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The Relation of Income Inequality, Growth and Poverty and the Effect of IMF and World Bank Programs on Income Inequality



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Abstract

This essay analyses the role that income inequality plays in the economic development of developing countries and investigates the effects of IMF and World Bank Programs on income inequality. It is argued that income inequality and economic growth are determined partly by the same factors. Moreover income inequality inhibits the accumulation of human capital, has an adverse effect on economic growth and effects poverty reduction in several ways. I conclude that the close relationship between inequality, growth and poverty needs to be considered by countries that are trying to increase economic growth in order to reach that goal. Furthermore this essay analyses the effect of participation in IMF and World Bank programs on income inequality. It seems that participation in these structural adjustment programs have an adverse effect on income equality, growth and poverty reduction. But the reason for this adverse effect cannot be pointed out yet due to a lack of research.

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1. Introduction:

Income inequality is an issue that has been discussed by all kind of philosophers, politicians and economist. A big part of this discussions have been about the ethical side to the topic, producing discussions about the questions whether equality is desirable, if it is fair, and equality of what and how much of it should be strived for (Sen, 1992).

There is, however, another side to economic inequality which discusses what role economic inequality is playing in economic development.

The map below, from the UN Human Development Report 2007/2008 shows that income inequality is the highest in developing countries. Especially Latin America suffers from high rates of inequality, but also Sub Saharan Africa, China and South East Asia.



Source: UN HDR (2007/2008)

Researchers have found that countries with low inequality levels develop different from countries with high inequality levels. It seems that economic inequality effects the economic growth and poverty, they even seem to be interrelated (Galor & Zeira, 1993) (Fosu, 2010).

The next question that comes up is what the relation of inequality, growth and poverty implies for development work. If inequality has an adverse effect on growth and poverty, then the reduction of inequality in developing countries should be as important as the generation of economic growth. Today we live in a globalized world, where international institutions like the International Monetary Fund (IMF) and the World Bank run a large amount of development projects, that go along with development loans and an established list of policy advises. The IMF and the World Bank offer structural adjustment programs, which are created to boost economic development in developing countries. The priority of these programs has often been economic growth, which then was then

supposed to reduce poverty and inequality (IMF, 2011). However, it was argued and criticized that countries which follow IMF and World Bank programs end up having higher rates of inequality and poverty and lower economic growth (Vreeland, 2002) (Gilbert & Unger, 2009) (Pastor, 1987).

This essay is on the one hand concerned with the relation between inequality, growth and poverty and on the other hand with the impact of IMF and World Bank Programs on inequality. Therefore the question I would like to elaborate in this essay is:

Do IMF and World Bank programs effect income inequality and what are the consequences of high inequality for growth and poverty?

This question will be answered in different steps and sub questions. The following chapter elaborates on the concept of inequality, it is discussed how inequality is defined, how it can be measured and what are its causes. In chapter three the effect of inequality on growth will be discussed. In chapter four the relation between inequality, poverty and growth is presented and in the final chapter I discuss the influence of IMF and World Bank programs on income inequality and moreover their effect on poverty and growth.

2. Definition, Origin and Measurements

This essay is concerned with economic inequality and income distribution. But the concept of 'equality' or respectively 'inequality' is complex and can have many definitions and implications depending on the context it is used in. In order to clarify the meaning of inequality for this essay this chapter is about the different concepts of equality itself, the different methods to measure income distribution, the problems of data collection and about different theories of origins of economic inequality.

2.1. What kind of inequality?

The different concepts and ideas of inequality are discussed by Amartya Sen in his book 'Inequality Reexamined' (Sen, 1992). The scope of his considerations exceeds the capacity of this essay but some of his implications are useful to explain how (in)equality can be understood.

Sen (1992, p. 12-13) states that every social theory demands equality of something. These demands exist in different 'spaces', one theory can demand equal treatment while another theory demands equal wealth, equal utility or equal opportunity. Demands in different 'spaces' often exclude each other. In other words, demanding equality of something in one 'space' implies the exception of inequality in another 'space'. Sen (1992, 19 - 21) explains that this is because humans differ from each other in two ways: First, external characteristics and circumstances like the amount of wealth

inherited, the access to education or environmental circumstances like the climate; and second, differences in personal features like age, sex and the physical and mental ability. If a theory demands, for example, equal libertarian rights, so that every individual has the right to be free from intrusion by the state and keep the fruits of their labour for themselves, this automatically means the acceptance of economic inequality, since there will be no kind of redistribution accepted to make up for the different external and personal conditions people face in the struggle for economic welfare.

This shows that the term 'equality' is very complex and always needs further definition. Sen (1992, p.12-13) concludes that the question one has to ask before dealing with (in)equality is 'equality of what?'.

This essay, as stated above, is investigating economic inequality, or more precisely, income inequality or income distribution. Income distribution can be described as the share of national income that is earned by different individuals or households in a country. Economic inequality includes the distribution of many economic measures, like for example: Land distribution, wealth distribution and Income distribution. Some of the literature used for this essay takes the distribution of different economic assets into account, but the main focus lies on income distribution (Perkins, 2006, p. 189 - 196).

However, focusing on income distribution has its shortcomings, Sen (1992, p. 28-30) criticizes that income distribution is often used as indicator for inequality, there are also other indicators of inequality that should be taken into account. He explains that income is just one of many means to an end. If two people earn the same income it is still not said that both of these people have the same chance of converting this income into their goals. This is due to the plenty differences between people and the circumstances they face. For example if two people want to convert their income into university education, it depends beside the income on the access to education, the intelligence of the person, the amount of the tuition fees or how much economic assets a person holds. Therefore, income distribution cannot be translated one to one into equality of opportunity or wellbeing (Sen, 1992, p. 28-30). But income distribution also has its qualities and advantages. Even though data on income distribution is scarce, it would be much more difficult to collect reliable data on the distribution of land, wealth and other economic assets. Moreover to really calculate the equality of opportunity also other factors must be measured like access to infrastructure and institutions or personal skills, which is almost impossible on a large scale. Another point is that income distribution might not measure the total difference in economic wealth, but it is an indicator for the change in wealth. Wealth can be seen as the stock and income as the flow of money. If the income share of the lowest income quintile in a country increases while economic growth is equal to or above zero and inflation stays constant, it can be assumed that a rise in income leads to a rise in wealth. This can be seen in the article of Galor & Zeira (1993) which is discussed in the next chapter. Galor & Zeira (1993) use the initial distribution of wealth in order to calculate the economic development of a country, but the change in the distribution of wealth is indicated through an increase in income. For the purpose of this essay income distribution is a useful indicator, even though it should be kept in mind that income is not all it takes to increase someone's quality of life.

Furthermore, this essay is not meant to analyse the normative evaluation of income inequality, but since inequality is high in many developing countries the question is raised how inequality affects, and is affected by economic growth (measured by GDP) and poverty (measured mostly by 1US\$ per day, or 2US\$ per day poverty lines), furthermore it will be shown how programs of the IMF and the World Bank influence the development of income distribution.

In the following paragraph, some measurements of income inequality are presented.

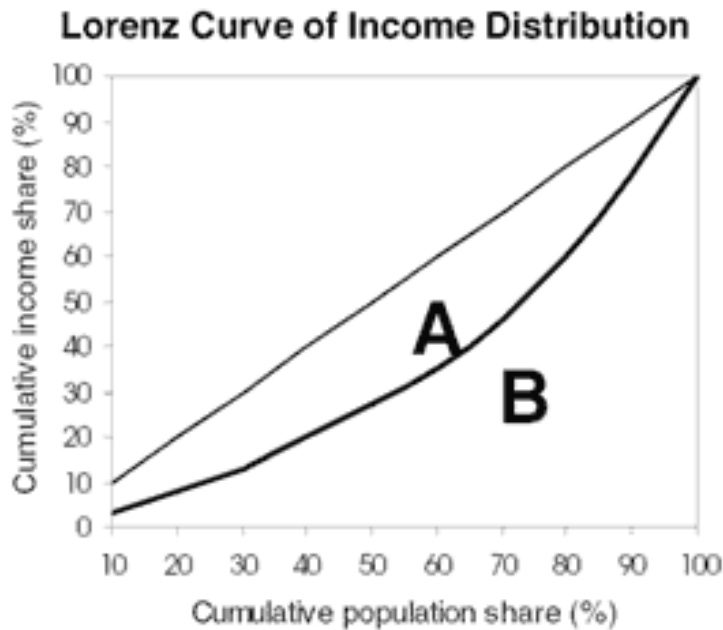
2.2. How to measure inequality?

There are different methods to measure income inequality. In this paragraph I will present some of the most common ways.

A very simple way to present the income distribution of a country is to make a frequency distribution. Income is ranked in different categories of income, for example 0 – 500€; 501- 1000€ ... 100.000 – 150.000. Then all individuals or households are assigned to one of these groups according to their income. This measurement shows very detailed how the income is distributed in a country.

A second method to measure income distribution is the size distribution. The size distribution shows the share of income of different groups which are ranked according to their income level. It measures how much of the total income is owned by which income group. This measurement is especially useful to compare different countries to each other (Perkins, 2006, p. 189 - 196).

Thirdly there is the Lorenz curve. The Lorenz curve measures the cumulative share of income received by the cumulative share of population, the further the Lorenz curve departs from the 45° equality line the higher is the inequality in a nation.



Source: World Bank (n.d.)

The fourth measurement of inequality is the Gini coefficient. This is the most common measure of inequality, which is also used mostly in this essay. The Gini coefficient takes values between 1 and 0. A Gini coefficient of one stands for total inequality where one person gets everything and the rest gets nothing at all. If the value is 0, everyone gets the same share of income. The Gini coefficient derives from the Lorenz Curve and is calculated through dividing area A of the Lorenz curve by the sum of area A and B. (World Bank, n.d.)

All measures on income distribution growth or poverty, including the Gini coefficient are based on data which is collected by researchers in household surveys.

Especially the collection of data in developing countries confronts field workers and researchers with different problems. This is for one reason because the data collection systems differ among countries, furthermore inequality is determined through different indicators. For example a lot of countries work with household income while others measure household consumption, which leads to entirely different outcomes (Table: consumption vs. income)

It is clear that these different indicators are incomparable, but even the form and interpretation of official indicators like the household consumption differ over time in a countries and over space, between different countries. For example the time periods in between two surveys, which measure the change over time, are not always the same. Furthermore are different techniques used in order to cover for missing answers in the questionnaires or the surveys differ in the disaggregation of the variables that are measured. Equal shortcomings can be found in the data collection for household income (WDR, 2006). Beside the differences in measurement, data collection is also confronted with other problems as for example the problem of compliance of the interviewed households, which might, due to socio-economic reasons, give under- or overstated answers. Another problem is that in

the rural areas in developing countries, many people earn their income in the informal sector, it is difficult to measure what and how much can be counted as output and what is produced for own consumption (Ravallion, 2001).

Inequality: summary measures in a selection of countries: consumption versus income

	Year	Gini coefficient	
		Consumption	Income
Panama	1997	0.468	0.621
Brazil	1996	0.497	0.596
Thailand	2000	0.428	0.523
Nicaragua	1998	0.417	0.534
Peru	1994	0.446	0.523
Morocco	1998	0.390	0.586
Vietnam	1998	0.362	0.489
Nepal	1996	0.366	0.513
Albania	1996	0.252	0.392
Bulgaria	1995	0.274	0.392
Russian Federation	1997	0.474	0.478
Bangladesh	2000	0.334	0.392

Source: Authors' creation.

source World Bank (2006)

Easterly (2000) writes in his article that the mean share of the urban informal sector in developing countries in the early 90s was 48 percent. The urban informal sector in Zambia reached for example a share of 81 percent in 1993, a study from 2000 shows that in Zambia the lowest income shares gain almost their whole income from self-employed work. Easterly assumes that the rural informal sector is bigger than the urban informal sector, but there is not enough data available to estimate its size (Easterly, 2000). This shows that the informal sector is not properly accounted for in surveys.

A problem that arises especially with the measurement of consumption, real income or purchasing power is the changing prices and the changing cost of living people face, not all people in the same country face the same prices, and prices might change during the seasons (Ravallion, 2001)

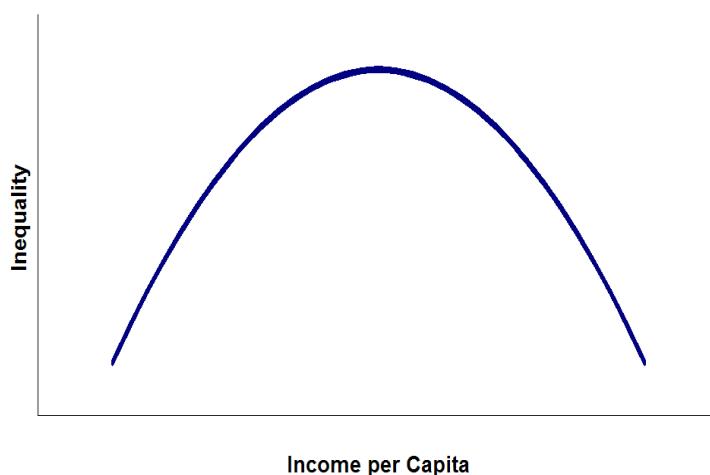
These problems produce not comparable and vague data which can lead to misleading conclusions of researches and statistics. It is therefore important to keep in mind the difficulties of the data collection and comparison, every research can come to false conclusion if mistakes have been made in the collection of the data or if data sets are compared that are measured in a different way.

2.3. What are the causes of inequality?

The question that is left is what are the causes of income economic inequality and income inequality? In this chapter I will elaborate some of the theories and ideas that explain the phenomena of increasing inequality.

First one should remember that human beings differ from each other. As mentioned above, Sen (1992) divides these differences into two sub groups. There are natural differences like age, sex, intelligence or physical health and strength. Moreover there are differences in the external circumstances a person is born into, like for example the political and social system, wealth, access to education and the physical environment. Due to these differences people have different opportunities and will perform differently, which can lead over time to an unequal distribution of wealth and income. This thought derives from an essay written by Rousseau in 1754 “On the Origin of inequality”, where he argued that personal ability can be seen as a sort of natural inequality while external circumstances presents a kind of ethical or political inequality. Where the first is naturally given and the second is man-made and therefore it can be changed (Rousseau, 1754)

While the differences between people already give a logical explanation for economic inequality, there are more theories that explain the existence or the rise of economic inequality. The following two theories explain the upcoming of inequality as part of the economic development process of a country, for example Kuznets (1955) stated that inequality increases in times of economic development like in the industrialization. The figure below shows his model of the relation between income per capita and economic inequality. In times of economic development in low income countries, the capital needed for investment in physical capital is accumulated by the higher income classes. The lower income classes earn low wages in the time of the transition. In later stages of the economic development the average income will rise and inequality decreases. This will be discussed in more detail in the next chapter.



International trade is seen as another cause of income inequality. International trade does on the one hand increase efficient resource allocation and growth but it also creates winners and losers. The Heckscher-Ohlin model (H-O model) states that the comparative advantage of countries that enter international trade depends on the endowment of the production factors. If a country is capital abundant it has a comparative advantage in capital intensive goods, while a country that is labour abundant has a comparative advantage in the production of labour intensive goods. Through international trade the price of the production factors changes. The price of the abundant factor increases while the price of the scarce factor falls, this means in labour abundant countries the wages should increase while the return to capital falls. This theory explains the rising inequality in developed countries, which are mostly capital abundant but it does not explain the high rates of inequality in developing countries (Krugman et al, 2007)

3. Economic Inequality and Economic Growth

In this chapter I will present theories on the relation between economic inequality and economic growth. This relation needs to be considered in order to understand the impact of IMF policy advice on developing countries. The policy advice given by the IMF is meant to promote economic growth, but these policies and the growth developments itself have an influence on inequality. Growth and inequality are partly influenced by the same policy variables and can, depending on the circumstances, enhance or exacerbate each other (Lundberg & Squire, 2003). The articles presented draw different conclusions about the relation between growth and inequality, the article of Galor (2009) offers a possible explanation why the outcomes differ so significantly. Finally the article of Lundberg & Squire (2003) present new insights the relation of the two and common variables.

The classical economist like Keynes and Kaldor (cited in Galor, 2009) argue that in the post-industrial era, an unequal distribution of wealth and income influences economic development positively. They base this assumption on the economic theory that the propensity to save increases with income, in other words, the more someone earns the more of it he will save. In a society with an unequal distribution of income the richest part of population earns a higher share of GDP and since they will save more of it capital accumulation and investments will increase and this will enhance economic growth (Galor, 2009). Kuznets (1955) argued that the level of economic inequality depends on the stage of development of a country. In early stages, where the economy of a country shifts from agriculture towards industrialization, inequality increases, agricultural workers migrate to the cities to get work in the industry, which leads to a high supply of industrial low-skilled and cheap workers. The process of industrialization and urbanization causes the unequal distribution of income. After a while total income will increase due to the economic development in the country, which will also increase income shares of lower income groups and inequality decreases (Kuznets, 1955). Both of these approaches suggest a kind of mechanical relation between the stage of development of a

country and the level of inequality, leaving the notion that economic inequality is a necessity to economic development (Lundberg & Squire, 2003).

This point of view was challenged over the last 20 years, one of the modern approaches is the Credit Market Imperfection Theory by Galor & Zeira (1993) in the article "Income Distribution and Macroeconomics". They find that high inequality is harmful to economic growth and development.

The Credit Market Imperfection Theory shows that investment in education has long - and short term influence on income distribution and economic development. In order to show how inequality affects economic growth, the authors develop an "Equilibrium Model of Open Economies with Overlapping Generations and Inter-Generational Altruism" (Galor & Zeira, 1993). The model is based on two assumptions: First, credit market imperfections exist, which means, credit market institutions have to monitor borrowers and eventually force them to pay back their loans. The costs of enforcement and monitoring are charged on the interest rates of borrowers, which make the interest rate of borrowers higher than the interest rate of lenders. The second assumption is that investment in human capital is indivisible, there is a technological non-convexity, which induces that inequality also affects the macroeconomic performance in the long run (Galor & Zeira, 1993).

In the Model economy, every individual has one child, and one parent, hence there is no population growth. The individuals in the model only differ in the amount of money they inherit. Every person lives for two periods. In the first period they can chose between investing in human capital, go to school and become skilled workers, or start working as an unskilled worker. Because education is connected to costs individuals have to use the money they inherit to pay for their schooling years or borrow the money. But due to credit market imperfections individuals with a too low inheritance will always chose to work. In the second period of their lives they work then either skilled because of the education they received or they continue to work as an unskilled worker. A skilled worker will be able to leave his offspring a larger inheritance then an unskilled worker. Through their model, Galor & Zeira (1993) demonstrate that the initial distribution of wealth determines the investment in human capital and therefore the amount of skilled and unskilled workers in a country, which then again determine the output produced in an economy. In other words, the initial distribution of wealth determines the economic performance of a country in the short and, due to the technological non-convexity, also in the long run.

This result enables the authors to determine three theoretical paths of economic development, depending on the initial distribution and wealth of a country; First, a country which is poor in the beginning will stay poor in the long run; second, a country which is rich and has an equal distribution of wealth will end up rich in the long run; Third a country which is initially rich but has a very unequal distribution of wealth will end up poor in the long run.

These path of development derive from the finding that a country with high inequality will have a declining amount of skilled workers and therefore accumulate less human capital.

In order to prevent that the initial distribution of wealth determine in which long term equilibrium a country ends up, Galor & Zeira (1993) suggest that the government should subsidize education and get the money back through taxation of skilled workers in the next period. If education becomes accessible to everyone, the initial distribution of wealth will no longer determine the size of the skilled workforce and the development path can be changed.

Galor & Zeira (1993) extend the model which includes the wage of low skilled workers and the production factor land. Through the expanded model Galor & Zeira (1993) can draw three new conclusions. They calculate the critical point G which presents the amount of inheritance people have to receive so that they will invest in education in the long run. The first conclusion is that the initial number of individuals that inherit less than G in period one determines the economic performance in the long run. Second, countries in which the individuals earn high wages tend to a more equal distribution of income. Third, if the initial distribution of wealth is more equal the country growth faster and has higher income in the long run.

These findings are comparable to the findings of Kuznets (1955), but the explanation of the theory differs. Kuznets (1955) claims that inequality is determined by the stage of development a country is going through, while Galor & Zeira (1993) state that countries reach different long run equilibria due to the initial distribution of wealth, so in contrast to Kuznets (1955) Galor & Zeira (1993) think that it is the initial distribution of wealth which determines the economic development of a country and not the stage of economic development which determines the rate of inequality.

However Galor & Zeira (1993) show how important it is for developing countries that suffer from high inequality to introduce policies that will make it possible for all citizens to invest in their human capital. Or like Galor & Zeira state, "we can represent our results as describing the importance of having a large middle class for the purpose of economic growth" (Galor & Zeira, 1993, p. 51)

The conclusions of the classic economists and the modern perspectives appear to contradict. The former believe that inequality is beneficial for economic development while the latter claim the opposite. As mentioned before whether inequality and growth enhance or worsen each other depends on the circumstances. Both theories, classic and modern can be right under certain conditions. Galor (2009) presents a unified approach which gives an explanation for the conflict between classical and modern perspectives and explains why both theories can be right.

Galor (2009) states that in the beginning of the industrialization physical capital accumulation was the main engine of economic growth. Back then, inequality was indeed beneficial for economic growth as Keynes (1920) and Kaldor (1957) claimed. During the development of a country, physical capital accumulates until it reaches a level where the relative return to physical capital is very low. At this point, in order to create economic growth an increase in human capital is needed since the return to human capital is higher than to physical capital (Galor, 2009)

In the process of human capital accumulation lies the answer to the question why the two approaches make contradicting statements. Human capital is not accumulated the same way as physical capital. Physical capital accumulation is supported by an unequal distribution of wealth,

human capital accumulation increases with a more equal distribution. One person can just develop a limited amount of human capital, the human body has constraints. Therefore the only way to accumulate high amounts of human capital in a society is to give a lot of people the opportunity to develop their personal human capital. This is just possible in a society with low economic inequality or equal access to education and human development in general (Galor, 2009).

This unified approach by Galor (2009) suggests that whether inequality affects growth positively or negatively depends on the relative return to human capital and physical capital. But this does not imply that less developed countries always benefit from economic inequality. Nowadays developing countries receive a lot of international capital inflows from developed countries. Therefore the role of inequality in physical capital accumulation is strongly reduced. Furthermore, developing countries adopt technology which demand a skilled labour force and increase the return of human capital (Galor, 2009).

However, it is difficult to find statistics that show the effect of human development on growth since variables as education and health are endogenous to growth (Lundberg & Squire, 2003). Countries that have a higher GDP per capita invest more into education and health, hence growth enhances human development. On the other hand, higher human capital enhances economic growth and as Galor & Zeira (1993) show, human development is enhanced by an equal distribution of wealth and income.

Until now this chapter showed how inequality is influencing human and economic development. However, in the following paragraph I present a research which concerns a more methodological issue.

The article of Lundberg & Squire (2003) "The Simultaneous Evolution of Growth and Inequality" explores whether inequality and growth are determined by the same policy variables. They test common ways of measuring the relation of inequality and growth and finally they introduce a new way of measuring inequality and growth which gives deeper insight in the relation of the two. First they test two separate standard models of growth and inequality which are frequently used in existing literature, then in the 2nd step they include growth in the Gini equation and the Gini index in the growth equation which is called the Structural model. In the 3rd step, the expanded model growth variables are entered in the equality regression and vice versa.

In the standard model, Lundberg and Squire (2003) test seven variables for the growth equation: Changes in the Terms of Trade, the Sachs-Warner openness index (which includes a measure of exchange rate overvaluation, tariffs and non-tariffs restrictions on trade), Education (mean years of schooling in adult population), Initial Income, Inflation, M2/GDP (the ratio of money supply and GDP), and the Government share of Consumption. For the inequality model they test five variables: Education, M2/GDP, Civil liberties (using the original civil liberties index from Gastil, 1990), Distribution of Land (Mean land Gini), Distribution of Land in Developing Countries (Mean land Gini LDC).

For the standard model of growth they find that Terms of Trade seem to have no effect on growth. The Sachs-Warner Index is positively related to growth. Education is negatively related to growth, probably because it is endogenous to growth. For all other policy variables no significant correlation can be found.

For the standard model of equality they find: Education has a increases equality, an extra year of education lowers the Gini index by 0.7 points. A one point decrease in the Gini-index for Land Distribution lowers income inequality by 0.25 points and for development countries 0.37 points. Also improvements in Civil Liberties are positively correlated to equality, a one point reduction in the Gastil index reduces the Gini index by 2 points. Financial development is seems to increase inequality. For the standard model the only variables both equations have in common are M2/GDP and education.

In the next step Lundberg and Squire (2003) test the Structural model. This means that they test, besides the variables used in the standard model, also the direct influence of the growth variable on inequality and the influence of the Gini coefficient on growth. The outcome of this test is that equality can affect growth negatively and that growth does have a strong negative effect on equality. Lundberg and Squire (2003) state that these outcomes just show that there must be some features of growth that are related to equality and vice versa. But the structural model does not tell us which policy variables of growth also influence inequality and which inequality variables have an impact on growth. In order to find out more about the correlation of growth and equality Lundberg and Squire (2003) test a 3rd model.

In the 3rd step the authors test the expanded model in which they enter all growth variables in the equality regression and vice versa. In other words, they test the effect of all seven growth variables and the effect of the additional inequality variables: civil liberties, and the two Gini coefficient of land distribution on growth and on inequality. With this method the authors hope to discover which policy variables influence both, growth and inequality. The results of the expanded model for growth show that education becomes insignificant while the rest of the original growth variables stay unchanged. Some of the inequality variables become important for the growth equation; it shows that lower values of civil liberties are beneficial for growth as well as a more equal land distribution, while the latter has almost no effect in developing countries.

In the expanded equality equation the equality variables show, that money supply is insignificant, the effect of the Gastil index less significant than in the previous models, the effect of the land Gini index is also smaller than first indicated, a one point reduction in the land Gini index leads to a 0.09 decrease in the income Gini index and 0.25 points in developing countries. While education is insignificant to growth it seems to be strongly and negative correlated to the Gini index. This gives the impression that education pushes wages up but has no impact of the productivity of an economy. The growth variables in the expanded equality equation, both the Sachs-Warner index and inflation are strongly and negatively related to equality.

With their new method of measuring the relation of inequality and growth Lundberg and Squire find five policy variables that are influencing growth and equality: the Sachs-Warner Index, civil liberties, land distribution, education and inflation. The Sachs-Warner Index and Civil Liberties are trade-offs between equality and growth while for both the impact on growth is much bigger than on equality (10% improvement in Sachs-Warner Index leads to 10% increase in growth and 1% reduction of equality, 10% improvement in civil liberties lead to 8% reduction in growth rate and a 1% increase in equality). Equal Land distribution, high education and low inflation lead to an improvement in income distribution and growth rates. They also found that Government expenditure and money supply are insignificant to both, growth and inequality (Lundberg & Squire, 2003).

Lundberg & Squire's research (2003) delivers important knowledge for researchers, policy makers to get a better understanding of the dynamics behind growth and inequality. The analysis of the multiple effects of policy variables can help to choose policy packages that benefit growth and economic equality.

This chapter shows how complex the relation between growth and economic inequality is. Depending on the returns to physical capital and human capital, inequality has an adverse or an enhancing affect on growth positive or negative. Inequality affects growth through its influence on human capital accumulation (Galor, 2009) and Galor & Zeira (1993) assume that an equal income distribution leads to stronger growth and higher income in the long run. Moreover Lundberg & Squire (2003) find that equality and growth have common determinants, some of them affect them both positively and some present trade-offs. Still these researches show that the goal of greater income equality and the goal of economic growth do not exclude each other. With the right combination of policy tools, both goals can be reached. It could even be argued that growth and economic equality have to be accessed together. In order to reach long term economic growth inequality has to be reduced.

4. The Relation between Inequality, Growth and Poverty

The following chapter analyses the relation between economic inequality and poverty. The articles of Ravallion (2001), the World Development Report 2006 by the World Bank, Fosu (2010) and Easterly (2001), will show that inequality influences poverty in two different ways. Directly, and indirectly since high inequality is reducing the rate at which economic growth decreases poverty.

In order to explain the effect of inequality on Poverty it is important to understand the relation between growth and poverty reduction. Economic growth is argued to be one of the most important factors that lead to reduction of poverty. The article of Ravallion (2001) "Growth, Inequality and Poverty: Looking Beyond Averages" and the World Development Report 2006 (WDR) by the World

Bank, emphasize the importance of growth to poverty reduction. In figure 4.3 from the WDR (2006) shows that countries with higher growth rates reduce poverty faster, while countries with negative growth tend to suffer from rising poverty. The regression line in figure 4.3 has a slope of -2.4. The regression line calculated by Ravallion (2001) has a slope of -2.5, this represents the average growth elasticity of poverty for the selected developing countries. If average income rises by 1, poverty is reduced by 2.4, or respectively 2.5 percentage points.

But Ravallion (2001) warns to rely on the average. Figure 4.4 from the WDR (2006) shows that economic growth is on average distribution neutral, in other words, aggregate income growth on average effects the poor in the same way it affects the rich. Ravallion (2001) and the WDR (2006) both explain that this is not true, the same growth rate can have very different effects on poverty, due to differences in income distribution. The WDR (2006) states that half of the variation in poverty reducing is due to growth of mean income while the other half is the outcome of the different income distribution in the countries (WDR, 2006).

Figure 4.3 Growth is the key to poverty reduction . . .

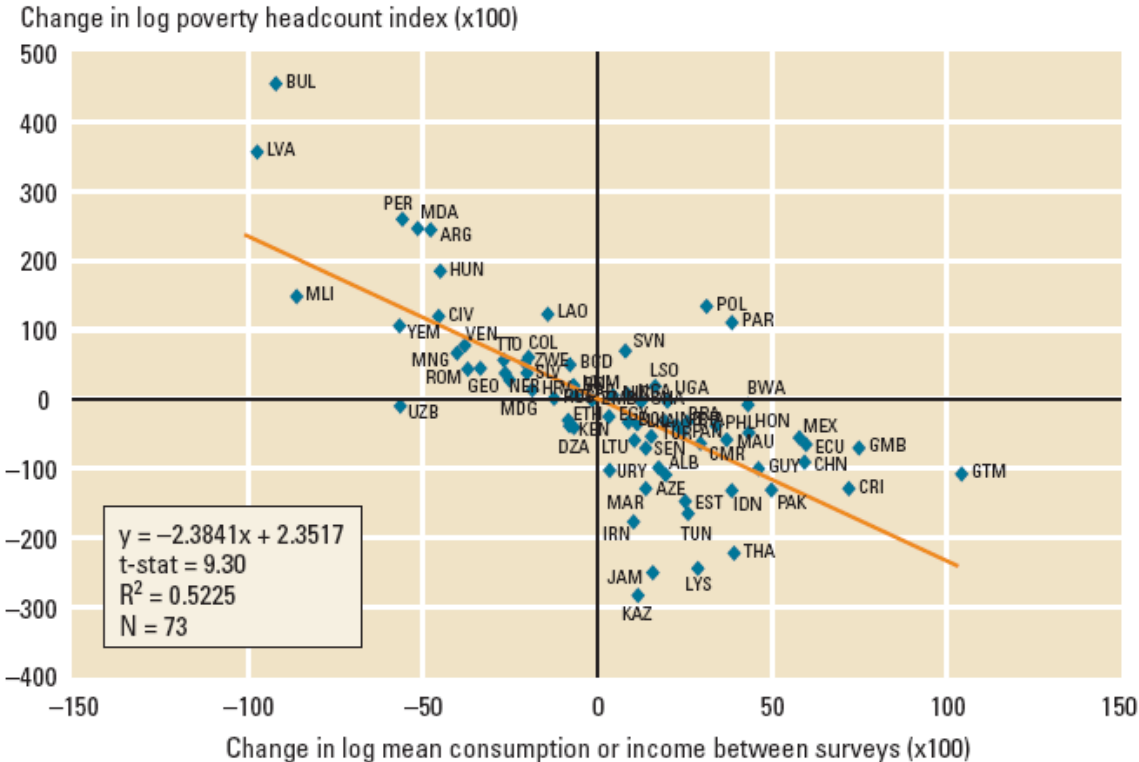
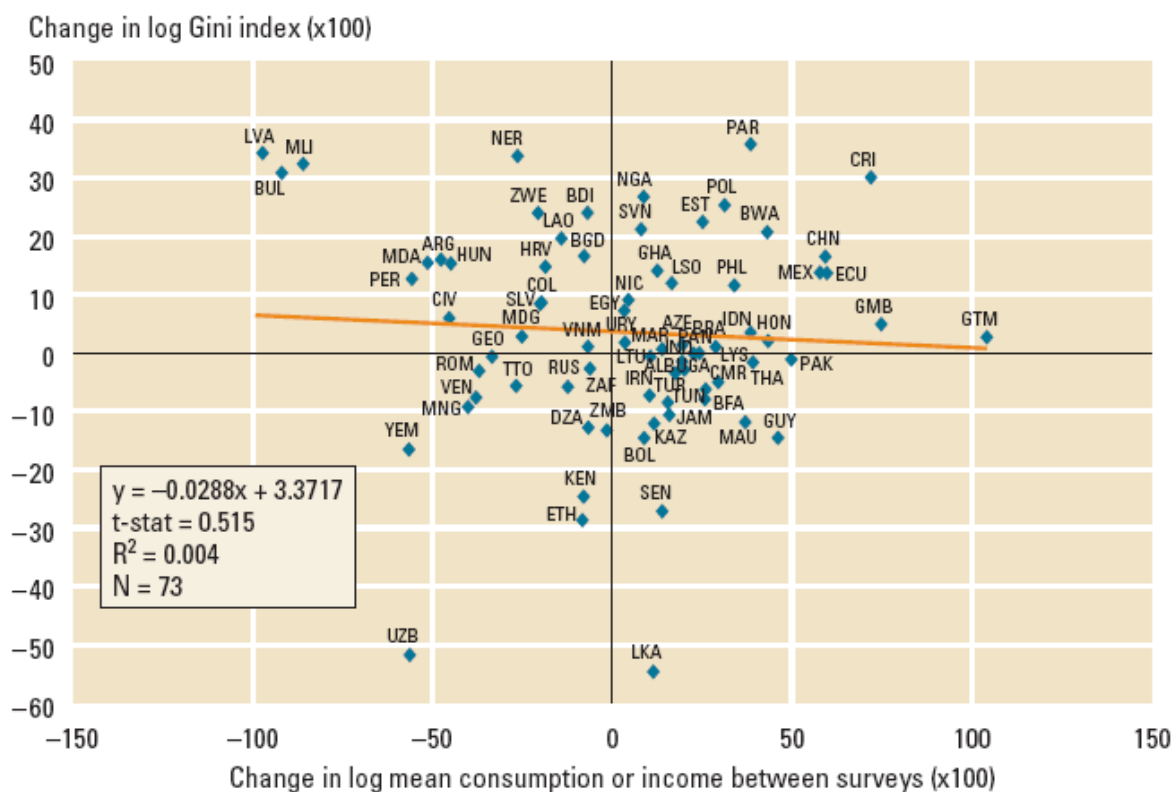


Figure 4.4 . . . and, on average, growth is distribution-neutral



Source: World Bank (2006)

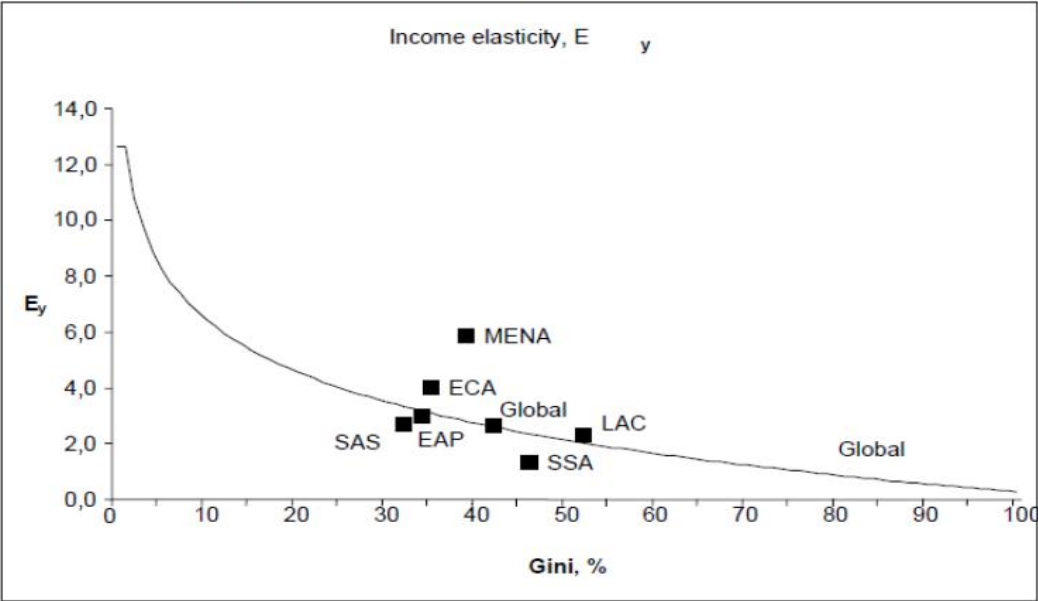
The article of Fosu (2010) 'Inequality, Income and Poverty' investigates the role of income inequality on poverty reduction and shows how the growth elasticity of poverty differs among the regions. The study uses the headcount-ratio measure of poverty for the US\$1 (or 32\$-per month) standard in six different regions: East Asia and Pacific (EAP), Europe and Central Asia (ECA), Latin America and the Caribbean (LAC), Middle East and North Africa (MENA), South Asia (SAS), Sub-Saharan Africa (SSA) and on global level. Fosu (2010) explores in his research the relation between Income Elasticity (E_y) and Inequality (Figure 2) and Inequality Elasticity (E_g) and Income (figure 3).

The relation of income elasticity and inequality describes how the impact of growth on poverty reduction changes with the level of inequality. As mentioned above, economic growth is seen as the main driver of poverty reduction, but Fosu (2010), as well as Ravallion (2001) and the WDR 2006, demonstrates in figure 2 that growth is not enough.

Even if economic growth is reached, the level of inequality determines whether this growth benefits the poor or not. The poverty reduction effect of growth decreases when inequality (Gini coefficient) rises.

Hence, inequality has an indirect effect on poverty. High inequality reduces the growth elasticity of poverty.

Figure 2: Income elasticity (E_y), globally and by region



Notes: The absolute value of the income elasticity is plotted here. The continuous line is the estimated elasticity function for the global sample based on the FE model (A.2) of Table 2. The regional elasticity estimates are also based on the FE models (A.1 or A.2 of Table 2). Points plotted here are the starred values representing estimates from the 'best' performing models from Table 2, evaluated at the respective regional mean values of the Gini coefficient, as reported in Table 3.

Source: Fosu (2010)

Also the article of Ravallion (2001) demonstrates that that inequality changes the growth elasticity of poverty. Table 1 from Ravallion's (2001) article shows when inequality is rising while average household income is rising, poverty is decreased by 1.3 %. But in countries in which inequality is falling in times of economic growth, the poverty rate decreases by 9.6%. Since Ravallion (2001) agrees with that high economic inequality is harmful for growth, he argues that a level lower of inequality would not be harmful for growth, indeed lower levels of inequality could even increase growth.

Table 1: Diverse impacts on poverty underlie the fact that changes in inequality are uncorrelated with economic growth

		What is happening to average household income between the surveys?	
		Falling	Rising
What is happening to inequality between the surveys?	Rising	(16% of spells) Poverty is rising at a median rate of 14.3% per year	(30% of spells) Poverty is falling at a median rate of 1.3% per year
	Falling	(26% of spells) Poverty is rising at a median rate of 1.7% per year	(27% of spells) Poverty is falling at a median rate of 9.6% per year

Note: Based on 117 spells between two household surveys covering 47 developing countries in the 1980s and '90s. Poverty is measured by the % of the population living below \$1/day at 1993 purchasing power parity. Inequality is measured by the Gini index.

Source: Ravallion (2001)

Easterly (2001) tests in his article “The Effect of IMF and World Bank Programmes on Poverty” how IMF and World Bank adjustment loans (AL) and inequality influence poverty. Easterly uses a data base on all types of IMF and WB Adjustment Lending (AL) between 1980 – 1998.

Easterly (2001) measures the elasticity of poverty and the change in poverty rate on growth of mean income and the interaction of growth of mean income with the Gini coefficient, he does that because he assumes that if the poor share of the population already have a low share of income this will also be true for newly gained income. Additionally he relates the number of ALs per year during poverty spells to economic growth, which will be discussed in the next chapter.

Easterly’s results on inequality are the following: First, for the growth elasticity of poverty he finds a mean of 1.9. Second, a 10% higher in Gini coefficient decreases the growth elasticity of poverty by 0.6 percentage points. Table 3 shows the impact of the Gini coefficient on the growth elasticity of poverty. Furthermore Table 3 shows that the number of ALs in a country increases this affect. The lower the number of adjustment loans and the lower the Gini coefficient the higher is the growth elasticity of poverty (3.8) and vice versa.

This means that in countries with higher inequality, poor people benefit less when the economy expands, but they also suffer less if the economy contracts. This result support the findings of Fosu (2010), Inequality reduces the poverty reducing effect of growth. But Easterly (2001) also finds the opposite high inequality reduces the rise in poverty in times of economic contraction.

Table 3
Poverty elasticities with respect to growth for different Gini coefficients and adjustment loan intensity

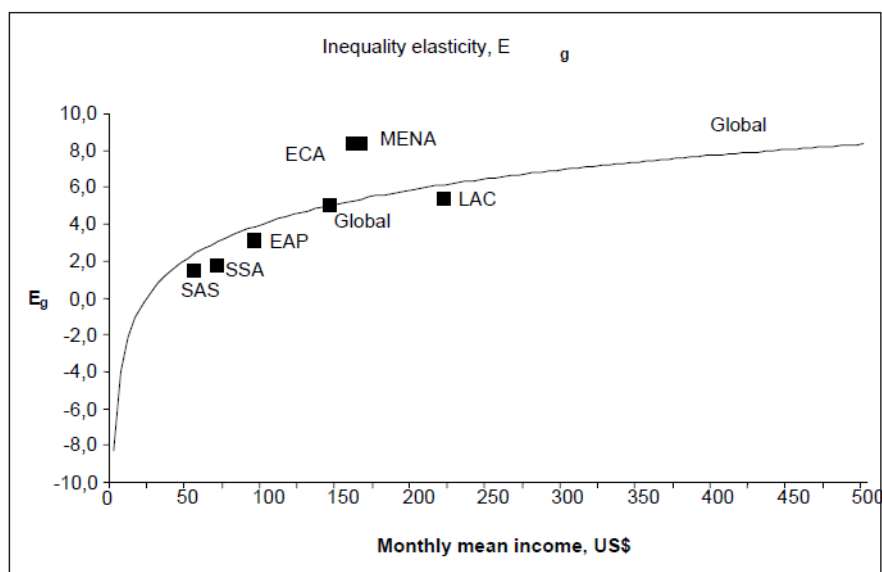
GINI coefficient	Average number of adjustment loans per year during survey spell		
	0	0.5	1
30	-3.8	-2.7	-1.7
45	-2.9	-1.9	-0.9
60	-2.1	-1.0	0.0

Source: author's calculations based on World Bank and IMF data.

Source: Easterly (2001)

However, inequality also affects poverty in a direct way. Figure 3 shows relation between inequality elasticity (E_g) and Income. In figure 3 it can be seen how inequality affects poverty depending on the income level. Rising inequality increases poverty, this effect gets stronger with rising income, but there is also an exception to the rule; Inequality elasticity reaches the value of 0.00 at a monthly mean income of 22US\$. When the level of monthly mean income lies below 22US\$ a decrease in inequality would actually lead to an increase in poverty, because in very low income countries a redistribution from income of people above the poverty line to people below the poverty line would bring more people in total under the poverty line, but would also make the lowest income shares a little bit better off. However, in all of the analysed region the monthly mean income lies above 22US\$, therefore for all of these regions can be concluded that a decrease inequality will lead to a reduction in poverty, since an increase in income share can lift people above the poverty line. Furthermore, this affect gets stronger in countries with a higher monthly mean income (Fosu. 2010).

Figure 3: Inequality elasticity (E_g), globally and by region



Notes: The continuous line is the estimated elasticity function for the global sample based on the FE model (A.2) of Table 2. The regional elasticity estimates are also based on the FE models (A.1 or A.2 of Table 2). Points plotted here are the starred values representing estimates from the 'best' performing models from Table 2, evaluated at the respective regional mean values of the mean income, as reported in Table 3.

Source: Fosu (2010)

The articles of Ravallion (2001), Fosu (2010) and Easterly (2001) show that high inequality influences the poverty reducing effect of growth. When the economy expands, the lowest income classes do not benefit, while the income of the higher income classes increases (Fosu, 2010) (Easterly, 2001). Fosu moreover finds out that Inequality has also a direct impact on poverty, high inequality increases poverty, this affect is stronger in countries with higher mean income (Fosu, 2010). From these finding one could conclude that high inequality rates are generally increasing poverty rates. But the findings of Easterly (2001) are somewhat more complex. While it is clear that the poor are cut out from economic growth in countries with high inequality they are also protected from the losses. Easterly (2001) states that this can be used as an argument for and against inequality (or as we will see later, as an argument for or against Adjustment lending), but this also shows that in countries with high inequality the poor are excluded from any economic development.

Chapter three showed that inequality can have a negative effect on growth. Since growth is a strong tool to reduce poverty, it makes sense that inequality increases poverty. Anyways, the way how inequality influences poverty is more complex. Inequality can have an adverse influence on growth while it also influences the distribution of growth through the growth elasticity of poverty. Moreover it affects poverty directly, since, if inequality rises money is redistributed from the poor to the rich.

The effect of inequality on growth and poverty shows the importance of an equal distribution of income for the economic development of a country. In the next chapter I will try to find out what effect programs of the IMF and the World Bank have on Inequality.

5. Bretton-Woods Institutions and their effect on inequality and poverty

5.1. International Monetary Fund and the World Bank

The International Monetary Fund (IMF) and the World Bank were founded in 1944 at the Bretton Woods conference (Hurd, 2011 p.66). The purpose of the World Bank was originally to finance development projects. The initial tasks of the IMF were to monitor the fixed exchange rates, to ensure the stability of the international financial system (Hurd, 2011 p. 70 - 71); to promote growth and international trade; and to provide loans and policy advice to countries facing a balance of payment problem (International Monetary Fund, 2011). Both institutions changed their focus and strategies over time.

Until the late 60s the World Bank focused on the financing of large construction projects. In the late 60s Robert McNamara became the head of the World Bank and shifted the focus towards poverty reduction. In the 80s the Bank started to finance Structural adjustment programs that were constructed to connect economies with the international market and to promote the private sectors (Hurd, 2011 p. 82) Today the World Bank's greatest objective is to reduce poverty and realize the Millennium Development Goals (MDG) (World Bank, 2011).

The IMF had to rebuild itself several times because of changes and developments in the international economic and financial environment. (Hurd, 2011 p. 70 - 71) In the first years of its establishment, the IMF monitored fixed exchange rates, which depended on the value of gold or on the value of another strong currency like the Dollar. It was obligatory to all member states to use fixed exchange rates. Over time the international financial system developed and it became more convenient for countries to adapt floating exchange rates, which are regulated by the market mechanism. When the biggest economies started using floating exchange rates the IMF changed its rules and floating exchange rates became obligatory to all member states. Since the 90s the IMF faces a new challenge, through the deregulation of mobile capital, the IMF's capital reserves had lost impact in comparison to the growing flows of international mobile capital. Nowadays the financial system is based on free capital trade, floating exchange rates and enormous private capital flows (Hurd, 2011 p. 70 - 71). Today the main objective of the IMF remains to provide international financial stability. Other important tasks of the IMF are to give policy advice to governments and banks, do research and forecasts, provide loans to countries facing a crisis, offer training and technical assistance in order to build up local know how and to make available conditional loans designed to fight poverty in developing countries (International Monetary Fund, 2011).

Today, both institutions aim poverty reduction, however, the IMF came a long way before it included Poverty reduction and income equality in their programs. The article of Momani (2008) gives a little more insight in how and why their rhetoric about poverty and inequality changed over the years.

Since the 1970s the IMF is borrowing mostly to developing countries and since then the question growth whether the IMF is the suitable institution to deal with developing countries. The critiques became stronger when the debts of developing countries grew while the promised economic growth stagnated in many countries and inequality rose (Momani, 2008). In the 1980s the IMF still stressed that distributional issues are none of their business (Pastor, 1987). Even though the IMF started to do research on its effect on poverty and inequality - after it was heavily criticized by the World Bank - the official position was still that distributional policies are sovereign decisions of the countries themselves and won't be considered by the IMF. This point of view did not change until Michael Camdessus became the Managing Director of the IMF in 1987. In a speech in front of the United nation economic social council in 1990 he stated that the IMF will improve their programs to reach "High Quality Growth" that would consider growth, equity and poverty reduction (Momani, 2008). In another speech in 1995 Camdessus stated: *"we have to help member countries achieve conditions for "high-quality growth," by which I mean growth that is sustainable, that respects the environment, that brings lasting full employment and poverty reduction, and that fosters greater equity through increased equality of opportunity."* (Camdessus, 1995). Moreover in this speech he discusses the importance of income distribution and stresses that an equal income distribution is beneficial for poverty reduction and supports political stability. Furthermore he questions the widespread opinion that inequality benefits economic growth and concludes that the IMF is not doing enough yet to combat poverty and inequality and that there is more that can be done within the limits of the organization. (Camdessus, 1995)

In the late 90s Camdessus restructured the IMF in cooperation with the World Bank. They adjusted their Structural Adjustment Programs in order to meet the needs of developing countries and to reduce poverty. Moreover the IMF agreed with the biggest member states, UK, Canada U.S. France, Germany and Japan in 1996 to allow debt relief to Heavily Indebted Poor Countries (HIPC). The HIPC countries that applied for a debt relief could now borrow from the Poverty Reduction and Growth Facility Fund (PRGF), which is the improved version of the former Structural Adjustment Fund (SAF). The PRGF permits loans if governments accept the conditions going along with the loan. Furthermore the governments have to participate in working out a Poverty Reduction Strategy Paper (PRSP). The PRSP it the improved version of the former Structural adjustment program (SAP) (Momani, 2008), but in order to understand what the actual difference is between SAPs and PRSPs it is necessary to understand the underlying economic paradigm that the IMF and the World Bank are built on.

5.2. Washington Consensus, SAPs and PRSPs

The IMF and the World Bank were both influenced by the neoliberal economic paradigm and draw on a neoliberal policy package which is known as the "Washington Consensus". The term "Washington consensus" derives from the article *"What Washington Means by Policy Reform"* from John Williamson, written in 1990. In this article Williamson (1990) summarizes the policy reforms, that the technocrats, the congress members and the staff of the IMF and World Bank – all situated in Washington- agree, will benefit the economic development of Latin American countries. The "Washington consensus" is the basis for the conditionality on IMF loans and for the policy advice in

SAPs and PRSPs (UNCTAD, 2002). Williamson (1990) names 10 Policy instruments which belong to the “Washington Consensus”: Fiscal Discipline; Redirection of Public Expenditure away from subsidies towards education, health and infrastructure; Tax Reform towards moderate, marginal tax rates with a broad basis; Interest Rate Liberalization; Competitive Exchange Rates; Trade Liberalization; Liberalization of inflows of foreign direct investment; Privatization; Deregulation; and secure Private Property Rights (Williamson, 1990). The “Washington consensus” has been criticized by many scientists because of its market fundamentalism, because the policies that aim structural adjustment can be harmful for development, poverty and inequality and because of its mixed effects on growth (Rodrik, 2006). This critiques and discussions have also reached the IMF and the World Bank. Nevertheless, the SAP and the newer improved PRSPs give policy advice which derives from the policy instruments given in the “Washington Consensus” (UNCTAD, 2002).

In the article of Pastor (1987) SAPs are described that were implemented in Latin America between 1965 and 1981. These SAPs were designed to increase the macroeconomic stability through improvements in the overall balance of payments and through inflation reduction. The IMF offered these loans to countries that would agree to certain conditions. The conditions include policy changes like devaluation of the currency, to set limits on banking credit and public borrowing, the removal of price subsidies and the elimination of tariffs and import controls. These policies should decrease public spending and boost international trade so that a consistent level of economic growth can be reached (Pastor, 1987). The PRSPs were created together with the World Bank in 1999 to provide the IMF with better knowledge on developing countries. PRSPs are designed in a similar way; countries can apply for loans which they will receive under certain conditions. One condition is that HIPC countries need to “take ownership” of the policies implemented. This means that, together with stakeholders, they created their own individual programs out of a set of possible policy packages, where the country characteristics and the opinion of the government are considered (Momani, 2008). On the homepage of the IMF the PRSPs are described as a “*comprehensive country-based strategy for poverty reduction*” which should increase influence of the loan receiving countries in creating their own development strategy and put more emphasis on poverty reduction. The IMF states: “*PRSPs aim to provide the crucial link between national public actions, donor support, and the development outcomes needed to meet the United Nations’ Millennium Development Goals (MDGs), which are centered on halving poverty between 1990 and 2015. PRSPs help guide policies associated with Fund and Bank concessional lending as well as debt relief under the Heavily Indebted Poor Countries (HIPC) Initiative*” ([International Monetary Fund 2, 2011](#))

The UNCTAD paper on “Economic Development in Africa, From Adjustment to Poverty Reduction: What is New?” (2002) analyses the PRSPs new strategies and in how far these differ from the former SAPs. They find that PRSPs follow the same goals of liberalization, increased openness and support of international growth in order to reach fast economic growth, which is still seen as the main tool to combat poverty. Additionally to this strategy PRSPs recognize the need of short term poverty reducing measures in order to reduce the negative effects of the structural adjustment policies on poverty, unfortunately the UNCTAD (2002) could not find that these measures have been introduced accordingly. While the UNCTAD report agrees on the need of growth in order to reduce poverty it criticizes that the IMF and World Bank still draw on the same policy tools that did not succeed in generating growth and reducing poverty in Africa in the past. Moreover the UNCTAD report criticizes that access to education and health institutions beyond the basic level is managed over user fees and therefore don’t provide the same access for poor and rich people (UNCTAD, 2002).

Also Momani (2008) concludes that the changes made by the IMF in cooperation with the World Bank seem to exist just on paper and that business continues as usual. Momani (2008) writes that the ownership of the programs by the countries themselves was often faked in order to get a loan and the IMF staff did not really incorporate the changes made to structural adjustment programs and continued their work in the same old way. Momani (2008) continues that the Independent Evaluation Office (IEO) report 2004 investigated the role of the IMF handling the new PRSPs. They stated that most IMF staff did not consider the PRSP as fundamentally changing the policy debate on macroeconomic strategies and just 20% believed that PRSP changed the way agreements were made with loan receiving governments.

The articles in the following paragraph analyse the time period until 2000, hence before the PRSP s were introduced. There is not much literature to be found that can already analyse in how far the PRSPs differ from the former SAPs in their implementation and their effects on inequality, growth and poverty reduction.

5.3. The effect of IMF and WB programs on Inequality and Poverty

In this part I will show the outcomes of four researches that are concerned with the effect of IMF and World Bank programs on Inequality (Pastor, 1987) (Vreeland, 2002) (Gilbert & Unger, 2009) and Poverty (Easterly, 2001) in developing countries. These articles show that participation in IMF and World Bank programs has a negative effect on income equality.

Moreover the problem of selection bias and of Compliance will be addressed.

The research on the effect of IMF Programs on income distribution follows from the critiques on the methods of the IMF, which came up in the 70s and got heavier in the time of the debt crisis, high inflation, poverty and inequality. The critiques blame the IMF to recommend policies to developing counties that have the side effect of making the poor even worse off and increase inequality.

The article of Pastor (1987) "*The effects of IMF in the Third World: Debate and Evidence from Latin America*", was one of the first articles to test these critiques, and therefore the relation between IMF program participation and rising inequality scientifically.

He analysed the macroeconomic effects of IMF programs in 18 Latin American countries the time period from 1965 until 1981.

First he tests whether the IMF reaches its main goals, an improvement in the balance of payments and a reduction in inflation.

In his analysis Pastor (1987) finds that the Balance of Payment in program countries improves, but this is due to changes in the capital account, which are greater than changes in the balance of goods,

services and income. Moreover he discovers that in Latin America inflation increases faster in program countries than they did before the IMF intervention.

Pastor (1987) also finds that IMF programs have no effect on growth.

Finally Pastor (1987) tests the effects on the labour share of income. He finds that the labour share of income decreases in countries that follow IMF programs.

Pastor tests some of the critiques on the IMF on his findings, but the only one that confirms them is the distribution oriented critique which derives from the Marxist critique. The distribution oriented critique demonstrates that the IMF's development strategy benefits the elites. The theory behind this approach is that the policies of the IMF keep the domination of capital over labour intact. In other words, the IMF promotes policies that make sure that the cost of the structural adjustment is paid by the lower income classes while the capitalist elites gain profit. Through this practice the IMF ensures the approval of the domestic powerful elites.

The distribution-oriented critique indeed seems to deliver a logic explanation for Pastor's (1987) finding. The reduction in labour share of income can be explained through the IMF's focus on creating structural programs that will benefit the local elites, in order to ensure their cooperation with the IMF. The income share of labour decreases while the income share of capital rises. Then, even though there is no significant change in economic growth the surplus earned by capital will increase and the incentive for investment will rise, which explains the second important outcome of Pastor's (1987) research. The improvements in balance of payment are due to the improvement in the capital account. Pastor believes that the explanation for this phenomena could be that even when balance of payment problems are not so severe, countries still apply for IMF loans in order to borrow from private banks, attract foreign capital and to motivate the local elites to stay and keep their capital in the country.

The theory fits to the findings of Pastor (1987), but the article does not deliver a proof for the Marxist critique, since there are several things Pastor did not take into account. The methods that were used by Pastor (1987) are questionable. Latin America dealt with the debt crisis in the 70s and 80s and still has in average the highest inequality levels compared to other regions of the world. The data that is analysed by Pastor is therefore difficult to compare to data from other periods and regions. Besides this, Pastor (1987) derived his findings from a before – after analysis, where he compared the situation in a country before starting an IMF program and afterwards. But with this method he cannot account for the selection bias (Gilbert & Unger, 2009), since it does not take into account other conditions that affect the labour share of income (Vreeland, 2002).

Nonetheless the findings on the labour share of income of Pastor (1987) are in line with the results of Gilbert & Unger (2009) and Vreeland (2002).

The problem of accounting for the selection bias is crucial to the research on the effect of IMF and World Bank Programs. The selection bias derives from the fact that the IMF and World Bank gives loans to countries that are most likely facing balance of payment problems, an economic crisis and/or initial high rates of poverty and inequality. Therefore countries that receive IMF and World Bank loans differ systematically from countries that do not receive a loan. Hence from statistics that show a negative development in growth, equality and poverty it cannot be concluded that these development is due to the influence of the IMF and World Bank, unless these statistics account for the selection bias. It is important to make sure that the special circumstances in IMF program countries are not the cause for the differences in growth, poverty and equity. As already mentioned above Pastor did not account for the selection bias, but Vreeland (2002) and Gilbert & Unger (2009) found a way to solve the problem.

Vreeland (2002) uses a regression method to account for the selection bias. He separates the impact of the IMF Program from the effects of the characteristics of program countries in comparison to non-program countries. In order to do that, Vreeland (2002) uses hazard rates which are a form of error terms. It is important to include also unnoticed factors that determine which countries are selected for IMF programs, if these factors are not taken into account the bias increases. Vreeland (2002) states that every statistic includes an error term, the error term stands for unobserved determining factors. The errors from selection and the errors of performance must be correlated, then the correlation shows that unobserved variables that determine the participation in IMF programs also have an influence on growth, poverty and inequality. This correlation can be measured, and presents the influence of all other unobserved factors that influence the participation in IMF programs and the performance of countries. Finally it becomes possible to see how much of the observed inequality is due to the IMF program and how much is due to other factors.

Gilbert & Unger (2009) use a similar method to account for the selection bias. They state that the solution to the problem of selection bias lies in the causation. The effect of the IMF program must be separated from the effect of the primary level of inequality on the chance of program participation and the size of the loan. Since it is not possible to test the effect of an IMF program in an experiment situation where countries for IMF programs are chosen randomly Gilbert & Unger (2009) decide to use instrumental variables. Instrumental variables need to fulfil two conditions, first they should have an effect on the probability that a country enters a program and second they must be exogenous to inequality. They find three instrumental variables that have significant influence on the selection of a country for a loan: voting in line with the G7 in the UN Security Council, since the G7 also have the most power in the IMF; and having a currency crisis are both factors that increase the probability of program participation. High short term debt instead lowers the chances of receiving a loan.

Moreover Gilbert & Unger (2009) determine instrumental variables that have an influence on the size of the loan. The loans are higher when: the total debt service is higher, since it increases the demand for it; and when a country has high international reserves, since these countries can pay back these loans. The loan is smaller when countries have a better current account; and when countries vote in line with the G7. Gilbert & Unger (2009) find out that these countries have a higher GDP in general which is why the demand for loans is smaller and therefore the loan itself. In order to calculate the

Gini - and the Theil coefficient the authors use the information of the equations which explain participation and size of the loan, which makes it possible to separate the effect of the IMF on inequality without falling into the selection bias trap. Therefore, the results of Vreeland (2002) and Gilbert & Unger (2009) should describe the real effect of participation in an IMF program on inequality.

Vreeland's Article "The Effect of IMF Programs on Labour" (2002) investigates the capital share of income and the labour share of income from manufacturing in countries that participate in IMF programs. Vreeland is using regression analysis with a data set of 2,095 observations in 110 countries between 1961 and 1993.

Also Vreeland (2002) suggests that the reason for the negative effect of the IMF on inequality is due to political reasons. He explains that the policy changes that an IMF program implies are the devaluation of currency, an increase of the interest rate, trade liberalization and a reduction in public expenditures in order to get the balance of payments right.

The way in which these policies affect income distribution depends on two things, on the one hand on the country characteristics; and on the other hand on which kind of policies are chosen. For example, trade liberalization can benefit labour intensive industries that export, while it can hurt industries that were protected before the IMF program. But, as country characteristics are known it is also a matter of choosing the right policy. In order to reduce public expenditure it is often chosen to not increase government employees wages or limit employment in total, while there are also other possibilities to repair the balance of payments that have a less negative effect on income distribution, like taxation. Hence, Vreeland (2002), like Pastor (1987), cannot exclude the possibility that governments and the IMF prefer to implement policies that will satisfy local elites instead of political less powerful workers, in order to gain their support and keep the capital in the country.

But, there are other factors influencing inequality, then the question is in how far do IMF Programs effect inequality?

In order to see in how far IMF programs effect inequality he tests several other determinants of the labour share of income. After accounting for these other factors, he finds that the actual effect of IMF Programs on the Labour share of manufacturing is smaller than previously expected. Participation in an IMF Program lowers the income share of labour from manufacturing between 3.3% and 3.5%, while the observed total difference between program countries and non-program countries is - 8.3%. Therefore about 5% of the difference in labour share of income is due to other variables.

Table 6. *Hypothetical labor share of income from manufacturing according to IMF experience (selection-corrected estimates)*

	According to specification from Table 3	According to specification from Table 4 (%)	According to specification from Table 5 (%)
Predicted labor share if countries do not participate	37.64%	37.74	37.66
Predicted labor share if countries participate	34.33%	34.20	34.17
Predicted overall effect	-3.32%	-3.54	-3.49
Number of observations	1846		
Actually observed mean	37.44%		
Observed mean not participating in IMF programs	39.88%		
Observed mean participating in IMF programs	31.57%		
Observed difference	-8.31%		

Source: Vreeland (2002)

While the results of Vreeland (2002) confirm Pastors (1987) findings, his method of analysis also shows that participation in IMF programs effects growth negatively, while Pastor (1987) concluded that the IMF has simply no effect on growth.

This means that there is a real and total drop in manufacturing income, in other words the income itself decreases. Furthermore Vreeland tests the effect of Participation in IMF Programs on the capital share of income. He finds that the capital share of income increases, the shift in income from labour to capital is stronger than the effect of the average negative economic growth -1.5 %, therefore the rise in capital income is positive.

Vreeland concludes that even though the IMF adopted the goal of “high quality growth” where economic growth is supposed to benefit all income groups, this study indicates that this is still not the case.

However there are some thoughts that should be kept in mind Vreeland (2002) analyses just data on the labour share of income from manufacturing and the capital share of income, while it is not mentioned in how far this represents the whole population. His outcomes therefore do not account for the influence IMF programs have on farmers or households that work in subsistence farming the informal sector, where a lot of people from the lowest income levels work (Easterly, 2001). It also excludes unemployed and generally all people that rely on government help in form of social safety nets that might be introduced with the IMF Program. All in all the article handles the selection bias and shows that there is an effect on income, but the question stays whether his findings can be generalized on the whole population. More interesting are his findings on the capital share of income. It is remarkable that the return to capital is still positive even when growth is negative. Furthermore his findings on the negative effect of IMF programs on economic growth are important. The IMF should promote economic growth and not worsen it, since growth is needed in order for the countries to develop and fight poverty. Another problem is that the article does not take compliance into account. Vreeland (2006) state that the data and research on Compliance is still in progress, but it should be kept in mind that how and whether the policy advice is carried out is deterrent for the performance and the outcome.

The article of Gilbert and Unger (2009) *“Do loans harm? The effect of IMF programs on inequality”*, analyses the effect IMF programs have on economic inequality in developing countries. Gilbert & Unger (2009) are the first to split up the effects of the size of the loan itself and the effect of the policy advice that go along with the loan. They use pooled time-series cross section analysis on data over 98 countries in the period 1970 – 2000. In order to measure income inequality Gilbert & Unger (2009) use the Gini index, which contains data on household income, and the Theil-coefficient, measures the wages for labour, in order to show industrial pay-inequality.

Gilbert & Unger (2009) try to divide the effect of the size of the loan, the compliance with the conditionality and the policy advice. Due to a lack of data on the compliance of countries in combination with a restricted set of data on income inequality, the effect of the conditionality and of the policy advice cannot be split.

The authors continue with testing the effect of IMF policy and the size of the loan on the Theil – and the Gini coefficient. For the Theil coefficient they find that the size of the loan is insignificant but that the participation in an IMF program increases the Theil coefficient. In the case of the Gini coefficient the authors find that the participation in an IMF program increases the Gini coefficient. For program duration of 1.5 years the Gini coefficient rises by 2.6 points. But the size of the loan has a mitigating effect on the Gini coefficient, for an average loan of 2.5 % of the GDP the Gini coefficient is lowered by 2.1 points. Gilbert & Unger (2009) explain that the different effect of the size of the loan on the Theil - and the Gini coefficient could be due to the fact that the Theil coefficient just takes employees into account, therefore social welfare programs are not reflected in the Theil coefficient. The authors state that the countries apply more expansionary policies when the loans are larger in order to reduce the negative effect on inequality and poverty

Gilbert & Unger's (2009) conclude that IMF programs have a rather negative effect on economic growth and that IMF programs have a significant negative effect on inequality. The increase in inequality is caused by policies that reduce the government deficit: By devaluation, increased inflation and trade liberalization. The research of Gilbert & Unger (2009) proves that the reason why IMF programs bring along increased inequality must lie in the policy advice and the conditionality of the IMF and not in the lending itself.

Gilbert & Unger suggest that the policies have such strong side effects on inequality and such few effects on economic development because these policies need functioning markets to work properly, but functioning markets are not common in developing countries.

However there are some questions still to be answered. Gilbert & Unger did neither take into account the compliance of countries to IMF conditions. One article that does account for compliance is Dreher (2006). The article investigates the effect of the IMF on growth and finds that it affects growth negatively. Dreher (2006) finds that compliance reduces the negative impact of IMF programs on growth a little bit, but the overall effect stays negative.

Vreeland (2006) also investigates the problem of compliance. He states that there are researches like Dreher (2006) that start to investigate the influence of compliance on the economic performance of countries that follow IMF programs, but that the question on the impact of compliance still cannot be answered. Research has to be done on what determines the rate of compliance and what affect the IMF has on the economic performance when the conditions are met (Vreeland, 2006).

These three articles show that there is indeed a relation between IMF programs, income distribution and economic growth. Together with the findings of Fosu (2010) and Easterly (2001), which were partly described in the previous chapter, it becomes clear that besides an increase in the Gini coefficient, participation in an IMF Program also has a negative effect on poverty reduction. However, the article of Easterly (2001) has another interesting finding. The IMF and World Bank programs do not affect poverty reduction directly but they do affect the absolute value of the growth elasticity of poverty, it declines for every extra AL per year with about 2 percentage points. As mentioned earlier in chapter 4, Table 3 shows the effect of ALs on the growth elasticity of poverty. Hence, in countries that participate in IMF and World Bank programs the poor are excluded from the economic development. They cannot benefit from economic development, but they do also not suffer so much in times of economic contraction.

To explain this phenomenon Easterly (2001) provides two theories.

The first theory is that adjustment loans are counter cyclic, which means that the IMF and WB create programs that give more support to the poor in times of economic contraction while they demand stricter policies in time of expansion. The adjustment programs can include regressive taxes in times of expansion which decrease the growth elasticity of poverty or include safety nets which would protect the lower income classes in times of contraction. Easterly finds some evidence that support the counter cyclical theory. In countries that receive Adjustment loans (AL) and are in economic contraction the inflation rate is high which suggests that the conditions on monetary growth and credit expansions are less strict in times of crisis. Furthermore he finds that transfers are higher during contractions and lower during expansions. But these variables do not have a direct effect on poverty or growth which makes it difficult to prove that the counter cyclical theory is right.

He therefore offers an alternative theory, which is confirmed by the results of Easterly's measures. The theory states that ALs support promising sectors in a countries economy that will start grow, while older sectors might be not strengthened and will decline. Therefore ALs are the cause of expansion or contraction in an economy, depending on the size and development of the affected sectors. This kind of contraction or expansion affects the middle class more than the income of the poor since they earn most of their incomes in subsistence work or in the informal sector of the economy. Easterly did not test this theory in this article, but as mentioned earlier in chapter 3, the informal sector is likely to be large in developing countries. Since the lowest income groups earn much of their income in the informal sector Easterly (2001) concludes that the lowest income classes in developing countries cannot take advantage of the opportunities the IMF and WB programs create in new sectors, but they do also suffer less from the recession of an old sector.

This chapter tried to explain how IMF and World Bank programs influence inequality and poverty. The correction of the balance of payments also seems to have success. While there are several theories that about how the IMF and the World Bank effect inequality, for which some evidence is given none of them can be confirmed until the effect of compliance and noncompliance has been included. However, the authors found evidence which show that participation in programs by the IMF and the World Bank have an adverse effect on equality, poverty reduction and economic growth. The loans themselves have an enhancing effect, at least on equality (Gilber & Unger), but from this it cannot be concluded that the policy instruments that are recommended by the IMF and the World Bank are ill suited or that the IMF chooses policies that benefit the elites. The question that cannot be answered in this essay is if IMF and World Bank Programs fail because of a policy advice that is not suitable for developing countries or whether the failing is due to a poor execution of the policies or non-compliance by the country governments. However countries that participate in IMF and World Bank programs tend to experience a decline in growth, income equality and poverty reduction.

In the case of the effect on poverty however, the theories offered by Easterly (2001) seem to have some explanatory power. While both of Easterly's (2001) theories seem logical, he finds more evidence for the alternative theory, which states that the poorest citizens are excluded from the economic development since they earn their income in the informal sector. If this is the case then the policy changes in IMF and World Bank programs affect the poor almost not at all, but this just counts for people working in subsistence work and not for all the workers in manufacturing. Therefore the participation in IMF and World Bank Programs still has an adverse effect on poverty reduction through the rise in inequality.

6. Conclusion / Discussion:

This essay first to presented the complex relations between income inequality, economic growth and poverty. The influence of inequality on growth has been assumed to be positive in the past, but the theories Keynes, Kaldor and Kuznets (cited in Galor, 2009) seem not to apply in a globalized world anymore. As it has been argued in chapter three, most development countries receive a lot of capital inflows, or as in case of the IMF and World Bank program countries receive loans, which replaces high savings, furthermore developing countries adopt technologies quick which increases the demand for skilled workers. Therefore, human capital is an important determinant for economic growth in developing countries (Galor, 2009) and human capital can be best accumulated in countries with an equal distribution of income (Galor & Zeira, 1993).

Lundberg & Squire (2003) calculate which policy instruments can be combined to reach both, economic growth and equality. Education, low inflation and an equal land distribution benefit growth and equality, while trade openness benefits growth and worsens equality and greater civil liberties benefit equality and worsen economic growth.

The relation between poverty, growth and inequality also shows that high rates of inequality have a negative effect on economic development. While growth is supposed to reduce poverty, high rates of inequality prevent that effect. First, high inequality has an adverse effect on growth and second, the poorest income shifts earn a too low share of the overall income to benefit from growth. Moreover increasing inequality affects the poverty rate directly since people drop under the poverty line if their share of income decreases.

Theoretically high rates of Inequality lead to lower growth rates and less poverty reduction.

Considering the adverse effects of inequality on growth and poverty it seems logical to criticize the IMF and World Bank and demand a stronger focus on reducing economic inequality. However most critiques on the IMF and World Bank did not use this line of argument but criticizes the politics behind the programs, especially in case of the IMF.

Nonetheless the researches of Vreeland (2002) and Gilbert & Unger (2009) showed that the participation in IMF and World Bank programs have an adverse effect on income equality as well as on growth and poverty reduction. Since the researches of Vreeland (2002) and Gilbert & Unger (2009) accounted for the selection bias it can be assumed that these effects are caused by the participation in an IMF program. Moreover the study of Gilbert & Unger (2009) divides the effect of the loan and the policy advice. This shows that the money lend reduces the Gini coefficient. But Gilbert & Unger (2009) were not able to find out whether the policy tools, deriving from the Washington consensus, are responsible for the increase in the Gini coefficient or if the increase in inequality is due to poor execution of this policies, in other words, because the countries simply did not follow the advice of the IMF and the World Bank. Unless research on the effect of compliance is finalized it is difficult to declare that the policy tools or the mixture of the policy tools leads to higher inequality.

The results found for the effect of the programs on inequality, growth and poverty seem inconsistent . Especially since participation in an IMF and World Bank program also seem to reduce growth in many countries. Considering the policy tools which are recommended by the IMF, an increase in trade openness should lead to rising growth and reduced equality. On the other hand it was found that inflation rates increase, which has an adverse effect on both, growth and equality (Lundberg & Squire, 2003). In order to explain why the participation in IMF and World Bank Programs often have an adverse effect on growth, income equality and poverty reduction more research has to be done on the effect of compliance. In order to come to conclusions about how the IMF and World Bank effect countries and out of which reasons countries apply for IMF and World Bank loans, the topic also needs to be analysed from a political point of view. What can be concluded from this essay is that there are complex relations between economic inequality, growth and poverty. Therefore, the reduction of economic inequality is crucial for the long term economic development of countries.

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