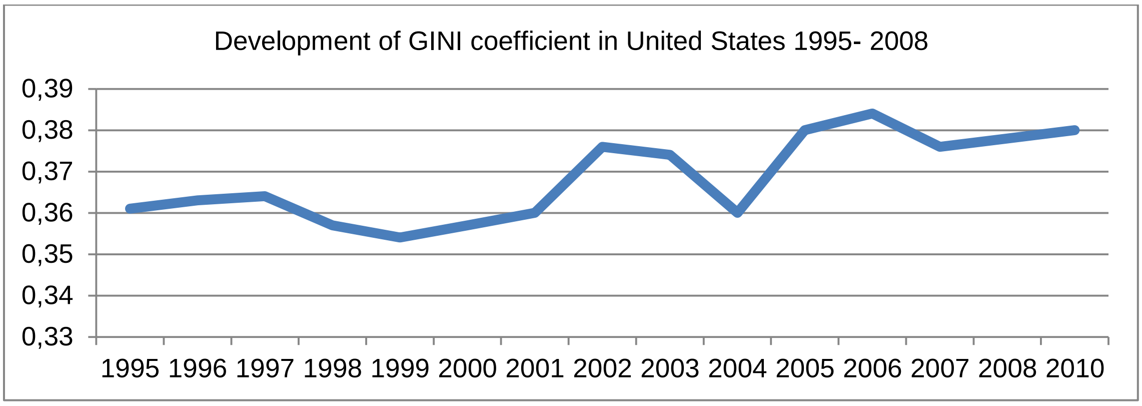

Figure 33 Source OECD database on income distribution and poverty

The Annual GDP growth rate in The United States 2000-2014

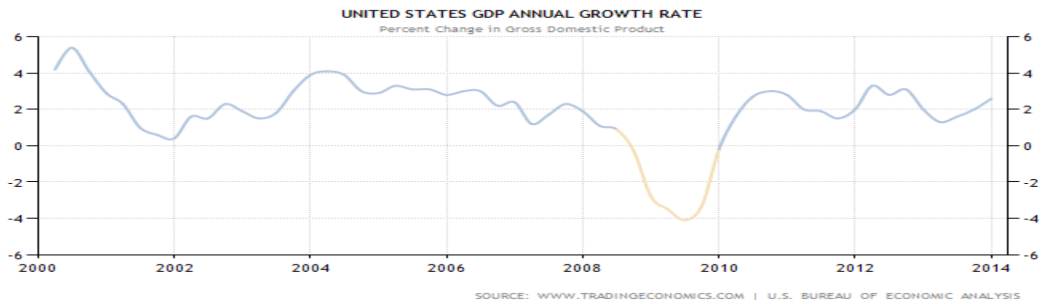

Figure 34

The United States is the largest and according to the CIA world factbook the most technologically powerful economy. It is a highly market orientated economy, with large company's represented in all areas, manufacturing, technology, banking, natural resources etc. The latest economic crisis that started in 2008, has its roots in the so-called sub-prime crisis that started in the US in 2007. Credit was given to anyone, regardless of his or her ability to pay back the loan. This led eventually led to a banking crisis that then led to the crisis the globe is still battling.

Even though the US is known for the American dream, it is not know for equality. Income inequalities have persisted in the US, and there has been a rising trend since 1995. The GINI coefficient reached its peak in 2006, remaining high up to the last recorded time of 2010. The economy in the U.S. has been stagnant since 2002, and after the crisis began has even experienced negative growth in 2008, 2009 and in 2010.

In the case of the US the data would indicate, that the hypothesis of heightened income inequality and persistent stagnation having a causal relationship, would also seem to be true.

6 Results of the study

For the majority (10 countries) the development in the GINI index preceding the economic crisis of 2007 is ascending. All of these countries (Australia, China, Croatia, Denmark, Finland, Germany, Russia, Singapore, Great Britain, USA) experienced a growth in income inequality for the most part starting already in the 1990's and continuing up until the crisis hit.

Relatively, all of these countries experienced negative economic growth rates in 2008 or 2009. It is note worthy, that these countries do not represent a homogeneous sample of economies. They are in different stages of development, and yet the results seem to be similar.

The other 6 countries have also experienced increasing income inequality in the chosen timeframe from 1995 to approximately the beginning of 2000. In these countries however, the income inequalities have been decreasing during the years leading up to the crisis. These 6 countries are Japan, Italy, Argentina, Nigeria, Egypt and Spain. When we look at the development of the growth rate in these 6 countries, we can see that 4 out of the 6 countries experienced a decline in the GDP earlier than in 2008. The data shows that in Argentina negative growth was experienced in 2002, in Italy in 2002 and 2003, in Japan in 2002 and in Nigeria in 2005.

When we compare these findings to the development of income inequality, we can see that in all of the 4 countries income inequalities were increasing up to the time when negative economic growth rates were experienced after which income inequalities started declining. All of these countries also experienced negative growth during the crisis. Thus it would seem that the decreasing income inequalities did not protect them from the global financial crisis. In this case, it is also noteworthy that these economies are also in different stages of development. As such the starting point of the economy does not seem to have an affect on the results of our study.

It would also seem, that since the crisis and after experiencing negative growth rates, income inequalities have started to decline in all countries except in Denmark and in Spain. The results show that even after the crisis hit, income inequalities have still risen in both countries. However, for the majority the increase in income inequality stopped as these economies started experiencing negative growth rates. It could tell us that there is a tipping point where income inequality reaches a high, after which the economy cannot sustain its growth. Thus the decrease in growth would lead to decreasing income inequality. From these results we can draw that the trend of increasing inequality seems to end when an economic crisis hits. This can be an indicator of the possibility that increasing inequality would in fact eventually lead to an economic crisis or make an existing crisis even worse. As was established in the literature review, the market economy works in a business cycle from Expansion and Peak to Recession and Trough. It would seem that high income inequality leaves the economy stagnant, and makes it hard for the economy to move on to the next expansion period.

The clear result of the study is, that income inequality does correlate with the annual GDP growth rates of each economy under study. It would seem that the rising income inequalities would lead to a decrease in the annual growth. On the other hand, a significant decrease in the annual growth rates would seem to cause the income inequality in the studied economies to decrease. Thus our research shows that there seems to be a correlative relationship with the two.

How do we then answer our research question "Do increasing income inequalities cause stagnation in the economy?" According to the research and the statistics at hand the answer would be that there seems to be strong evidence that high-income inequality is bad for the economy and that there is a point in income inequality after which the economy cannot grow. It would be jumping into conclusion to say that income inequality itself causes economic down turn, but there does seem to be a trend where the heightened income inequality can lead to a prolonged period of stagnation.

6.1 Weaknesses of the research

Even though we can clearly see from the data gathered for this study that there is a correlation between income inequalities and economic growth, the relationship of these two is still somewhat ambiguous. To be able to show that high-income inequalities have directly led to the economic crisis of 2007, more study is needed. The most problematic aspect is that whether these two are actually not a cause and effect, or basically both consequences of for example bad policy decisions or the lessened corporate governance. This is discussed by Berg and Ostry paper in their 2011 paper, "Inequality and Unsustainable growth: Two sides of the same coin". They discuss the possibility of policy reforms having a positive affect on both income inequality and economic growth.

To be able to show that income inequality and stagnation are in fact both a cause and effect one would need to be able to exclude all other possible influences in the equation. As an economy cannot function in a vacuum, or ceteris paribus, it is somewhat impossible to conclude without any question or doubt with this information gathered in this study that the end result is actually 100% accurate.

Another problematic aspect for this study is the time period it grasps. In order to be able to understand the relationship of income inequality and economic development lengthier analysis would be beneficial. It would show whether these two have always gone hand in hand, or whether the relationship is a more recent development, and thus the cause of it could be sought elsewhere (i.e. lessened policies, corporate governance). The longer research period could also reveal any time lags that are not represented in this study. The study made does not show us what kind of a period of time does it take for heightened income inequality to have an affect on the economy. The longer comparison period would also potentially show how lower income inequality levels have affected the recovery from a crisis. Thus more study is still needed.

7 Conclusion

In the beginning of this thesis process I was on a quest to find direct answers to what seemed to be a straight forward question: Do increasing income inequalities cause stagnation in the economy. During this process it has become evident that the question itself cannot be fully answered based on statistics. The relationship of income inequality and stagnation is more complex than what the statistics suggest. Yet, it would be easy to draw a conclusion based on these statistics that income inequality is evil and should be considered the biggest threat to our economy and society. Blaming income inequality for the stagnant economy is easy; acting upon to change the situation is not. I personally think that the policies behind the rise of unequal income distribution should be revised so that income would be distributed more equitably.

Even though the findings of the research are not conclusive, the process itself has been valuable. To be able to say, that a clear link between income distribution and the economic development has been established calls up on governments and decision makers to actually do something about the rising income inequality. It would seem that in order for any economy to be able to bounce back from a crisis, action to diminish income inequality is needed.

While reading for and writing this study it has become clear to me that income distribution matters more than most realise. Unequal income distribution not only harms the economy and society, but also us as individuals. Wilkinson and Pickett list numerous reasons why income inequality should matter, one of them being social cohesion. If income inequalities are left to rise, there will be a lack of social cohesion. If people do not believe in the society they live in, the society itself will lose its reason to exist. In his book from 1958 Galbraith talks about why income inequality has been forgotten or why it does not seen more important. I agree with him as he states that people have accepted it as a natural condition, like poverty would be ones own fault

(Galbraith 1958:71). The creation of this atmosphere that I think still exists, has made it possible for those in power to become even wealthier as the poor are getting poorer.

I would like to end this study with a quote from Wilkinson and Pickett that I find very descriptive of our time. It should be clear by now, that something in this system is not working for us.

“It is a remarkable paradox, that at the pinnacle of human material and technical achievement, we find ourselves anxiety-ridden, prone to depression, worried about how others see us, unsure of our friendships, driven to consume and with little or no community life” (Wilkinson and Pickett 2009: 3).

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