



**LUND UNIVERSITY**

School of Economics and Management

**Master programme in Economic History**

## **Regional Development in post 1997 Indonesia**

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*Abstract:*

This thesis uses three indicators of development (Human Development Index, human capital and infrastructure) to analyze regional development in post 1997 Indonesia. The main conclusion is that the Asia crisis had on the short-term an equalizing effect on the different growth paths of the Indonesian regions. These equalizing effects, however, stagnated and the capital, Jakarta started to diverge again after the great recession on two of the three indicators (Human Development Index and infrastructure). This thesis supports the theory that exogenous shocks have a short-term equalizing effect on regional development.

*Key words:* Regional development, Asia Crisis, Indonesia

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# 1. Introduction

## 1.1. Research problem

In the past three decades populous countries tended to account strong economic growth. This economic growth was not bound to certain regions but appeared all around the globe. The most well known are the BRICS countries (Brazil, Russia, India, China and South Africa), however, countries like Indonesia, Nigeria and Mexico followed a similar growth trend. Within these countries regions developed in different paths; urban areas with a strong maritime connection and financial sector in general conducted strong growth rates while other regions seemed to fall behind. Government policies and the redistribution of wealth strongly influenced the divergence rate within countries.

Some countries achieve remarkable scores on the indicators of the OECD, World Bank and the IMF. What is not included in these indicators is the disparity within a country and the tremendous gaps that most of the time exist between different regions. Economic theories tend to explain why countries develop and why others do not. An extended view on regional development could contribute to the information supply of the models and the perceptions on developing economies. At the beginning of this millennium the Asian Development Bank started several regional projects indicating that there is already an existing urge to battle regional inequalities (Tabor 2015).

Drivers such as infrastructure, the amount of available healthcare, economical processes and schooling determine the rate of the development of a region. Indonesia consists of many different cultures and has many different ethnical backgrounds and religious conceptions within one country. A centralized approach did not always seem to fit the diversity existing in Indonesia, however, the growth rates under the centralized government (1967-1998) were over an average of 2% GDP growth, higher, than under the decentralized rule (2000/2001-now) (Marks 2009). Nonetheless, in a national perspective the Indonesian economy recovered

under the decentralized rule from the Asian crisis (1997) and was almost unharmed during the Great Recession of 2008 (Hill 2008).

The aim of this thesis is to determine the effects of the economic crisis of 1997 and the recession of 2008 on the regional development in post 1997 Indonesia.

Research question:

- *Why and how did the regions of Indonesia develop after the 1997 Asia crisis and the Great Recession of 2008?*

## **1.2. Approach and outline of the thesis**

The approach of this thesis is to be gap-filling. There is a broad basis of existing literature published about regional development in Indonesia, however, this thesis will compare some specific islands that are not compared in as much detail before in the time span selected. This time span reaches from 1997 to 2011 and will be separated in three different periods. The first period will be referred to as the short term after the Asia crisis and consists of the following years: 1997 to 2004. The second period covers the years between 2004 and 2008 and will be referred to as the long-term after the Asia crisis. The third period includes the years 2009 to 2011 and will be referred to as the short-term after the Great Recession.

In the second chapter previous research will be discussed. The third chapter will go further into the theoretical approach, method and data. The fourth chapter will be the analyses of the seven different regions regarding the Asia crisis, the fifth chapter will do the same but for the Great Recession followed up with a discussion of the results. The final chapter is a conclusion responding to the research question presented in this introduction.

## **2. Previous research**

### **2.1. On Indonesia**

Where economical and economic historical articles are often focused on failures and mismanagement this thesis will approach a topic that on the first eye seems to be a success story. The main writer and expert on this topic is the Australian researcher Hal Hill, who in the last two decades published several articles and books about the national and regional development of the Indonesian economy in the 20<sup>th</sup> and 21<sup>th</sup> century. Hill (1998 & 2008) describes that Indonesia managed to keep the regional differences at the same level since the 1970's. This is a remarkable achievement compared to the economies in the same phase of development as Indonesia, which also experienced the same growth rates (Hill 1998 & 2008).

Another contributor to the knowledge on Indonesian regional development is Anne Booth. In her book, *Economic Change In Modern Indonesia*, she states that since the rule of Suharto (President: 1967-1998) the standards of living in Indonesia in every part of society gradually improved. Indicators such as school enrollment, food quality and quantity as well as life expectancy grew for all expenditure groups. She signals a convergence in per capita income amongst different groups in society (Booth 2016). Besides the positive trends Booth describes that after the Asia crisis Indonesia still faces many problems on a wide variety of economical and social indicators. In Booth's opinion the level of education is not on the level it should be, after the decentralization of the government the funding and management of schooling are still not up to date.

The infrastructure programs are facing difficulties to be put into practice. She is warning for the under investments of the Indonesian government in infrastructure. The infrastructure is of an alarmingly low quality compared to neighboring countries. The lack of the infrastructure's development has, according to Booth (2016), two main reasons: a lack of funds and the increasing bureaucratization.

Booth (2016) is especially worried considering the long-term future of Indonesia. To generate growth and redistribution of wealth the Indonesian government has to take

steps in the improvement of living standards for all parts of society. She is concerned that if that awareness will not develop soon, Indonesia will face the consequence of:

... the inadequate infrastructure and environmental degradation. Government at both the center and the regions with civil society organizations will have to tackle challenges in the coming decades. If they can do so successfully, hundreds of millions of Indonesians can look forward to a better quality of life. But if they fail, the country faces a very uncertain political and economical future. (Booth, 2016, p.235).

Van Leeuwen and Foldvari (2012) did extensive research on the development of inequality in Indonesia (1932-1992). In their article they introduce that an income-focused approach is not the best way to understand inequality and poverty. They point at the fact that much labor in Indonesia is not registered. That means that these numbers are not visible in the common used data. To get a better estimate for the poverty in Indonesia they have the opinion that an expenditure-based approach will be the most successful. Besides, as rice prices have a big influence on the life and expenditure possibilities of the inhabitants, this can also be a good indicator in the opinion of Van Leeuwen and Foldvari (2012).

## **2.2. On regional development in general**

Previous research, focused on regional development, is built on the findings of Williamson. Williamson (1965) discovered four disequilibrating effects that could influence the development of a region.

The first disequilibrating effect that Williamson points out is the labor migration. When a person acquires above average skills in his region migrates to a region with more challenges, higher risks and better payment. This is still a problem in many countries and especially in developing countries like Indonesia (Williamson 1965).

The second disequilibrating effect is capital migration. Capital migration may occur when the distribution of income generated by the main transport hubs of a country stocks and centralizes around the urban agglomerations. The capital gap between

the center and the periphery widens because of the high risks of investing in the periphery due to a lack of infrastructure and thereby a lower success rate. Furthermore, the structure and the quality of the financial institutions of a country have a strong influence on the division of capital. If the commercial and industrial banks all settle in the center, it is unlikely that they are focused on the development of the agricultural regions. Especially in developing countries like Indonesia where corruption still has a big influence on governance, this can be a problem.

The third disequilibrating effect is the way the central government issues policies. This factor is strongly influenced by the amount of the de facto political power in each region. In most developing countries the central government focuses on growth maximization. If the peripheral regions have a low de facto political power, their input in the governmental policies is minimal and the growth policies are not necessarily beneficial for those regions (Williamson 1965). It is common that governmental policies strongly accelerate the divergence between the poor and rich parts of a country, when a nation is in the development process. Indonesia is clearly still a developing country and the post 1997 policies could, if Williamson is correct, still have affected the regional development.

The fourth disequilibrating effect is the amount of interregional and international linkages of a region. Indonesia has regions that are strongly connected with the world market. The regions with the major international ports and airfields are the most benefited. Transportation costs for the outer islands are tremendously higher and the connection with the world market is inadequate. The interisland infrastructure is low and this means that the spread effects of social change, technological change and income multipliers are minimized (Williamson 1965). In most cases the national growth evens out over the whole country to a certain extent when the country arrives in a mature state of modern economic growth. However, this still did not happen in Indonesia.

Williamson's (1965) expectation was that when a country waited too long with the redistribution of the centrally achieved growth, polarization would occur in the country over the long run with potential political and military struggles as a result. The stagnated divergence within Indonesia probably prevented political unrest and violence to a certain extent (religious friction is not taken into consideration).

Under the New Order (Suharto regime) the investments in infrastructure were prioritized and national funds were spent on developing train tracks, highways, ports and accessibility to electricity. The New Order realized that the development of the tangible infrastructure is one of the key factors in development economics. Rietveld (1989) points out that regional growth is dependent on the development of infrastructure since labor and capital cannot become efficient without governmental investments. Rietveld (1989) claims that there exists a friction between the incentive of the government and the reaction of the private sector. The government can react in two ways: [1] invest in a poor region to restructure the infrastructure and stimulate the private sector to follow their incentive. [2] The government can fix infrastructural problems to assist the private sector in regions where private investments were booming (Rietveld 1989).

Acemoglu and Robinson (2002) added an institutional and political factor to the origins of the development of inequality. Their explanation starts with the accumulation of wealth at the beginning of the 19<sup>th</sup> century during the first industrial revolution. The increasing number of centered factories created hubs of social unrest and poor living standards. The economical elite did not want social unrest therefore democratization and redistribution institutions started to develop. The development of those institutions led to an increase in education and standards for labor, with a more natural redistribution of the recourses and growth as a result (Acemoglu and Robinson 2002). Acemoglu and Robinson (2002) made an exception for the growth of the East Asian miracle countries (Indonesia is not considered as one by Acemoglu and Robinson in 2002). In the view of Acemoglu and Robinson (2002) the East Asian miracle countries did not experience as much regional difference as the preindustrial/ early industrial European countries. Besides that, the profits made by the newly established exports were shared equally. As a result social pressure did not occur until much later in the development process. This postponed the urge to reform the political environment.

One way to measure differences in regional development is by analyzing the tax collection within a country. This technique is well known since Thomas Piketty (2003) used this method to measure income inequality in France for the period 1901-1998.



By focusing on the taxes, he wants to prove his assumption that the reduction of regional differences and thereby inequality within France was in a general sense a coincidence and accidental. He tries to explain why income inequality was reduced mainly as a result of a reduction in capital income (Piketty 2003).

### 3. Theory

The aim of this chapter is to construct a clear overview of the theories that could help explain what drives the development of the different Indonesian islands.

Regional development can be explained by the exogenous growth theory as well as with the endogenous growth theory. The exogenous growth theory explains the catch up of different regions through exogenous shocks. The exogenous shocks could be for example: the settlement of a major firm in a region or the connection of the region with the center through new infrastructural projects (Capello 2011).

The exogenous shocks are related to the factor endowments of a region and the proximity to the center. If a region is lacking natural resources or a competitive labor force, it is unlikely that it attracts private investments. However, the exogenous growth could be stimulated if central governmental policies have a specific impact on a region (Capello 2011).

The endogenous growth could develop by, for example: entrepreneurial activity, local resources, local governance supporting local innovation and the amount of external knowledge available within the local economy (Capello 2011). Endogenous growth is in theory more likely to develop in post 1997 Indonesia, since the regions gained more authority, more possibilities to allocate their funds within the parts of their society where they regard themselves to be competitive. In theory, the allocation of funds should improve after 1997, stimulating endogenous growth in the least developed regions and thereby stimulating a converging trend.

Besides local growth, convergence can be triggered by exogenous shocks on a national scale. For this thesis the shocks are the Asia crisis and the Great Recession. Piketty (2003) discovered with using three different kinds of taxes that exogenous shocks have the biggest impact on the regional differences and inequality within a country. After turbulent financial times it takes a while for the richest 0.1-1 % of a country to reconstruct their capital. The shocks are: inflation, bankruptcies and war (Piketty 2003). According to Piketty (2003), the Indonesian economy must have

shown trends of intranational convergence shortly after the Asia crisis and the 2008 recession.

Barrios and Strobl (2005) state that regional inequality is hardly avoidable, their main reason is that economic growth is driven by:

... innovation and technological progress which are unlikely to appear everywhere at the same time. It follows that some degree in heterogeneity in regional economic development will necessarily appear as countries are engaged into fast economic catching-up. (Barrios and Strobl, 2005, p.26).

A too tight distribution of wealth in the early stages of economical development could only harm the economical development of a country on the long-term.

It is likely that the redistributed funds try to find their way back to the economical centrum, with increasing transaction and capital migration costs as a result.

Barrios and Strobl (2005) discovered a faster increase and a faster decrease with inequality on the y-axis and economic growth on the x-axis. This resulted in an inequality curve shaped as a bell (Barrios and Strobl 2005).

If the theory of Barrios and Strobl (2005) is applicable on Indonesia, the divergence will increase in the periods of growth. The growth centers will benefit most and the poor regions have to wait on their turn. Following their theory the increasing involvement of the Indonesian government could have a breaking effect on the overall growth rate.

It is not clear if the growth of the region was exogenously driven or endogenously achieved. To understand the drivers behind the growth of the Indonesian regions three indicators will be used.

The first indicator is living standards. This will be measured by the HDI (Human Development Index) level and the growth rate of the HDI. The HDI is a good general indicator because it consists of three different components: long and healthy life, education and the standard of living (UNDP 2016).

The second indicator is called human capital but will mainly focus on the education in the different regions. The indicator human capital is chosen because it can help to detect specifically the development of the inhabitants of one region. The educational progress contributes to the competitiveness of a region to a large extent. A skilled labor market is essential in the growth process since that makes it attractive for foreign companies to settle in a region. The endogenous development of education could trigger exogenous effects like the settlement of competitive industries in peripheral regions. The level of education within a region could also contribute to the intangible infrastructure of the region, as for example: better government administration and the quality of the police force.

The third and last indicator that will be used is the development of the tangible infrastructure within the different regions. Due to the considerable gaps between the developments of the infrastructural systems of the different regions, the role of the tangible infrastructural development is an important indicator for this study.

As leading measurement tool for the development of infrastructure, the household access to electricity will be used. Furthermore, the development of the household access to proper sanitation will be used to control for the trends in the access of electricity.

### **3.1. Method & Data**

Hill (2008) divided Indonesia in the following five regions: Java-Bali, Sumatra, Kalimantan, Sulawesi and the eastern islands. The last region is a region composed of all the less developed islands in the eastern part of Indonesia.

The regions selected by Hill (2008) represent the country in a broad sense. To get an extra dimension in the analysis of this thesis, a sub region is selected from each region. The regions are selected on their initial level of HDI in 1997. Two regions with high, two with middle and two with low HDI scores (in Indonesian context) were chosen. The sub regions are selected out of the same diffusion of islands as Hill did (2008). The sub regions with a high HDI are: North Sumatra & North Sulawesi, middle: Central Java & South Kalimantan, and the low are East Nusa Tenggara and West Nusa Tenggara (representing the eastern islands).

There will be one exception, the capital. For Jakarta there was no data for the first period. However, the capital will be taken into consideration for the latter two periods.

The development of the three earlier mentioned indicators - standard of living, human capital and infrastructure - will be measured by their growth rates, differences between high and low performing regions, and comparisons over time.

The thesis will have an explorative character since it will focus on exploring the developing trends of six (seven for the last two periods) sub regions in Indonesia. This will be supported by the datasets of the Indonesian central bureau of statistics, called: Badan Pusat Statistik Indonesia (BPS).

For this thesis data out of the following BPS surveys will be used: 1997, 2002-2003 and 2013 (describing not only 2013 but also the years 1992-2011).

## **4. Asia crisis**

### **4.1. Development of the Asia crisis in Indonesia**

The Asia crisis had a vast economical and political impact on Indonesia. The crisis harmed Indonesia harder than any other country in Southeast Asia. Growth rates dropped and so did the real GDP. The Indonesian troubles were born directly out of the Thai crisis. When investors lost their faith in the Thai economy, they rapidly started to lose their confidence in all the Southeast Asian countries. The Indonesian government had to depreciate their currency pegged to the dollar. The pressure on the Indonesian economy grew gradually when the Rupiah kept falling in value during the last four months of 1997.

The decreasing value of the Rupiah was accelerated by the desire of Indonesian and foreign investors to exchange their Rupiahs for strong foreign currencies in order to minimize losses. The Indonesian government tried to break this trend with several adjustments in the interest rates without any success (Iriana & Sjöholm 2002).

The increasing pressure on the currency led to a forced depreciation on the 8<sup>th</sup> of January 1998. On this day the Rupiah lost 500% of its value compared to its August 1997 level. As a result of the depreciation, food and cloth prices heavily increased leaving Indonesia in a state of complete economical and political despair (Berry, Levinshon & Friedman 1999).

#### **4.1.1. Political aftermath of the Asia crisis in Indonesia (1998-2002)**

An economical crisis, as big as the Asia crisis in Indonesia, has a lot of consequences on political, economical and social aspects. Indonesia faced these consequences very soon after the outbreak of the real economy crisis. Political and economical patterns that existed since the 70's changed overnight and were restructured in only a couple of months time. The new policies had their impact on the development and inequality trends on the different regions of the archipelago (Booth 2016 p106).

The political and economical developments after the Asia crisis are strongly connected with each other since most economical developments are a result of changing political situations and policies in Indonesia.

The first major political event that occurred in the aftermath of the Asia crisis was the downfall of Suharto on the 21<sup>st</sup> of May in 1998. The economical troubles caused by the Asia crisis led to widespread political unrest. Suharto was in power for the last 31 years and the Indonesian inhabitants began to seriously doubt the centralized politics, which were the main characteristics of the Suharto regime (Booth 2016 p107&108).

The increase of political freedom in Indonesia led to the re-emergence of fanatical Islam as a side effect. Indonesia has a long tradition of tolerance and religious heterogeneity. The Christians and other non-Muslims were in general accepted and never faced periods of enduring hostility. After the fall of the New Order this status quo slightly changed. Muslim fanatics could rise in the new open political climate as they did not have to fear for the firm hand of the law anymore. Suharto forbid political Islam and had his intelligence services protecting the Indonesian society from radical uprisings. Under president B.J. Habibie (1998-1999) responsibility was shifted to the municipality and regional governance under the 'Law on Regional Government'. Although the regions were not allowed to add or change religious laws, it did not restrain them from introducing Sharia based local bylaws. The introduction of Sharia laws provided support for local Islamic populism, resulting in a more tensioned religious field in Indonesia. The most famous violent outbursts were the Bali bombings (2002) by Jemaah Islamiyah (Van Dijk en Kaptein 2016 p29).

#### **4.1.2. Development of the Indonesian redistribution institutions**

After the fall of Suharto's New Order, the Indonesian governmental structure started to decentralize after the implementation of 'The Law on Regional Government'. Besides the political effects, the implementation of this law had also impacts on how the redistribution institutions were formed and used. The central government is still receiving the largest share of taxes after the reforms of 1999 but the regional governments now collect a larger share of the revenues retained out of their natural resources (Hill 2008).

The main incentive for Indonesia differed from the general motive of a country to decentralize. In other countries the main incentive is a demand for better regional services, however, the Indonesian incentive was the demand for an increased share over the natural resources and an increase in legal and political autonomy (Ahmad & Mansoor 2002).

Under the New Order, Indonesia was structured as follows: 27 provinces and 333 sub provincial municipalities under the rule of the central government. After the implementation of the decentralization law, these amounts increased up to 34 provinces and 450 sub provincial institutes.

The goal of the increase in administrative districts was to reduce poverty and increase the living standards in the poor provinces. The negative impact was an increase in administration costs for the central government. The administrative cost had gone up from 200.000 billion Rupiah in 1996 to 1.000.000 billion Rupiah in 2001. The steep growth curve reached its maximum in 2002, indicating that the strongest expenditure increase is already reached (Ahmad and Mansoor 2002).

#### **4.2. Short-term economical effects of the Asia crisis in Indonesia**

In the scientific debate the main opinion is that the Asia crisis affected the economical situation of all Indonesians. The crisis was not centered in the financial heart of the country but it has been spread out to even the poorest islands of the archipelago. In this paragraph, this assumption will be reviewed and analyzed by using the indicators presented in the theoretical approach: living standards, human capital, and infrastructure.



#### 4.2.1. Short-term effects of the Asia crisis on the development of living standards

The quality of living decreased in Indonesia in the two years after the crisis. The average coefficient of the HDI fell in Indonesia from 67.7 in 1996 to 64.3 in 1999. As late as 2004 did the HDI index reach the post crisis national average again.

**Table 4.1: Regional HDI Indonesia (1996-2004)**

	1996	1999	2002	2004
<i>East Nusa Tenggara</i>	60,90	60,40	60,30	62,70
<i>West Nusa Tenggara</i>	56,70	54,20	57,80	60,60
<i>North Sumatra</i>	70,50	66,60	68,80	71,40
<i>North Sulawesi</i>	71,80	67,10	71,30	73,40
<i>South Kalimantan</i>	66,30	62,20	64,30	66,70
<i>Central Java</i>	67,00	64,60	66,30	68,90
<i>Jakarta</i>	-	-	-	71,65
<i>Average</i>	65,53	62,52	64,80	67,91
<i>Difference between highest and lowest (EX Jakarta)</i>	15,10	12,90	13,50	12,80

Source: BPS 1997, 2003 & 2013

**Table 4.2: Growth rates regional HDI Indonesia (1996-2004)**

	1996-1999 average per year	1999-2002 average per year	2002-2004 average per year	1999-2004 average per year
<i>East Nusa Tenggara</i>	-0,82	-0,17	3,98	2,96
<i>West Nusa Tenggara</i>	-4,41	6,64	4,84	6,88
<i>North Sumatra</i>	-5,53	3,30	3,78	1,28
<i>North Sulawesi</i>	-6,55	6,26	2,95	2,23
<i>South Kalimantan</i>	-6,18	3,38	3,73	0,60
<i>Central Java</i>	-3,58	2,63	3,92	2,84
<i>Average</i>	-4,51	3,67	3,87	2,80
<i>Difference between highest and lowest</i>	5,72	6,81	1,90	6,27
<i>Highest difference with average</i>	3,69	-3,84	0,98	4,08

Source: BPS 1997, 2003 & 2013

The development of the HDI in the different regions followed the same trend as the national average. Until 2004 none of the regions reached their pre crisis HDI level. All regions, except one (East Nusa Tenggara), started to recover in the period 1999-2002.

East Nusa Tenggara accounted a small negative growth of -0.17% over the period 1999-2002. The small negative growth of East Nusa Tenggara differed the most of the national average growth rate (3.67%) of the HDI over the period 1999-2002.

The other less developed island: West Nusa Tenggara, managed to account a growth of 6.64% over the period 1999-2002. The possible explanation between the differences in growth in the two poor regions is the decline during the crisis. East Nusa Tenggara had a small backslide during the crisis, the decline was only -0.82 %. This small decline differed with -4.51% of the national average decline.

In comparison, the HDI of West Nusa Tenggara fell with 4.41 % only 0.10% difference of the national average of -4.51%.

Hardest struck were the regions with the highest score on the HDI scale before the crisis; North Sulawesi and a middle level region South Kalimantan. North Sulawesi fell with 6.55% during the crisis and converged in the direction of the average in 1999. The gap between North Sulawesi and West Nusa Tenggara declined with 2.2% in just 3 years. The crisis seemed to have directly an equalizing effect when the strongest and weakest are compared. The middle region South Kalimantan was the region that fell most behind because of the crisis.

In 2004 the variance in growth rates had been reduced to 1.9% difference between the highest (West Nusa Tenggara 4.84%) and the lowest (North Sulawesi 2.95 %) regions. The converging trend occurs when comparing the two most developed and the two least developed regions. The two least developed (East and West Nusa Tenggara) had an average growth rate (2002-2004) of 4.41% and the two most developed (North Sumatra and North Sulawesi) had a growth rate of 3.36% during the same period. This indicates that the growth rate of East and West Nusa Tenggara was 31.23% higher than the growth rate of North Sumatra and North Sulawesi. Further is the converging trend found in the average growth rate of the middle developed regions (Central Java and South Kalimantan). These two regions managed to develop their HDI with 3.83% during the period 2002-2004. This growth

rate differs only 0.06 percentage points with the average growth of the most developed and the least developed regions. Indicating a converging trend of the low developed in the direction of both the middle and higher developed regions. The difference in human development indexes had since 1996 never been so low as in 2004. In the 5 year after the crisis, the difference between the most developed and least developed region decreased from 15.10% in 1996 to 12.80% on the HDI scale in 2004.

#### 4.2.2. Short-term effects of the Asia crisis on the development of human capital

Indonesia is a country with a young population; this is one of Indonesia's comparative advantages. With a demographic structure in which 33.5% of the inhabitants are between 0-14 (BPS 1997 survey) a reduced enrollment in primary education could harm the competitiveness of the country in the future. The enrollment rate of this age group and the years of schooling followed indicate the economic competitiveness of the different parts of Indonesia and Indonesia as a whole.

**Table 4.3: Regional primary school enrollment rate in Indonesia (1997-2004)**

	1997	2003	2004
<i>East Nusa Tenggara</i>	82,75	90,77	93,23
<i>West Nusa Tenggara</i>	87,95	94,72	94,67
<i>North Sumatra</i>	90,70	98,25	97,64
<i>North Sulawesi</i>	96,20	97,38	96,68
<i>South Kalimantan</i>	89,10	96,34	96,68
<i>Central Java</i>	89,55	97,90	98,04
<i>DKI Jakarta</i>	-	98,21	98,40
<i>Average</i>	89,38	96,22	96,48
<i>Difference between highest and lowest</i>	13,45	7,48	5,17

Source: BPS 1997, 2003 & 2013

**Table 4.4: Development of primary school enrollment rate in Indonesia (1997-2004)**

Source: BPS 1997, 2003 &amp; 2013

	1997-2003 average per year	2004
<i>East Nusa Tenggara</i>	1,62	2,71
<i>West Nusa Tenggara</i>	1,28	-0,05
<i>North Sumatra</i>	1,39	-0,62
<i>North Sulawesi</i>	0,20	-0,72
<i>South Kalimantan</i>	1,35	0,35
<i>Central Java</i>	1,55	0,14
<i>DKI Jakarta</i>	-	0,19
<i>Average</i>	1,23	0,29

**Table 4.5: Regional enrollment rate high school in Indonesia (1997-2004)**

	1997	2003	2004
<i>East Nusa Tenggara</i>	24,65	37,79	45,35
<i>West Nusa Tenggara</i>	26,10	42,97	47,26
<i>North Sumatra</i>	40,85	63,19	66,42
<i>North Sulawesi</i>	40,75	54,32	60,70
<i>South Kalimantan</i>	33,20	41,44	47,52
<i>Central Java</i>	28,70	48,13	51,02
<i>DKI Jakarta</i>	59,10	71,57	70,36
<i>Average</i>	36,19	51,34	55,52
<i>Difference between highest and lowest: High school attendance</i>	34,45	33,78	25,01
<i>Difference between highest and lowest: Primary school attendance</i>	13,45	7,48	5,17

Source: BPS 1997, 2003 &amp; 2013

The trends in education on the short term after the Asia crisis show that the percentages of the Indonesians who attend primary education grew in all regions. On the poorest two islands the growth of the enrollment rate increased with the fastest pace.

The attendance rate in the middle developed islands showed a similar trend in growing attendance. In North Sumatra (90.7 % in 1997), South Kalimantan (89.1 % in 1997) and North Sulawesi (96,20% in 1997) the attendance rate grew to: 98.25% (North Sumatra), 96,34 (South Kalimantan) and to 97,38 in (North Sulawesi) (BPS 1997, 2003 & 2013).

**Table 4.6: Growth rate regional high school attendance Indonesia**

	<b>1997- 2003 average per year</b>	<b>2004</b>
<i>East Nusa Tenggara</i>	8,88	20,01
<i>West Nusa Tenggara</i>	10,77	9,98
<i>North Sumatra</i>	5,55	11,75
<i>North Sulawesi</i>	9,11	5,11
<i>South Kalimantan</i>	4,14	14,67
<i>Central Java</i>	11,28	6,00
<i>DKI Jakarta</i>	3,52	-1,69
<i>Average</i>	7,61	9,40

Source: BPS 1997, 2003 & 2013

The secondary education rate increased in every region. This means that the amount of Indonesians who gained more than basic skills increased and that the possibilities for Indonesia to increase the quality of it workforce increased. The trend was strongest in Central Java were the attendance rate increased from 32.6% (1997) to 59.8% (2002). The growth rate of Central Java is almost the double of the growth

rate of East and West Tenggara where the attendance in secondary school went on average up from 28.85% in 1997 to 41.5% in 2002.

The growth rate of East and West Tenggara is high but it indicates that there was a diverging trend in the attendance in secondary school education in Indonesia after the Asia crisis.

#### 4.2.3. Short-term effects of the Asia crisis on the development of infrastructure

The approach of the Indonesian government regarding infrastructure changed after the fall of Suharto and the financial struggles after the Asia crisis. The democratization and decentralization had many positive impacts on the Indonesian society, in particular the increasing freedom and the reduction of corruption.

However, for the investments in infrastructure the democratization was not beneficial. During the rule of the New Order decisions were made faster and more efficient. The new procedure of investing in an infrastructure project had a negative impact on the confidence of private investors because projects took longer and in the most extreme case were never finished. The unfinished monorail in Jakarta is an example of the failing infrastructure governance in Indonesia (Mustajab 2009 p73).

**Table 4.7: Regional access to electricity in Indonesia (1993-1997)**

	1993	1994	1995	1996	1997
<i>East Nusa Tenggara</i>	17,34	21,04	24,32	25,81	27,72
<i>West Nusa Tenggara</i>	52,18	56,75	61,91	67,50	74,15
<i>North Sumatra</i>	59,38	64,66	64,78	72,32	76,51
<i>North Sulawesi</i>	63,35	67,04	71,11	73,93	78,71
<i>South Kalimantan</i>	52,47	55,27	59,51	64,49	70,48
<i>Central Java</i>	56,59	63,68	73,40	80,32	86,01
<i>Average</i>	48,94	52,95	56,33	60,81	65,51
<i>Difference between highest and lowest</i>	46,01	46,00	49,08	54,51	58,29

Source: BPS 2013

**Table 4.8: Regional access to electricity in Indonesia (1998-2003)**

	1998	1999	2000	2001	2002	2003
<i>East Nusa Tenggara</i>	37,20	34,16	35,45	36,16	36,97	36,65
<i>West Nusa Tenggara</i>	77,57	81,65	83,37	76,93	78,86	77,39
<i>North Sumatra</i>	81,84	85,58	86,31	85,38	86,18	87,77
<i>North Sulawesi</i>	79,78	82,13	84,84	93,23	90,05	91,70
<i>South Kalimantan</i>	74,11	76,56	77,23	80,59	83,54	84,75
<i>Central Java</i>	89,11	92,59	94,46	95,54	96,35	97,03
<i>Jakarta</i>						
<i>Average</i>	70,10	72,02	73,44	74,46	75,12	75,65
<i>Difference between highest and lowest</i>	51,91	58,43	59,01	59,38	59,38	60,38

Source: BPS 2013

The fall in infrastructural efficiency is not a region-specific issue. Statistics of the BPS show that in the years (1994-1997) before the crisis the infrastructural development was 8.79% as an average of all the regions. This is measured by using the indicator households with access to the electricity net. The average growth rate of the poorest region East Nusa Tenggara was the highest with an average growth of 16.93% (1994-1997). The region with the lowest growth rate was North Sulawesi with an average growth rate of a 4.74% a year (1994-1997). The growth rate of East Nusa Tenggara was the highest, however, the share of houses with access to the electricity net was still the lowest with just 27.27% in 1997.

**Table 4.9: Regional growth in access to electricity (1994-1998)**

	1994	1995	1996	1997	1998
<i>East Nusa Tenggara</i>	21,34	15,59	6,13	7,40	34,20
<i>West Nusa Tenggara</i>	8,76	9,09	9,03	9,85	4,61
<i>North Sumatra</i>	8,89	,19	11,64	5,79	6,97
<i>North Sulawesi</i>	5,82	6,07	3,97	6,47	1,36
<i>South Kalimantan</i>	5,34	7,67	8,37	9,29	5,15
<i>Central Java</i>	12,53	15,26	9,43	7,08	3,60
<i>Average</i>	7,20	5,76	8,25	7,85	4,52
<i>Difference highest lowest</i>	16,00	15,40	7,67	4,06	32,84

Source: BPS 2013

**Table 4.10: Regional growth in access to electricity (1999-2003)**

	1999	2000	2001	2002	2003
<i>East Nusa Tenggara</i>	-8,17	3,78	2,00	2,24	-,87
<i>West Nusa Tenggara</i>	5,26	2,11	-7,72	2,51	-1,86
<i>North Sumatra</i>	4,57	,85	-1,08	,94	1,84
<i>North Sulawesi</i>	2,95	3,30	9,89	-3,41	1,83
<i>South Kalimantan</i>	3,31	,88	4,35	3,66	1,45
<i>Central Java</i>	3,91	2,02	1,14	,85	,71
<i>Average</i>	4,02	1,78	1,36	,92	,82
<i>Difference highest lowest</i>	13,43	2,92	17,61	7,07	3,71

Source: BPS 2013

In North Sulawesi the initial level of access to electricity was already 73.93% in 1997 (BPS 2013). Central Java hit an 86.01% of houses with electricity access. The fast growth in pre crisis Indonesia indicates that before the crisis there was a converging trend in infrastructure development between the least and most developed regions. The growth rate of the middle developed regions was close to the average with North Sumatra accounting a 6.70 % average growth over the period 1994-1997 and South Kalimantan hitting a an average growth of 7.16 % in the same period (BPS 2013).



Interesting is the drop in growth after the Asia crisis supporting the assumption that the increased bureaucratization after the fall of the New Order reduced the pace of tangible infrastructural development. While the average growth in 1994-1997 was 8.79%, this average dropped to 3.20% in the four years after the crisis (1998-2002). The average growth dropped in every single region with East Nusa Tenggara as absolute high conducting a double-digit drop of 10.12 % compared to the earlier period. Nevertheless, East Nusa Tenggara still achieved the largest growth in access to electricity with an average of 6.81% during the four post crisis years. The other less developed island, West Nusa Tenggara, had followed a comparable trend just like East Nusa Tenggara. It lost a huge part of its growth from 8.27% in 1994-1997 to 1.35% (1998-2002). This made West Nusa Tenggara the region with the slowest growth in the post crisis era.

The higher developed islands and South Kalimantan were hurt to the smallest extent by the crisis. They had an average drop of 1.04% (North Sulawesi and North Sumatra). The middle developed region central Java had a comparable drop as the two poorest ones 8.27% in 1994-1997 to 2.30% in 1998-2002. The explanation behind this drop can be found in the fact that central Java reached closest to a 100% access. The growth slowed down because of a decline in the expanding possibilities (BPS 2013). In 2002 one island is still lacking behind, in East Nusa Tenggara, only 36.97% of the household had access to electricity; noticeable difference with the number one central Java where 96.35% had access to electricity in 2002.

To control the results regarding the access to electricity, the same analysis on the access to improved sanitation was done. Improved sanitation is only accessible if the region has a sewerage system. The improvement in sewerage is a tangible infrastructural investment. The data of improved sanitation shows a wider variety than the data of the access to electricity. This can be explained by the perception that the initial access to good sanitation was in each region less developed than the initial access to electricity. This makes it possible to account for higher growth but also a steeper decline in growth.

There might be a wider variance but the trends indicate similarities; the most eye catching resemblance is the fall of the average growth rate. For the period 1998-2002

the growth of access to electricity as an average of the regions fell 5,59 % compared to the same time spawn (1994-1997) for the crisis. The access to improved sanitation fell with 6,23 % in the same two periods. Just as with the access to electricity the access to improved sanitation shows a converging trend in growth rate. However, the absolute difference in access to improved sanitation between the poorest and the richest region increased with 41,64% indicating that the convergence is mainly found in the middle developed regions catching up with the higher developed regions.

**Table 4.11: Regional access to improved sanitation in Indonesia (1993-1997)**

	1993	1994	1995	1996	1997
<i>East Nusa Tenggara</i>	6,53	6,36	7,03	6,45	7,56
<i>West Nusa Tenggara</i>	14,23	16,70	14,13	21,68	30,17
<i>North Sumatra</i>	28,68	30,58	25,56	28,26	34,60
<i>North Sulawesi</i>	34,45	35,59	35,99	36,40	36,73
<i>South Kalimantan</i>	8,22	7,60	9,41	15,82	16,32
<i>Central Java</i>	22,51	25,11	19,59	23,12	25,96
<i>Average without Jakarta</i>	19,10	20,32	18,62	21,96	25,22
<i>Difference between highest and lowest</i>	27,92	29,23	28,96	29,95	29,17

Source: BPS 2013

**Table 4.12: Regional access to improved sanitation in Indonesia (1998-2003)**

	1998	1999	2000	2001	2002	2003
<i>East Nusa Tenggara</i>	8,35	10,06	9,45	10,41	10,26	10,55
<i>West Nusa Tenggara</i>	26,41	30,69	26,11	28,64	25,46	23,25
<i>North Sumatra</i>	32,55	37,79	36,79	39,60	39,91	37,95
<i>North Sulawesi</i>	35,56	43,92	45,80	50,60	48,80	49,16
<i>South Kalimantan</i>	17,44	19,62	18,00	21,02	20,30	21,19
<i>Central Java</i>	28,41	30,83	31,83	32,97	35,01	36,42
<i>Average</i>	24,79	28,82	28,00	30,54	29,96	29,75
<i>Difference between highest and lowest</i>	27,21	33,86	36,35	40,19	38,54	38,61

Source: BPS 2013

**Table 4.13: Growth rates in access to proper sanitation in Indonesia (1994-1997)**

	1994	1995	1996	1997
<i>East Nusa Tenggara</i>	-2,60	10,53	-8,25	17,21
<i>West Nusa Tenggara</i>	17,36	-15,39	53,43	39,16
<i>North Sumatra</i>	6,62	-16,42	10,56	22,43
<i>North Sulawesi</i>	3,31	1,12	1,14	0,91
<i>South Kalimantan</i>	-7,54	23,82	68,12	3,16
<i>Central Java</i>	11,55	-21,98	18,02	12,28
<i>Average growth rate</i>	4,78	-3,05	23,84	15,86

Source: BPS 2013

**Table 4.14: Growth rates in access to proper sanitation in Indonesia (1998-2003)**

	1998	1999	2000	2001	2002	2003
<i>East Nusa Tenggara</i>	10,45	20,48	-6,06	10,16	-1,44	2,83
<i>West Nusa Tenggara</i>	-12,46	16,21	-14,92	9,69	-11,10	-8,68
<i>North Sumatra</i>	-5,92	16,10	-2,65	7,64	0,78	-4,91
<i>North Sulawesi</i>	-3,19	23,51	4,28	10,48	-3,56	0,74
<i>South Kalimantan</i>	6,86	12,50	-8,26	16,78	-3,43	4,38
<i>Central Java</i>	9,44	8,52	3,24	3,58	6,19	4,03
<i>Average</i>	0,86	16,22	-4,06	9,72	-2,09	-0,27

Source: BPS 2013

### **4.3. Long-term effects of the Asia crisis in Indonesia**

In the previous paragraph the short-term effects of the Asia crisis were analyzed. It appeared to be that the Indonesian economy reached the pre crisis level of development again in 2004. This section will analyze whether this recovery was permanent or the Indonesian economy had a drawback after the first seven post crisis years. The development of the Indonesian economy will be considered until the Great Recession of 2008.

#### **4.3.1. Long-term effects of the Asia crisis on the development of living standards in Indonesia**

To start with the general trend in Indonesia, the indicator shows a declining growth rate of the HDI level during the period 2004-2008 (1.64%) compared with the period 1999-2004 (2.39%). The decline of the growth rate indicates that the pace of the development fell back when each region recovered to their pre crisis HDI.

The growth rate of the HDI stayed above 1.5% a year on average for Indonesia indicating a stable growth and supporting the recovering trend after the crisis.

In the four years after the recovery, there are two regions with a higher growth rate than average. These are the two least developed regions: East and West Nusa Tenggara. The two least developed regions accounted for an average growth rate of 1.99% over the period (2004-2008), compared with the two most developed regions of North Sumatra and North Sulawesi. These had a growth rate of 1.17% which indicates a convergence of the poorest and the richest regions regarding HDI level. This converging trend is supported by the growth rate of the two middle regions of Central Java and South Kalimantan; their average growth rate is 1.45 %.

The average growth rate of the HDI fell between 2004-2008 compared to 1999-2004, but there was a converging trend between every single region.

However, the capital Jakarta develops faster than the rest of the country and has a higher initial level of HDI, causing a widening gap between the capital and the rest of the country.

**Table 4.15: Regional HDI index of Indonesia (2004-2008)**

	2004	2005	2006	2007	2008
<i>East Nusa Tenggara</i>	62,70	63,59	64,83	65,36	66,15
<i>West Nusa Tenggara</i>	60,60	62,42	63,04	63,71	64,12
<i>North Sumatra</i>	71,40	72,03	72,46	72,78	73,29
<i>North Sulawesi</i>	73,40	74,21	74,37	74,68	75,16
<i>South Kalimantan</i>	66,70	67,44	67,75	68,01	68,72
<i>Central Java</i>	68,90	69,78	70,25	70,92	71,60
<i>Jakarta</i>	71,65	77,49	75,74	77,24	78,11
<i>Average</i>	67,91	69,57	69,78	70,39	71,02
<i>Difference between highest and lowest (EX Jakarta)</i>	12,80	11,79	11,33	10,97	11,04
<i>Difference between highest and lowest (INC Jakarta)</i>	11,05	11,88	12,70	13,53	13,99

Source: BPS 2013

**Table 4.16: Regional HDI growth in Indonesia (2004-2008)**

	2004	2005	2006	2007	2008
<i>East Nusa Tenggara</i>	1,99	1,42	1,95	0,82	1,21
<i>West Nusa Tenggara</i>	2,42	3,00	0,99	1,06	0,64
<i>North Sumatra</i>	1,89	0,88	0,60	0,44	0,70
<i>North Sulawesi</i>	1,47	1,10	0,22	0,42	0,64
<i>South Kalimantan</i>	1,87	1,11	0,46	0,38	1,04
<i>Central Java</i>	1,96	1,28	0,67	0,95	0,96
<i>Jakarta</i>	-	8,15	-2,26	1,98	1,13
<i>Average</i>	1,93	1,47	0,81	0,68	0,87

Source: BPS 2013

### **4.3.2. Long-term effects of the Asia crisis on the development of human capital in Indonesia**

Education is an important long-term contributor to growth. The long-term developments of education are positive considering the equality between the different regions of Indonesia. In every region more children enroll in primary school annually. In 2003 each region passed the line of 90% enrolment, indicating that at least 9 out of the 10 children between 7 and 12 were participating in primary school (regardless of gender).

Besides the outstanding enrollment rates in primary education, Indonesia is still facing difficulties to keep their students longer in school. There is a positive trend in the high school enrollment in every region besides Jakarta. The capital had the highest enrolment rate during the 90's and during the first five years after the crisis, however, they were gradually passed by North Sumatra. The enrollment rate in Jakarta fell from 71.57% in 2003 to 61.86 % in 2008. The development of the high school enrollment rate in Jakarta was in the 10 years after the crisis fluctuant but at the end the difference between 1997 and 2008 was only 2.76% higher.

All the middle and higher developed regions managed to maintain their post crisis level in the 10 years after the Asia crisis. Two regions have remarkable result, East and West Nusa Tenggara. From 2004 till to 2008 West Nusa Tenggara managed to increase their high school enrollment rate from 47.26% up to 57.22%, East Nusa Tenggara had an almost similar growth. Their enrollment rate went up from 45.35% to 49.67% over the same time span.

During the ten years after the crisis the regional differences declined. There is a converging trend within the enrollment rate on both primary school and high school levels. Where the difference between the highest (Jakarta) and the lowest (East Nusa Tenggara) performer on high school enrollment was 34.45 percentage points in 1997, the difference between the highest (North Sumatra) and the lowest (East Nusa Tenggara) fell down to only 16.20 percentage points in 2008. A similar trend can be found in the primary school enrollment rate. In 1997, just before the crisis, the difference between the best (North Sulawesi) and worst (East Nusa Tenggara) performing region was 13.45 percentage points, this declined to a difference of 5.11

percentage points between the best performing (Central Java) and the worst performing (East Nusa Tenggara) (BPS 2013).

**Table 4.17: Regional primary school enrollment rate in Indonesia (2004-2008)**

	2004	2005	2006	2007	2008
<i>East Nusa Tenggara</i>	93,23	94,30	94,00	93,73	93,72
<i>West Nusa Tenggara</i>	94,67	96,02	96,75	97,07	97,25
<i>North Sumatra</i>	97,64	98,04	98,19	98,37	98,66
<i>North Sulawesi</i>	96,68	98,15	97,37	97,55	97,87
<i>South Kalimantan</i>	96,68	97,86	96,36	97,21	97,48
<i>Central Java</i>	98,04	98,34	98,47	98,67	98,83
<i>DKI Jakarta</i>	98,40	98,67	98,46	98,73	98,82
<i>Average</i>	96,48	97,34	97,09	97,33	97,52
<i>Difference between highest and lowest</i>	5,17	4,37	4,47	5,00	5,11

Source: BPS 2013

**Table 4.18: Regional growth in primary school enrollment in Indonesia (2004-2008)**

	2004	2005	2006	2007	2008
<i>East Nusa Tenggara</i>	2,71	1,15	-0,32	-0,29	-0,01
<i>West Nusa Tenggara</i>	-0,05	1,43	0,76	0,33	0,19
<i>North Sumatra</i>	-0,62	0,41	0,15	0,18	0,29
<i>North Sulawesi</i>	-0,72	1,52	-0,79	0,18	0,33
<i>South Kalimantan</i>	0,35	1,22	-1,53	0,88	0,28
<i>Central Java</i>	0,14	0,31	0,13	0,20	0,16
<i>DKI Jakarta</i>	0,19	0,27	-0,21	0,27	0,09
<i>Average</i>	0,29	0,90	-0,26	0,25	0,19

Source: BPS 2013



**Table 4.19: Regional high school enrollment rate in Indonesia (2004-2008)**

	2004	2005	2006	2007	2008
<i>East Nusa Tenggara</i>	45,35	43,69	46,51	49,58	49,67
<i>West Nusa Tenggara</i>	47,26	51,22	55,62	57,30	57,22
<i>North Sumatra</i>	66,42	65,77	65,09	65,87	65,87
<i>North Sulawesi</i>	60,70	57,18	55,84	56,98	56,84
<i>South Kalimantan</i>	47,52	46,24	48,75	50,01	50,30
<i>Central Java</i>	51,02	52,97	51,31	53,20	53,36
<i>DKI Jakarta</i>	70,36	65,81	60,26	61,49	61,86
<i>Average</i>	55,52	54,70	54,77	56,35	56,45
<i>Difference between highest and lowest</i>	25,01	22,12	18,58	16,29	16,20

Source: BPS 2013

**Table 4.20: Regional growth in high school enrollment in Indonesia (2004-2008)**

	2004	2005	2006	2007
<i>East Nusa Tenggara</i>	20,01	-3,66	6,45	6,60
<i>West Nusa Tenggara</i>	9,98	8,38	8,59	3,02
<i>North Sumatra</i>	11,75	-5,80	-2,34	2,04
<i>North Sulawesi</i>	5,11	-0,98	-1,03	1,20
<i>South Kalimantan</i>	14,67	-2,69	5,43	2,58
<i>Central Java</i>	6,00	3,82	-3,13	3,68
<i>DKI Jakarta</i>	-1,69	-6,47	-8,43	2,04
<i>Average</i>	9,40	-1,06	0,79	3,02

Source: BPS 2013

### 4.3.3. Long-term effects of the Asia crisis on the development of infrastructure in Indonesia

In the four years after the crisis, the Indonesian infrastructural investment dropped with an average of 5.91% compared to the four years before the crisis. As in the analysis of the short-term effects, first the data on access to electricity will be presented followed up and compared by the development on the access to proper sanitation.

The national average of Indonesia unveils a lot of information about the development of the access to electricity during the period after the first four years after the crisis. Between 2002 and 2008 the average growth rate of the access to electricity was only 1.46% a year. This is just a fraction of the growth in access to electricity in the pre crisis years (8.79% a year during the period 1994-1997) and even compared to the growth during the aftermath of the crisis (3.20% a year in the period 1998-2002) it is still very low.

**Table 4.21: Regional access to electricity in Indonesia (2004-2008)**

	2004	2006	2007	2008
<i>East Nusa Tenggara</i>	37,57	38,81	38,68	41,71
<i>West Nusa Tenggara</i>	81,28	82,04	84,71	86,17
<i>North Sumatra</i>	88,01	90,99	90,96	92,59
<i>North Sulawesi</i>	94,49	94,85	94,84	95,80
<i>South Kalimantan</i>	87,75	89,46	91,33	93,84
<i>Central Java</i>	97,12	97,93	97,76	98,47
<i>Jakarta</i>	-	99,94	99,68	99,63
<i>Average without Jakarta</i>	77,82	84,86	85,42	86,89
<i>Average with Jakarta</i>	59,55	59,12	59,08	56,76
<i>Difference highest lowest</i>	-81,28	17,90	14,97	13,46

Source: BPS 2013

**Table 4.22: Regional growth in access to electricity in Indonesia (2004-2008)**

	2006	2007	2008
East Nusa Tenggara	3,30	-0,33	7,83
West Nusa Tenggara	0,94	3,25	1,72
North Sumatra	3,39	-0,03	1,79
North Sulawesi	0,38	-0,01	1,01
South Kalimantan	1,95	2,09	2,75
Central Java	0,83	-0,17	0,73
Jakarta	-	-0,26	-0,05
Average	1,80	0,65	2,26
Difference between the highest and lowest	3,00	3,51	7,88

Source: BPS 2013

The highest growth rates could be found in the two poorest regions and in one middle development region: South Kalimantan. South Kalimantan had by far the highest growth rate during the first decade of the 21st century; they managed to increase their access to electricity with 2.57% per year during the period of 2002-2008. West and East Nusa Tenggara accounted for a growth of 1.93% respectively 2.45 % per year during the earlier mentioned period.

Closest to the average growth of 1.46% a year (2002-2008) was the growth in North Sumatra reaching up to a total access in electricity of 92.59 % in 2008 and with an average growth rate of 1,37 %. It gradually closed the gap with the two regions with the highest access to electricity but was not advancing swiftly away from the bottom regions.

The two regions with the slowest growth rate were the two regions with the highest initial access to electricity. These were central Java and North Sulawesi. Central Java scores remarkably higher on this indicator than on the other two: education and HDI. With an access of 97.76% in 2008 there is almost full access to electricity in the whole the region. A similar trend is visible for North Sulawesi; in this region the

access to electricity was already on 95.8% in 2008. The high initial level of access makes it not remarkable that those regions accounted for slower growth rates.

Besides the growth levels it is noteworthy that only East Nusa Tenggara is still lagging behind in access in electricity. While all the other regions surpassed the border of 85% access to electricity in 2008, East Nusa Tenggara just passed the line of 40%. East Nusa Tenggara has still a long way to go in improving their infrastructure regarding electricity. World Bank (McCulloch & Sjahrir 2008) and Asian development Bank (Tabor 2015) reports indicate that the access to electricity is an important factor in attracting foreign capital and industries. For the overall development it is wise to invest in the electrical infrastructure in this region.

The access to electricity came close to 100% in several regions therefore it is more telling to analyze the growth in access to proper sanitation. Just as with the data of the access to electricity the national average growth rates of the access to proper sanitation unveil a change in the trend. The growth rates in proper sanitation with an average growth rate of 8.68% a year, clearly recovered to a large extent after the first four years of the crisis during the period of 2002-2008. The average growth rate between 1998-2002 was only 4.13%; a fraction compared to the pre crisis growth of 10.36% a year (1994-1997).

The location of growth is very similar to the trends shown in the access to electricity. However, there is still a lot of progress to achieve in the Indonesian sewage network the difference in growth and absolute difference are expressed in higher numbers.

The three regions with the fastest growing sewerage network and thereby access to proper sanitation were South Kalimantan as well as East and West Nusa Tenggara. East and West Tenggara grew with 14.67% and 11.77% per year between 2002 and 2008. South Kalimantan managed to increase their access to proper sanitation with 11.08% per year during the same period. North Sumatra managed to account for the third largest growth rate in access to sanitation with an expansion of 7.43% per year (2002-2008).

**Table 4.23: Regional access to proper sanitation in Indonesia (2004-2008)**

	2004	2006	2007	2008
<i>East Nusa Tenggara</i>	10,68	9,06	15,43	17,41
<i>West Nusa Tenggara</i>	26,69	16,37	33,79	42,32
<i>North Sumatra</i>	40,39	41,82	49,11	52,87
<i>North Sulawesi</i>	48,38	42,04	54,46	54,36
<i>South Kalimantan</i>	25,19	21,55	27,04	36,67
<i>Central Java</i>	38,89	39,68	46,34	50,41
<i>Jakarta</i>	71,46	65,21	74,49	75,61
<i>Average without Jakarta</i>	31,70	28,42	37,70	42,34
<i>Average with Jakarta</i>	37,38	33,68	42,95	47,09
<i>Difference highest lowest</i>	37,70	32,98	39,03	36,95

Source: BPS 2013

**Table 4.24: Regional growth in access to proper sanitation in Indonesia (2004-2008)**

	2004	2006	2007	2008
<i>East Nusa Tenggara</i>	1,23	-15,17	70,31	12,83
<i>West Nusa Tenggara</i>	14,80	-38,67	106,41	25,24
<i>North Sumatra</i>	6,43	3,54	17,43	7,66
<i>North Sulawesi</i>	-1,59	-13,10	29,54	-0,18
<i>South Kalimantan</i>	18,88	-14,45	25,48	35,61
<i>Central Java</i>	6,78	2,03	16,78	8,78
<i>Jakarta</i>	3,84	-8,75	14,23	1,50
<i>Average growth rate without Jakarta</i>	7,75	-12,64	44,33	14,99
<i>Average growth rate with Jakarta</i>	7,20	-12,08	40,03	13,06

Source: BPS 2013

Following the same trend as the regions with the highest initial access to electricity, the regions with the highest initial access to proper sanitation accounted for the lowest growth rates over the decade following the Asia crisis. North Sumatra had a growth rate of 5.15% per year and North Sulawesi a growth of 1.97% per year (2002-2008). Compared to the short-term development of the sanitation after the crisis, North Sulawesi was the only region with a falling growth rate.

The long-term development investments are pointing towards a converging trend even over the whole decade following the Asia crisis. Especially with regard to the access to proper sanitation; the least developed regions are getting closer to the best performing regions each year with an increasing speed in growth. However, it is important to keep in mind that the absolute growth per year within the strongest developing regions increases more since their initial levels are higher. Because of this, the absolute difference between the regions decreases slower than the differences in growth rates on the first sight would suggest. Nevertheless, the gap between the region with the strongest developed sanitation (North Sulawesi) and the one with the lowest developed sanitation (East Nusa Tenggara) decreased during the period of 2002 and 2008 from 40.19 percentage points to 36.95 percentage points in 2008. This supports the finding that at least until the Great Recession the regions of Indonesia converged (BPS 2013).

## **5. The Great Recession**

A decade after the Asia crisis crushed the world economy a new crisis occurred; the Great Recession (2008). In this chapter the development of the different regions in the period after the Great Recession will be analyzed.

### **5.1. Development of the Great Recession in Indonesia**

The impact of the Great Recession was only marginal on Indonesia. The contagion of the crisis was limited to a small decrease in GDP growth. The Indonesian economy did not face a crisis on its real economy. Indonesia was well equipped in battling the crisis since it had the lessons of the Asia crisis still clear in mind. (Ashcroft & Cavanough 2008).

The private sector and the Indonesian government were well prepared for a crisis. The Indonesian government was able to keep the confidence in the Indonesian economy. They noticed that the pressure on the Rupiah gradually increased as it did before the Asia crisis. However, they decided to let the currency flow to adapt to the waves of the global crisis. The Indonesian government and the Bank of Indonesia published firm statements, which stressed that the Indonesian government had strong reserves to fight every possible attack on the currency (Gunawan & Siregar 2009).

The Indonesian approach worked and a currency drop was avoided. The crisis stayed controlled; a small shrinkage of the growth rate was the only damage that Indonesia faced on a macro level (Booth 2016 p5).

## **5.2. Short-term economical effects of the Great Recession in Indonesia**

In this third and last part of the analysis the short-term effects of the Great Recession will be compared with the four years before the recession. The general conception is that the Indonesian government and central bank battled the Great Recession successfully with only a minor slide back in the growth figures of the country.

### **5.2.1. Short-term economical effects of the Great Recession on the development of living standard**

The Great Recession had a negative impact on every region of Indonesia. The development of the HDI fell back in every region indicating that Indonesian growth recessed. The most noteworthy development is the decline of the growth rate in Jakarta. The growth rate of Jakarta was the least stable growth rate compared to the other regions in Indonesia during the pre recession and post recession years. The growth rate of the capital fluctuated high above the average and deep below the average growth rate of the Indonesia. The involvement in international trade is probably the reason for these fluctuations. While the pre recession growth rate of Jakarta was 1.98% (2007) it fell back to 1.13% in the recession year 2008 and turned into an depression in 2009 when it fell below zero hitting a negative growth of 0.45% in 2009. The depression lasted a short time since the capital recovered with a pace of 1.95% positive growth in 2010 and 2.47% positive growth in 2011. The recession caused a small setback in Jakarta but the recovery rate illustrates the earlier mentioned adequate governance of the Indonesian government.

The capital has a wide variety and opportunities to battle stagnating growth since it is the innovative and productive heart of the country. The regions with a high HDI, but not as high as Jakarta, had clearly more difficulties to return to their pre recession growth rate. The regions with a middle HDI, South Kalimantan and Central Java, had difficulties to get their growth rate back on track. In 2011, three years after the recession, their growth rate did not reach their pre recession growth level. Since the growth level of Jakarta was 0.83% higher than their pre recession growth level



already in 2010, this predicts a diverging trend between the top and the middle developed regions.

**Table 5.1: Regional HDI levels in Indonesia (2008-2011)**

	2008	2009	2010	2011
<i>East Nusa Tenggara</i>	66,15	66,60	67,26	67,75
<i>West Nusa Tenggara</i>	64,12	64,66	65,20	66,23
<i>North Sumatra</i>	73,29	73,80	74,19	74,65
<i>North Sulawesi</i>	75,16	75,68	76,09	76,54
<i>South Kalimantan</i>	68,72	69,30	69,92	70,44
<i>Central Java</i>	71,60	72,10	72,49	72,94
<i>Jakarta</i>	78,11	77,76	79,28	81,24
<i>Difference between highest and lowest (Ex Jakarta)</i>	<b>11,04</b>	<b>11,02</b>	<b>10,89</b>	<b>10,31</b>
<i>Difference between highest lowest (Inc Jakarta)</i>	<b>13,99</b>	<b>13,10</b>	<b>14,08</b>	<b>15,01</b>

Source: BPS 2013

**Table 5.2: Regional HDI growth in Indonesia (2008-2011)**

	2008	2009	2010	2011
<i>East Nusa Tenggara</i>	1,21	0,68	0,99	0,73
<i>West Nusa Tenggara</i>	0,64	0,84	0,84	1,58
<i>North Sumatra</i>	0,70	0,70	0,53	0,62
<i>North Sulawesi</i>	0,64	0,69	0,54	0,59
<i>South Kalimantan</i>	1,04	0,84	0,89	0,74
<i>Central Java</i>	0,96	0,70	0,54	0,62
<i>Jakarta</i>	1,13	-0,45	1,95	2,47
<i>Average</i>	0,87	0,74	0,72	0,81

Source: BPS 2013

The diverging trend continued in 2011; the middle developed regions were still 0.32% behind their pre recession level while the growth in Jakarta was already 1.35% higher in 2011 than during the pre recession years. This led to a widening of the gap between the HDI of the middle regions and Jakarta from 7.95 HDI points in 2008 up to 9.55 HDI points in 2011.

The two most developed regions, besides Jakarta, did slightly better than the middle developed regions, but also North Sumatra and North Sulawesi started to diverge from Jakarta. Their growth rates were only slightly below their pre recession levels in 2011 with -0.08% less growth for North Sumatra compared to their pre recession level and -0.05% for North Sulawesi. Their growth rates were almost completely restored but still far from the new growth level of the capital. The gap between the average of North Sumatra and North Sulawesi and the HDI score of Jakarta widened from 3.89 HDI points in 2008 up to 5.65 HDI points in 2011.

The region with the worst HDI score in 2008 (West Nusa Tenggara) after the recession converged in the direction of the region with the second worst score (East Nusa Tenggara). West Nusa Tenggara was the only region that, besides Jakarta, managed to recover their HDI growth rate already in 2010. In 2010 West Nusa Tenggara exceeded their post recession growth rate with 0.19 percentage points. In sharp contrast is the recovery of the growth rate of East Nusa Tenggara, which was still 0.22 percentage points below their pre crisis level. In 2011 the HDI score of East and West Nusa Tenggara converged with 0.51 compared to the HDI score of 2008. Nevertheless, West Nusa Tenggara fell back compared to the Jakarta with a difference of 1.02 HDI points. This indicated that Jakarta established its position on the top. Since the other regions converged, West Nusa Tenggara closed part of the gap in HDI compared to the average score of North Sulawesi and North Sumatra. The gap between the higher regions and the region with the worst score fell from 10.11 to 9.36 HDI points from 2008 till 2011, given that Jakarta is not taken into account.

### 5.2.2. Short-term effects of the Great Recession on the development of human capital

In the analysis of the short and long term effects of the Asia crisis it was shown that the Indonesian schooling system developed on a large scale over the first two periods considered in this thesis. The primary school enrollment rate reached already 97.52% in the recession year 2008 on a national average, with only East Nusa Tenggara not passing the 95% enrollment line. The gaps between the best and worst performing regions narrowed, indicating a converging trend.

The three best performing regions, Jakarta, North Sumatra & Central Java, had an enrollment rate of at least 98.5% in 2011. These region performed the worst during the post recession years with an average decline of -0.14% per year in this period (2008-2011). The regions with the middle enrollment rate 98.0-98.5%, West Nusa Tenggara, North Sulawesi & South Kalimantan, performed slightly better with an average growth of 0.08% per year over the period (2008-2011). The region with the best results was the one with the lowest initial enrollment rate: East Nusa Tenggara. East Nusa Tenggara managed to have an average growth of 0.8% per year in the enrollment rate during the three post recession years. The trends in growth rates with a stagnating trend in the middle performing regions, a declining trend with a negative growth in the best performing regions and a growing trend in the initially worst performing region indicates that there is convergence within the enrollment rate in primary education between the different regions of Indonesia (2008-2011).

**Table 5.3: Regional primary school enrollment rate in Indonesia (2008-2011)**

	2008	2009	2010	2011
<i>East Nusa Tenggara</i>	93,72	95,99	96,49	95,96
<i>West Nusa Tenggara</i>	97,25	98,12	98,26	97,76
<i>North Sumatra</i>	98,66	98,70	98,90	98,33
<i>North Sulawesi</i>	97,87	97,82	98,30	97,93
<i>South Kalimantan</i>	97,48	97,59	97,90	97,62
<i>Central Java</i>	98,83	98,80	98,95	98,62
<i>DKI Jakarta</i>	98,82	99,06	99,16	98,09
<b>Average</b>	97,52	98,01	98,28	97,76
<i>Difference between highest and lowest</i>	5,11	3,07	2,67	2,66

Source: BPS 2013

**Table 5.4: Regional growth in primary school enrollment in Indonesia (2008-2011)**

	2008	2009	2010	2011
<i>East Nusa Tenggara</i>	-0,01	2,42	0,52	-0,55
<i>West Nusa Tenggara</i>	0,19	0,89	0,14	-0,51
<i>North Sumatra</i>	0,29	0,04	0,20	-0,58
<i>North Sulawesi</i>	0,33	-0,05	0,49	-0,38
<i>South Kalimantan</i>	0,28	0,11	0,32	-0,29
<i>Central Java</i>	0,16	-0,03	0,15	-0,33
<i>DKI Jakarta</i>	0,09	0,24	0,10	-1,08
<b>Average</b>	<b>0,19</b>	<b>0,52</b>	<b>0,28</b>	<b>-0,53</b>

Source: BPS 2013

For the high school enrollment rates a lot has happened during the three post recession years. There are regions falling behind and regions catching up. In the years after the recession, North Sumatra established their position in being the region with the highest enrollment rate in the age category of 16-18 in high school education. In the post recession years they had an average growth rate of 2.5% per year, this was the third highest growth in enrollments of whole Indonesia, indicating that North Sumatra was diverging from the four regions with the lowest growth rates. The growth rate of North Sumatra was in 2011 67.54%, this was 7.98 percentage points above the average of the seven regions, indicating that North Sumatra lays ahead of the rest.

**Table 5.5: Regional high school enrollment rate in Indonesia (2008-2011)**

	2008	2009	2010	2011
<i>East Nusa Tenggara</i>	49,67	47,95	49,22	60,21
<i>West Nusa Tenggara</i>	57,22	56,92	57,71	60,45
<i>North Sumatra</i>	65,87	66,34	66,94	67,54
<i>North Sulawesi</i>	56,84	56,56	56,75	61,09
<i>South Kalimantan</i>	50,30	49,43	50,23	54,08
<i>Central Java</i>	53,36	52,84	53,72	55,00
<i>DKI Jakarta</i>	61,86	61,53	61,99	58,56
<b>Average</b>	<b>56,45</b>	<b>55,94</b>	<b>56,65</b>	<b>59,56</b>
<i>Difference between highest and lowest</i>	16,20	18,39	17,72	13,46

Source: BPS 2013

**Table 5.6: Regional growth in primary school enrollment in Indonesia (2008-2011)**

	2008	2009	2010	2011
<i>East Nusa Tenggara</i>	0,18	-3,46	2,65	22,33
<i>West Nusa Tenggara</i>	-0,14	-0,52	1,39	4,75
<i>North Sumatra</i>	-0,25	-0,49	0,34	7,65
<i>North Sulawesi</i>		0,71	0,90	0,90
<i>South Kalimantan</i>	0,58	-1,73	1,62	7,66
<i>Central Java</i>	0,30	-0,97	1,67	2,38
<i>DKI Jakarta</i>	0,60	-0,53	0,75	-5,53
<b>AVERAGE</b>	0,18	-1,00	1,33	5,73

Source: BPS 2013

Two regions had a higher growth rate in the three post recession years, the region with the worst enrollment total in 2011 South Kalimantan (2.52%), and a surprising climber: East Nusa Tenggara (7.17%). This above average growth rate of East Nusa Tenggara helped the region to climb from having the lowest initial enrollment rate in 2008 to being the region with the fourth rating in 2011, surpassing Jakarta, Central Java and South Kalimantan. Most remarkable is the fallback in the enrollment rate of Jakarta, declining with 1.77% average per year during the three years after the recession. In 2011 the enrollment rate of Jakarta fell to 1 percentage point under the average of the seven regions. A remarkable negative progress since the enrollment rate in Jakarta was in 2003 with 71.57% in that year almost the double of East Nusa Tenggara (37.79%) who passed them by in 2011.

The dependence on the data of the BPS makes it hard to control for this unusual trend. Possible explanations could be a failing education policy of Jakarta, or a

changing mentality of Jakarta's inhabitants towards schooling. This massive fallback is unlikely due to the recession and therefore should be researched within another context.

### 5.2.3. Short-term effects of the Great Recession on the development of infrastructure

The Great Recession had the effect on the Indonesian economy that the growth rate of the real GDP fell back from a 7.4% growth in 2008 to a growth of 4.7% in 2009. Comparing the average growth rates of the seven regions in the three pre and post recession years, a small increase in the growth rate with regard to the access to electricity is seen. In sharp contrast, the growth rate regarding access to proper sanitation dropped with fifty percent.

**Table 5.7: Regional access to electricity in Indonesia (2008-2011)**

	2008	2009	2010	2011
<i>East Nusa Tenggara</i>	41,71	46,17	52,55	54,13
<i>West Nusa Tenggara</i>	86,17	89,65	89,39	90,81
<i>North Sumatra</i>	92,59	93,11	92,91	93,94
<i>North Sulawesi</i>	95,80	95,66	96,58	96,92
<i>South Kalimantan</i>	93,84	93,76	94,01	95,36
<i>Central Java</i>	98,47	98,79	99,20	99,40
<i>Jakarta</i>	99,63	99,57	99,58	99,95
<i>Average</i>	<b>94,42</b>	<b>95,09</b>	<b>95,28</b>	<b>96,06</b>
<i>Difference between highest and lowest</i>	<b>56,76</b>	<b>53,40</b>	<b>47,03</b>	<b>45,82</b>

Source: BPS 2013

**Table 5.8: Regional growth in access to electricity in Indonesia (2008-2011)**

	2008	2009	2010	2011
<i>East Nusa Tenggara</i>	7,83	10,69	13,82	3,01
<i>West Nusa Tenggara</i>	1,72	4,04	-0,29	1,59
<i>North Sumatra</i>	1,79	0,56	-0,21	1,11
<i>North Sulawesi</i>	1,01	-0,15	0,96	0,35
<i>South Kalimantan</i>	2,75	-0,09	0,27	1,44
<i>Central Java</i>	0,73	0,32	0,42	0,20
<i>Jakarta</i>	-0,05	-0,06	0,01	0,37
<i>Average</i>	2,26	2,19	2,14	1,15
<i>Difference between highest and lowest</i>	7,88	10,84	14,11	2,81

Source: BPS 2013

The regions with the strongest growth rate in access to electricity during the three post recession years (2009-2011) were the two least developed regions, East and West Nusa Tenggara. The growth of East Nusa Tenggara (9.17%) strongly influenced the average growth rate of Indonesia since it was 7.35 percentage points above the average (1.83%) and 7.40 percentage points higher than West Nusa Tenggara (1.78%). The growth in access to electricity indicates that the converging trend of the pre recession years increased in pace after the Great Recession. Since all the other regions besides East and West Nusa Tenggara reached a full access to electricity, it is not strange that this trend is visible.

The variation in growth rates are much more fluctuant with regard to the growth in proper sanitation. While in the three pre-recession years West Nusa Tenggara was the absolute top performer, their growth had fallen to the worst performing growth in the three post recession years. East Nusa Tenggara showed a mirrored trend in the pre recession years they had the worst performance with a increase in proper

sanitation of only 5.42% per year but had the best performance (17.32%) in the three pre recession years.

North Sulawesi kept performing well with a second position in the pre recession period and a third position in the post recession years. This resulted in the second best sewerage system (67.23% access to proper sanitation) in Indonesia after the capital Jakarta (87.83% access to proper sanitation).

Two regions performed in both regions below average. These were the regions with an initial high score: North Sumatra (75.61%) and Jakarta (54.36%) in 2008.

**Table 5.9: Regional access to proper sanitation in Indonesia (2008-2011)**

	2008	2009	2010	2011
<i>East Nusa Tenggara</i>	17,41	14,98	26,23	23,82
<i>West Nusa Tenggara</i>	42,32	39,83	47,43	47,34
<i>North Sumatra</i>	52,87	51,92	57,10	56,47
<i>North Sulawesi</i>	54,36	63,59	64,87	67,23
<i>South Kalimantan</i>	36,67	41,16	48,95	48,38
<i>Central Java</i>	50,41	54,06	57,76	59,42
<i>Jakarta</i>	75,61	80,37	84,57	87,83
<i>Average without Jakarta</i>	42,34	44,26	50,39	50,44
<i>Average with Jakarta</i>	47,09	49,42	55,27	55,78
<i>Difference highest lowest (ex Jakarta)</i>	36,95	48,61	38,64	43,41

Source: BPS 2013

For the post recession years the same critics should be taken into account as with the analysis of the pre recession years. The growth rate of the worst performing regions might be relatively higher but the absolute growth of the top regions is still higher resulting in a widening gap.



**Table 5.10: Regional growth in access to proper sanitation in Indonesia (2008-2011)**

	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<i>East Nusa Tenggara</i>	12,83	-13,96	75,10	-9,19
<i>West Nusa Tenggara</i>	25,24	-5,88	19,08	-0,19
<i>North Sumatra</i>	7,66	-1,80	9,98	-1,10
<i>North Sulawesi</i>	-0,18	16,98	2,01	3,64
<i>South Kalimantan</i>	35,61	12,24	18,93	-1,16
<i>Central Java</i>	8,78	7,24	6,84	2,87
<i>Jakarta</i>	1,50	6,30	5,23	3,85
<i>Average growth Rate (ex Jakarta)</i>	14,99	2,47	21,99	-0,86
<i>Average growth rate (inc Jakarta)</i>	13,06	3,02	19,60	-0,18

Source: BPS 2013

## 6. Discussion

The previous chapters describe and compare the development of the different regions over time. In this chapter the drivers of the changes caused by the Asia crisis as well as the Great Recession will be discussed.

### 6.1. Asia crisis till 2005

Following Piketty's theory regarding convergence, there should have been a converging trend after the Asia crisis in Indonesia. This converging trend was pointed out in chapter 4. During the first six years after the crisis the gap between the most developed and least developed regions decreased from 15.10 in 1996 to 12.80 in 2004 on the HDI scale.

The causal explanation for the falling quality of living standards was the increased price of rice. Rice is for the large majority of Indonesians the most consumed commodity. The consumption of rice accounts, for the group of Indonesians living closest to the margin, for at least 70 % of all their expenditures. The average price of rice over all regions went up from 856 rupiah per kilo in December 1997 to 2390 rupiah per kilo in December 1998 (IMF 2000). The increasing rice prices pushed approximately 16 million Indonesians under the poverty line. While the amount of people in Indonesia under the poverty line was 32 million in 1996, there were approximately 48 million Indonesians living in poverty in 1999. Since the 1960's the Indonesian government controlled the rice prices up until the Asia crisis.

However, the government became unable to control the rice prices. They lost control due to two different causes: the pressure on the Indonesian currency combined with a low domestic rice production caused by the El Niño weather. (Gérard 2010).

The regions which were dependent on their agricultural sector, East and West Nusa Tenggara, could benefit from the increased rice prices and could converge in the direction of the better performing regions. However, the convergence of East and West Nusa Tenggara is only to a small extent explained by the rice prices. According to McCulloch and Sjahrir (2008) the role of education played an important role in the

post 2001 growth. In their article 'Endowments, Location or Luck?' they conclude that the geographical position of the different regions mattered only to a small extent until 2001. However, they noticed that education (one of the three indicators) played a significant role in the development of the specific regions. It is hard to measure the direct impact of the increase in education on the growth of HDI. However, the regions with the highest growth in enrollment rates at the beginning of the crisis have the highest growth rates in HDI in the post crisis era.

The converging trend during the first years after the crisis is not only due to the fast recovery in West Nusa Tenggara and the minimal depression in East Nusa Tenggara but also due to the disappointing recovery rate in the other regions. This can be explained through the findings of Wihardja (2015). She delivers support for this trend by pointing at the negative effects of the decentralization in Indonesia which decreased the national growth rate in general. Wihardja compared the growth pattern of Indonesia with similar countries with a centralized government. She discovered that the Indonesian economy performed worse than the central governed countries. The decentralization had a particular negative effect on the urban centers of the country.

## **6.2. 2005 till 2011**

From 2005 till 2011 the growth rate of the Indonesian GDP stabilized to around 6% a year. The growth trend had one dissonant, year 2009, when the growth rate fell back to 4.7% due to the global recession. The stable growth rate in Indonesia can be explained by the commodity boom of the zero's. From 2005 until 2011 the demand in commodities rapidly increased due to the fast economical development of the emerging economies such as the BRICS countries. Besides the increasing demand there was also a decline in supply of oil due to the ongoing unrest in the Middle East. Indonesia could benefit to a large extent of the commodity boom. Indonesia is rich of natural resources and managed to stimulate their growth through their export.

As shown in the analysis, the growth was not equally spread over the whole country; especially Jakarta benefited from the growth of the zero's. The growth rate of Jakarta was, besides the growth rate of East and Nusa Tenggara, the only HDI growth rate which reached over 1 % a year in the period from 2005 to 2011. As earlier mentioned

the two least developed regions converged, compared to all the other regions, except Jakarta. The Asian Development Bank did extensive research on the causes of this centralized growth. The divergence in the second and third period can be causally explained out of the constraints the ADB is signaling (Tabor 2015).

The slowdown of growth in the middle and higher developed regions is due to a declining competitiveness in the manufacturing sector. The Indonesian labor productivity has been improving slower than in neighboring countries and the rupiah is increasing in value. The Indonesian labor productivity is under high pressure since there is a shortage of vocational trained labor.

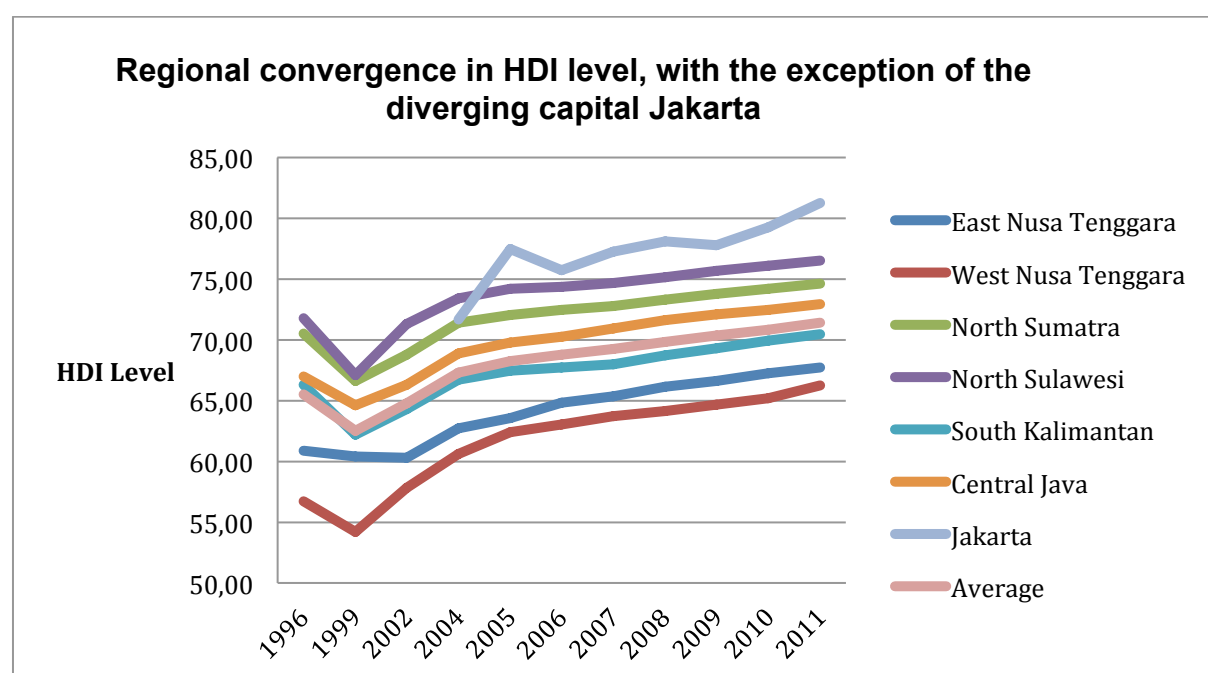
As shown in the previous chapter, the Indonesian high school enrollment rate is still only between 60% and 70% in 2011. A much smaller percentage is actually finishing high school and enrolls in any form of higher education. Indonesia has still a long way to go in the development of their university system and other forms of higher education. The middle developed regions especially experience the stagnating growth since the demand for skilled workers increases but the skills acquired in the educational system are not sufficient. The lack of skills makes the middle regions unable to compete with regions with higher educated inhabitants (Tabor 2015).

Besides the troubles on the labor market due to a skill shortage, Indonesia still has problems regarding their tangible infrastructure. The internal accessibility is still insufficient to support the economic growth within the country. Waterways and roads are under high pressure; the internal transport costs in Indonesia are limiting the Indonesian development. Especially the outer islands face the negative consequences of the terrible infrastructure. The internal transport cost pushes the logistic costs of the total production costs up to 14%. This is 9 % higher than in first world countries. Besides the poor road network, the sewerage and the electricity network are still on a low level, in particular on the outer islands. This is a major constrain in attracting investments from the center or from abroad (Tabor 2015).

As Wihardja indicates, decentralization is not necessarily equivalent with democratization within Indonesia. Besides the impressive efforts of the national government to fight corruption, this phenomena has still a big impact on the competitiveness of the least developed regions. They do not have the access to the

most trustworthy politicians. Besides, the inhabitants of the least developed regions are badly informed about politics and governance that makes them easily influenced by popular parties and ideas. The corruption and high business costs connected to this make it unattractive for companies and manufactures to settle in less and middle developed regions, they will rather choose for Jakarta. This supports the diverging trend of the capital compared to the rest of the country.

**Figure 6.1:**



Source: BPS 1997, 2003, 2013

### 6.3. Conclusion

The main purpose of this thesis was to determine the effects of the Asia crisis and the Great Recession on the regional development in post 1997 Indonesia. To come to the conclusion of this purpose three time periods and seven regions have been analyzed.

The results of the analysis indicate that the Asia crisis and the Great Recession had an impact on the three indicators (living standards, human capital and infrastructure). The Asia crisis and the Great Recession had the smallest impact on the development of human capital; the enrollment rates kept on growing in Indonesia and were barely disturbed.

The standard of living was harmed during the Asia crisis. In every region the HDI level fell in the post crisis years. However, there was a strong recovery and a converging trend until the Great Recession. During the Great Recession the HDI growth rates fell everywhere but never became negative except for one region, Jakarta. The capital faced a short decreasing HDI but recovered fast and outran the growth rates of all the other regions in only two years after the crisis. The negative growth of 2009 occurred in Jakarta due to its strong connection to the world market. The financial sector of Indonesia is mainly established in Jakarta, therefore the consequences of the crisis turned into a short depression only in that region.

The infrastructural development was more fluctuant than the other two indicators and faced a huge decrease in growth rate after both the Asia crisis and the Great Recession. However, in two periods after the Asia crisis the infrastructural development managed to recover both times.

The three indicators show a small converging trend, however, the pace in which the regions come closer together is almost stagnant. There is one exception, the capital Jakarta, diverging on the infrastructural and HDI indicator but strongly converging on the human capital indicator.

This thesis supports the view of the World Bank (McCulloch & Sjahrir 2008), the Bulletin of Indonesian economic studies (various), The ADB (Tabor 2015), H. Hill (2008) and Booth (2016) that the intranational convergence in Indonesia is stagnating. For future research I would recommend a more extensive investigation of the inequality within the separate islands over the same time (in the style of Piketty 2003). I would recommend taking a closer look at the tax records of the Indonesian regions and focus on the Gini Index for each separate island. However, this recommended topic is suitable for a researcher who has access to the detailed tax records of the Indonesian government and is fluent in the language Bahasa Indonesia. According to the findings of this thesis a divergence between the richer parts of society within each separate region is expected.

A lot of research on Indonesia still has to be done in order to provide necessary information and insights on the development of this promising country in the future.



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