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THE IMPACT OF INFLATION ON ECONOMIC GROWTH
(CASE STUDY IN INDONESIA 1987-2016)

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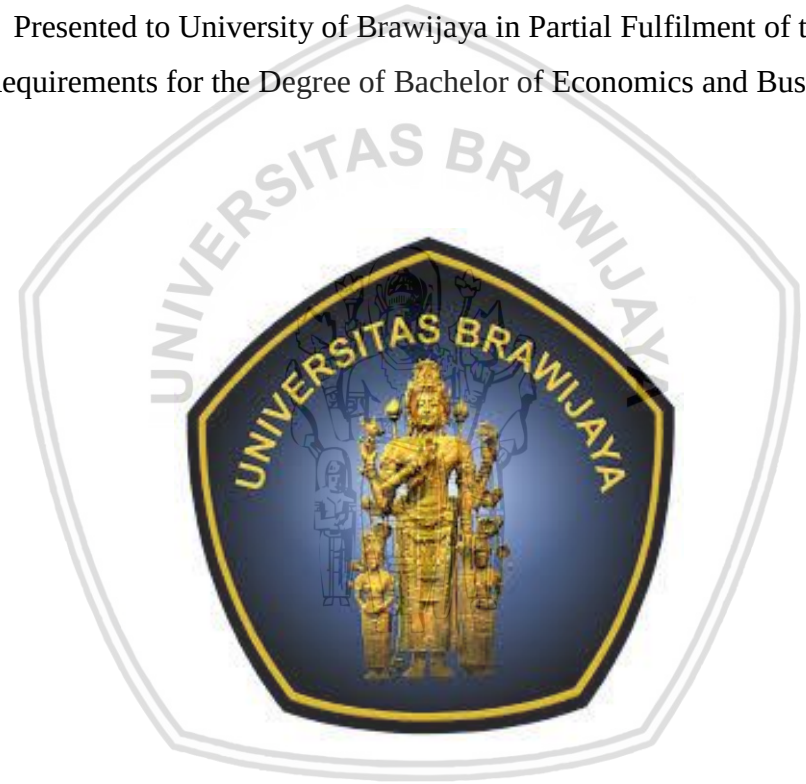
MINOR THESIS

Presented to University of Brawijaya in Partial Fulfilment of the
Requirements for the Degree of Bachelor of Economics and Business



INTERNATIONAL PROGRAM IN ECONOMICS

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During the process of completing minor-thesis, the writer realizes that without the help, support, and prayers from various parties, this report will not be finished on time. Therefore, the writer would also like to gratefully to:

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12. And finally for all people that the writer cannot mention one by one but gave so much support until this report of minor-thesis is complete

The author realizes that this minor-thesis still needs many improvements and correction. The author has worked hard to create this minor-thesis in order to help whoever needs insight or additional knowledge in understanding the impact of inflation on economic growth in Indonesia from 1987 until 2016.

Malang, 21st April, 2018

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PENGARUH INVESTASI, PENDAPATAN ASLI DAERAH (PAD), dan TENAGA KERJA TERHADAP PERTUMBUHAN EKONOMI (STUDI KASUS DI JAWA TIMUR TAHUN 2000-2014)

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ABSTRAK

Pertumbuhan ekonomi adalah kunci dalam mengembangkan suatu negara. Jumlah berapa banyak pertumbuhan ekonomi dapat mengembangkan suatu negara dapat dilihat dalam bagaimana hal itu mempengaruhi segala sesuatu mulai dari jumlah pasokan di suatu negara. Pertumbuhan ekonomi juga menunjukkan sejauh mana kegiatan ekonomi akan mempengaruhi pendapatan tambahan orang-orang dalam suatu periode tertentu. Pertumbuhan ekonomi dapat diartikan sebagai proses yang dirasakan perubahan dalam jangka panjang dan dapat diukur dengan menggunakan pertumbuhan PDB atau dalam hal ini perubahan dalam total output. Alasan lain mengapa pertumbuhan ekonomi penting adalah karena pertumbuhannya dipengaruhi oleh pertumbuhan PDB, maka setiap kali ada peningkatan output total, itu berarti pertumbuhan ekonomi meningkat dan begitu juga kemakmuran negara. Namun, Pertumbuhan Ekonomi tidak terpengaruh hanya oleh pertumbuhan PDB, tetapi juga faktor-faktor lain seperti inflasi. Penelitian ini bertujuan untuk menganalisis dampak inflasi terhadap pertumbuhan ekonomi dalam jangka waktu tertentu, dan dalam penelitian ini, periode akan dimulai dari 1987 hingga 2016.

Penelitian ini menggunakan Ordinary Least Square atau OLS untuk mengetahui pengaruh variabel independen terhadap variabel dependen. Hasil yang diperoleh dalam penelitian ini menunjukkan bahwa inflasi mempengaruhi pertumbuhan ekonominelitian ini menunjukkan bahwa inflasi mempengaruhi pertumbuhan ekonomi

Kata kunci: Pertumbuhan ekonomi, inflasi, pertumbuhan PDB.

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THE IMPACT OF INFLATION ON ECONOMIC GROWTH (CASE STUDY IN INDONESIA 1987-2016)

Fariz Yulianto

Supervisor:

Devanto Shasta Pratomo, SE., M.Si., MA., Ph.D.

ABSTRACT

Economic growth is a key in developing a country. The amount of how much economic growth can develop a country can be seen in how it affects everything starting from the amount of supply in a country. Economic growth also showed the extent to which economic activity will affect additional income of the people within a given period. Economic growth can be interpreted as a process that the changes felt in the long term and it can be measured by using GDP growth or in this case the change in total output. Another reason why economic growth is important is that since it is affected by GDP growth, then every time there is an increase in total output, that means the economic growth increased and so will the prosperity of the country. However, Economic Growth does not get affected by only the GDP growth, but also other factors like inflation. This research aims to analyse the impact of inflation towards economic growth in a given period of time, and in this research, the period will be starting from 1987 until 2016.

This research uses Ordinary Least Square or OLS to determine the effect of independent variables on the dependent variable. The results obtained in this research indicate that inflation affect economic growth

Keywords: Economic growth, inflation, GDP growth.

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PREFACE

By mentioning the name of Allah SWT, the Most Gracious and the Most Merciful, the writer offer praise to His presence, who has bestowed His grace, guidance, and mercy upon us, so that the writer could complete the thesis about "The Effect of Inflation towards Economic growth Case Study in Indonesia 1987-2016".

The writer had compiled this thesis maximally and got assistance from various parties so that it can facilitate the making of this thesis. For this reason, the writer express the gratitude to all those who have contributed to the making of this thesis.

Apart from all that, the writer is fully aware that there are still deficiencies both in terms of sentence arrangement and grammar. Therefore, with open arms the writer receives all suggestions and criticisms from readers.

Finally, the writer hopes that this thesis about "The Effect of Inflation towards Economic growth Case Study in Indonesia 1987-2016" can provide benefits for its readers.

Malang, 21 July 2018

Fariz Yulianto

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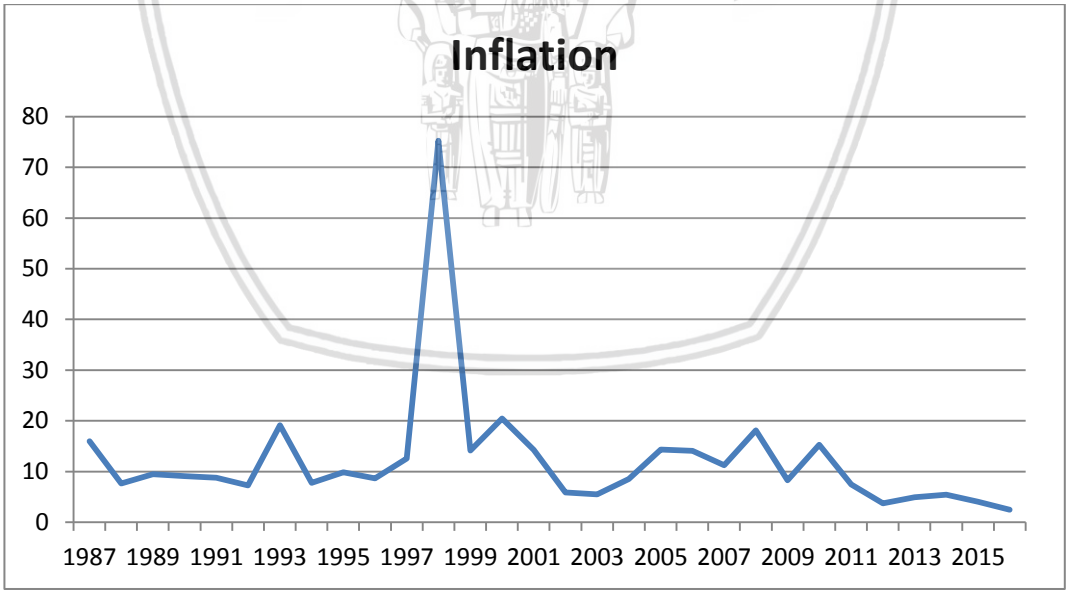
APPENDIX 6.1

Global Economic Growth in 2015-2016

Country	**2016**	**2015**
World	**3.2**	**3.4**
Developed Countries	***1.7***	***2.2***
United States	1.5	2.9
Europe Union	1.8	2
England	1.9	2.2
Japan	0.9	1.1
Developing Countries	**4.4**	**4.3**
China	6.9	6.7
India	6.7	7.1
Indonesia	3.6	3.8

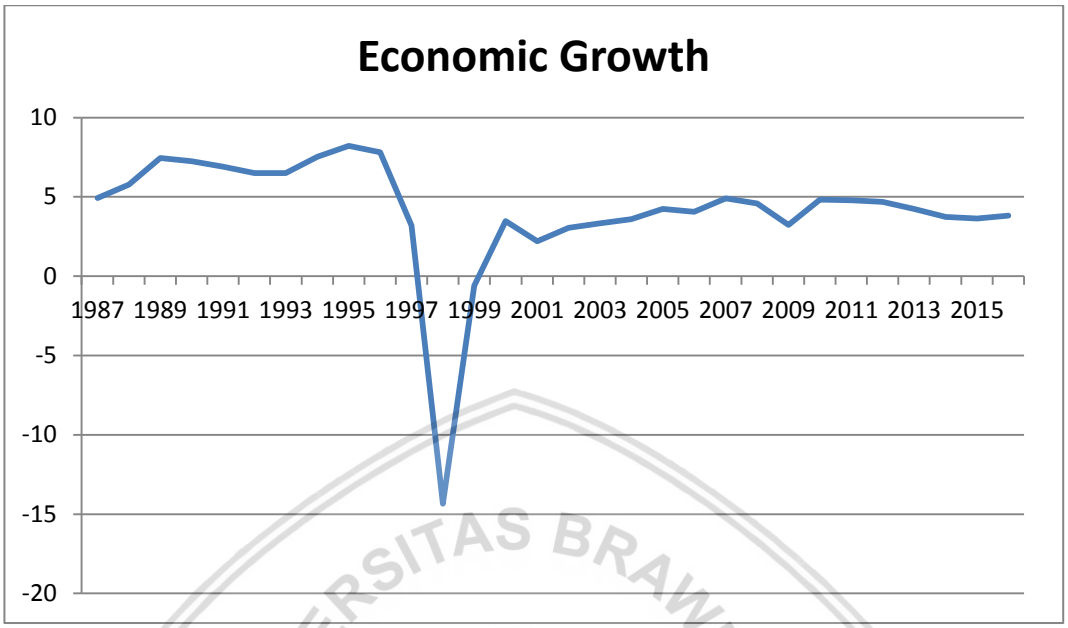
APPENDIX 6.2

Inflation Rate in Indonesia 1987-2016



APPENDIX 6.3

GDP Growth Rate in Indonesia (1987-2016)



APPENDIX 6.4

Demand Pull Inflation

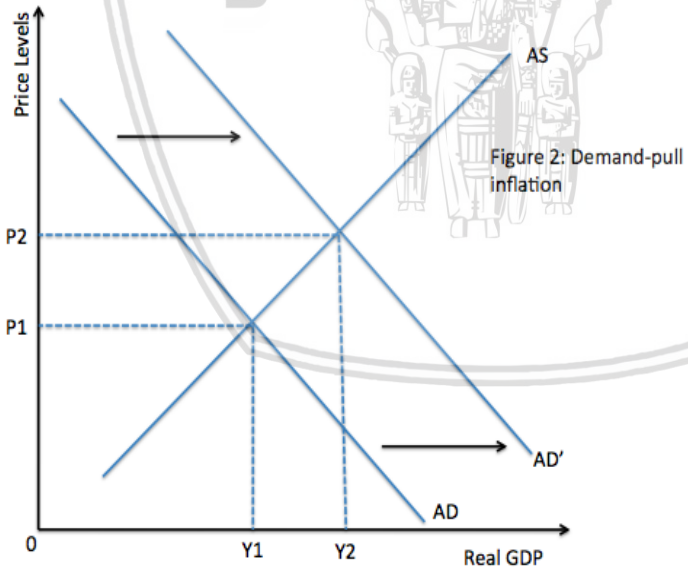
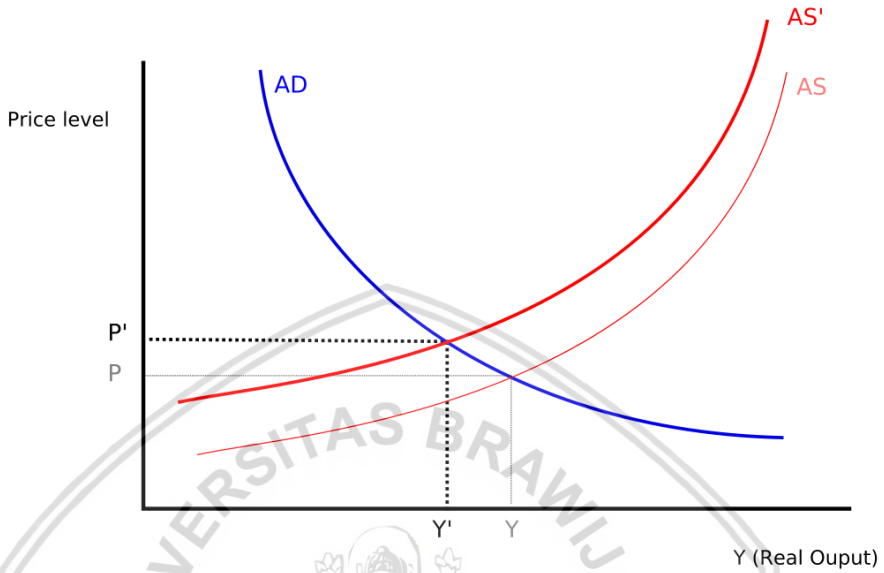


Figure 2: Demand-pull inflation

APPENDIX 6.5

Cost Push Inflation



APPENDIX 6.6

Economic Growth of Developing Countries

Country	2017	2016	2015
World	**3.7**	**3.2**	**3.4**
Developed Countries	***2.3***	***1.7***	***2.2***
United States	2.3	1.5	2.9
Europe Union	2.5	1.8	2
England	1.8	1.9	2.2
Japan	1.6	0.9	1.1

Source: Bank Indonesia, 2018

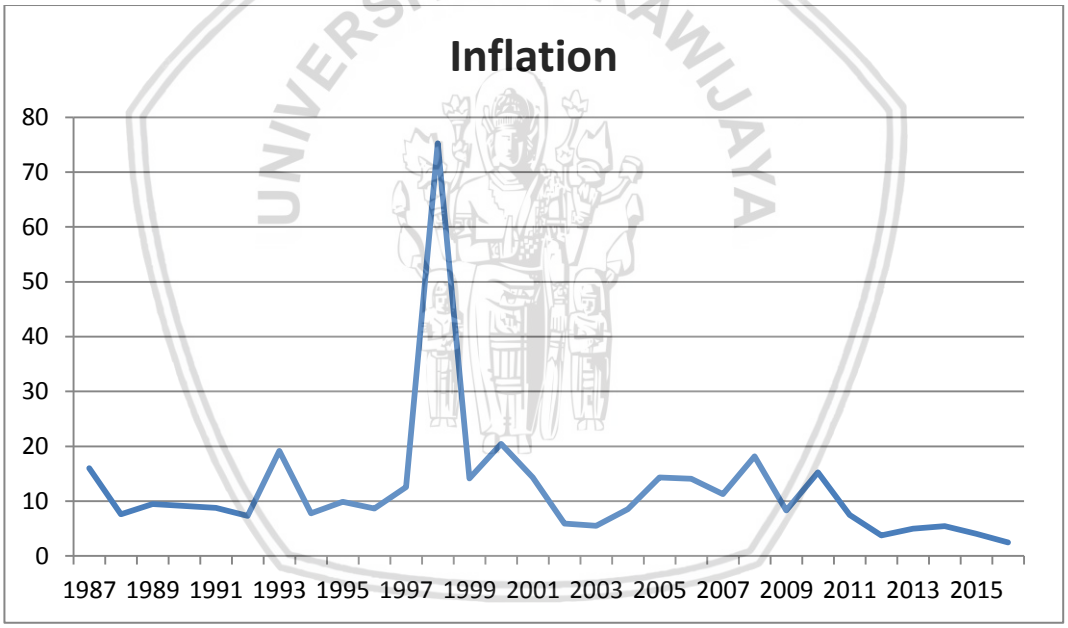
APPENDIX 6.7

Economic Growth of Developing Countries

Country	2017	2016	2015
World	**3.7**	**3.2**	**3.4**
Developing Countries	***4.7***	***4.4***	***4.3***
Non-Commodities Export Countries	4.9	4.7	5
China	6.9	6.7	6.9
India	6.7	7.1	8
Commodity Export Countries	2.2	1.9	1.3

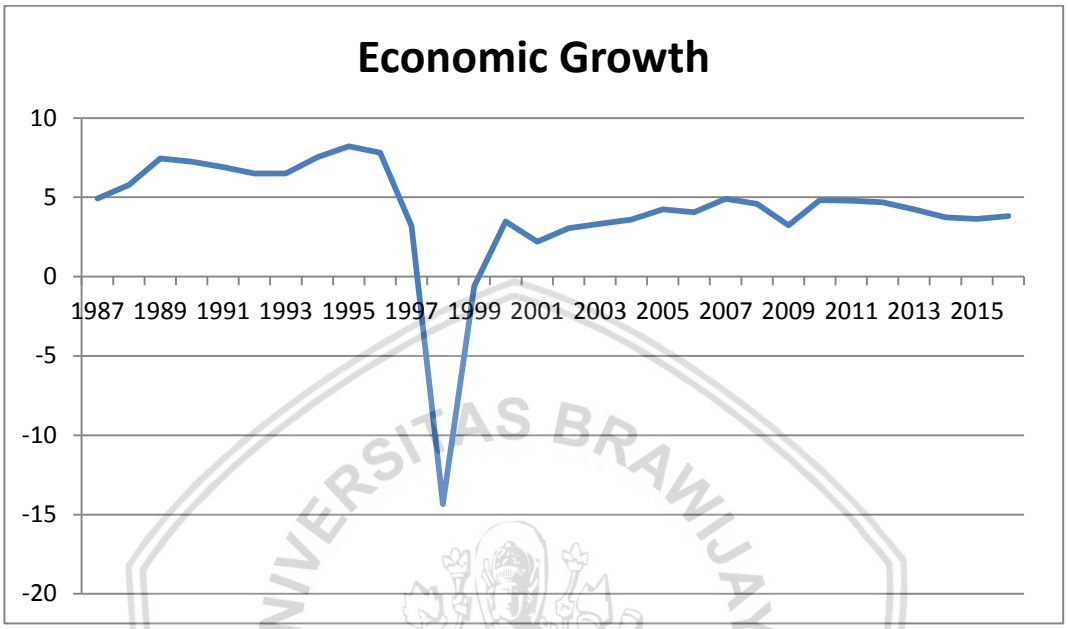
APPENDIX 6.8

Inflation Rate in Indonesia 1987-2016



APPENDIX 6.9

Economic Growth in Indonesia 1987-2016



APPENDIX 6.10

Table of *Jarque-Bera* – Normality Testing

Measurement	Economic Growth
Jarque-Bera	1.572
Probability	0.458

APPENDIX 6.11

Table of Durbin Watson – Autocorrelation Testing

Value of DW = 2.532		Description
<dL	<1.134	There is autocorrelation
dL – dU	0.134 – 1.264	There is no conclusion
dU – (4-dU)	1.264 – 3.736	There is no autocorrelation
(4-dU) - (4-dL)	3.736 – 3.866	There is no conclusion
>(4-dL)	> 3.866	There is autocorrelation

APPENDIX 6.12

Estimation Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.305646	0.576129	12.68058	0.0000
INFLATION	-0.258394	0.032705	-7.900864	0.0000

R-squared	0.690347	Mean dependent var	4.119536
Adjusted R-squared	0.679287	S.D. dependent var	3.979584
S.E. of regression	2.253697	Akaike info criterion	4.527362
Sum squared resid	142.2163	Schwarz criterion	4.620775
Log likelihood	-65.91043	Hannan-Quinn criter.	4.557245
F-statistic	62.42365	Durbin-Watson stat	0.873517
Prob(F-statistic)	0.000000		

APPENDIX 6.13

DATA OF THE RESEARCH

Year	EC.Growth	Inflation
1987	4.93	16.00
1988	5.78	7.63
1989	7.46	9.49
1990	7.24	9.09
1991	6.91	8.77
1992	6.50	7.29
1993	6.50	19.15
1994	7.54	7.78
1995	8.22	9.88
1996	7.82	8.68

Year	EC.Growth	Inflation
1997	3.20	12.57
1998	-14.35	75.27
1999	-0.61	14.16
2000	3.47	20.45
2001	2.21	14.30
2002	3.06	5.90
2003	3.34	5.49
2004	3.59	8.55
2005	4.25	14.33
2006	4.07	14.09

Year	EC.Growth	Inflation
2007	4.91	11.26
2008	4.59	18.15
2009	3.24	8.27
2010	4.83	15.26
2011	4.79	7.47
2012	4.68	3.75
2013	4.24	4.97
2014	3.73	5.44
2015	3.64	4.03
2016	3.83	2.45

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APPENDIX 6.13

ESTIMATION RESULT WITH FIRST DIFFERENCE

Dependent Variable: D(EC_GROWTH)
Method: Least Squares
Date: 04/27/18 Time: 09:24
Sample (adjusted): 1989 2016
Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(INFLATION)	-0.244462	0.023129	-10.56944	0.0000
D(EC_GROWTH(-1))	0.177528	0.090699	1.957334	0.0611

R-squared	0.818496	Mean dependent var	-0.069722
Adjusted R-squared	0.811515	S.D. dependent var	4.504273
S.E. of regression	1.955522	Akaike info criterion	4.247941
Sum squared resid	99.42576	Schwarz criterion	4.343098
Log likelihood	-57.47117	Hannan-Quinn criter.	4.277031
Durbin-Watson stat	2.532117		

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CHAPTER I

INTRODUCTION

1.1 BACKGROUND

Inflation in the developed countries is considerably high for a lot of reasons, for example, the increase in demand for goods relative to supply. Because the demand in the developed countries is more than the supply, some people would pay more than they need to get the goods they want. However, inflation is beneficial for the country as to avoid deflationary spiral and recession. Deflation cycle is a situation when a period of decreasing prices/deflation leads to a situation that the economy won't be able to recover, which compounds over time leading to even lower prices in vicious cycle. Usually, deflation occurs when general price levels decline, central banks can enact monetary policy to reduce deflation to spur demand and economic growth, however, if the target interest rate is already 0 or close to 0, it is then, that the deflationary spiral occurs. In order to avoid it, developed countries will need to keep the inflation high.

Table 1.1

Global Economic Growth in 2015-2016

Country	**2016**	**2015**
World	**3.2**	**3.4**
Developed Countries	***1.7***	***2.2***
United States	1.5	2.9
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Japan	0.9	1.1

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Developing Countries	**4.4**	**4.3**
China	6.9	6.7
India	6.7	7.1
Indonesia	3.6	3.8

Source: Bank Indonesia, 2018

In 2016, the global economic growth suffered a slowdown as there were several risks that surfaced in 2015. Three main risks that could be seen in 2016 were the decline of economic growth, decreased price of commodities, and the uncertainty in the foreign exchange market that was still high since 2015. The global economic growth in 2016 was not strong and widespread. The global economic growth in 2016 was noted to be 3,2% which was lower than the previous year, which was 3,4% in 2015. The growth was also lower than the estimation that was 3,4%. Based on the area of the countries, the global economic growth that was not strong yet, was mainly affected by the economic condition in developed countries that were weakening as the growth was noted to be at the level of 1,7%, which was lower than the previous year in 2015 that had the economic growth at 2,2%. The weakening of the performance of the developed countries was mainly in United States, Europe Union, and Japan. The developing countries however, did not suffer a slowdown, but instead improved in the economic growth which was 4,4% in 2016 as the economic growth in 2015 was 4,3%. The economic growth in the developing countries was mostly supported by Asian countries, especially India and Indonesia.

Several factors that affect the global economic growth, especially in United States that has its economic growth to be slowed down was because of the weak investment that was caused by the performance of oil and natural resources

mining that kept on declining. In Europe Union, the investment was also slowed down because of England leaving Europe.

Unlike in the developed countries that focused on investment and international trades, developing countries need to focus on their inflation so as it wouldn't be too high, and also increasing the export for goods instead of importing goods that could have been produced domestically. Inflation makes the price higher than normal, therefore it leads to low demand for goods and services, and that also means there will be less economic activity, therefore leading to the reduction in GDP growth rate. For the developing countries, instead of deflation, their first priority is to keep inflation to not become high to increase the demand and GDP, while maintaining the inflation to control the price level of commodities, however, the country also needs to pay attention so as to not cause a deflation, which makes it difficult for the developing country to develop into developed country.

In Indonesia, there are 2 policies to control inflation, monetary and fiscal policy. Monetary Policy is supervised by Central Bank, in this case, Bank Indonesia (BI) by using interest rate. By reducing interest rate, consumers will be able to spend more money to spend, causing the demand for commodities to be high, and if BI were to increase interest rate, then instead of increasing the demand, it will lower the demand. Because inflation is affected by demands, then by controlling interest rate, BI can control inflation to an extent, as long as the interest rate isn't 0%.

Fiscal Policy is supervised by the Government using Taxes and Government Spending. Government can use both of them to influence the total of commodities for both goods and services or aggregate demand of the country, to achieve price stability, reduce unemployment, and economic growth. According to Keynesian, by reducing taxes and increasing spending, the government can increase aggregate demand, and to reduce the aggregate demand, the government can do the opposite, increasing taxes and reducing spending so as to reduce aggregate demand.

From how Indonesia control the inflation, it is believed that inflation is bad for development, and it is true as high inflation would mean that the country's demand for commodities and productivity will decline, and causing the economic growth to be low. However, the existence of inflation itself is needed to see how much has a country has been developed because the higher the inflation rate is, the higher the economic growth is. Should aggregate demand became higher than aggregate supply, then the inflation rate would be high because firms would increase the price to gain more profit so that they can produce more commodities, which should increase GDP and would be good for economic growth, but that is only if the consumers would spend more money to buy those goods, because if they didn't, then it will only lead to hyperinflation, which would not be good, and government and BI need to take action.

From the above explanation, it can be concluded that there is a connection between inflation and economic growth. According to Friedman (1977), inflation will exist if there is economic growth, and there will be no inflation if there is no economic growth. In some cases, there is positive

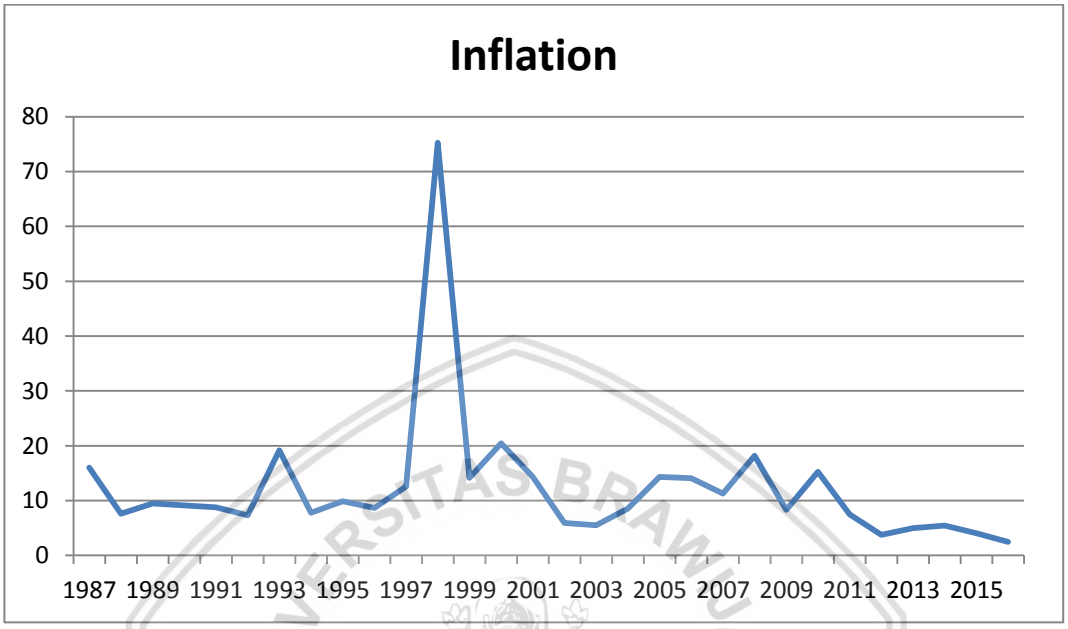
relationship between the two, and in some rare cases, there is negative relationship. Fischer (1993) concluded that even if there is less case that there is a negative relationship, in the long run, it will cause a problem for economic growth if it were left alone.

The cases for a positive co-relation between inflation rate and economic growth rate could be found in South Asia, specifically in India, Pakistan, Bangladesh, and Sri Lanka. According to Sudhakar Patra and Kabita Kumari Sahu (2012), the reason as of why the four countries are able to have positive relationship is because the four countries have their commodity that is always on high demand in all countries, fuel. However, the state of the inflation is apparently highly unstable and vulnerable to fuel price hike, thus inflation became the first priority to be controlled instead of economic growth, because if the oil product that influence the economic growth in South Asia runs out, then South Asia's economic growth will plummet. In the early 2016, the price of oil per barrel in US is $27, which is the lowest price level since 2003.

On other different countries, it has been stated that in America Latin, in 1970, the countries experienced high inflation that caused the decrease in economic growth and that showed the world that there is negative effect to inflation. The negative effect is also mostly shown in developing countries, and Indonesia is among them.

Graph 1.1

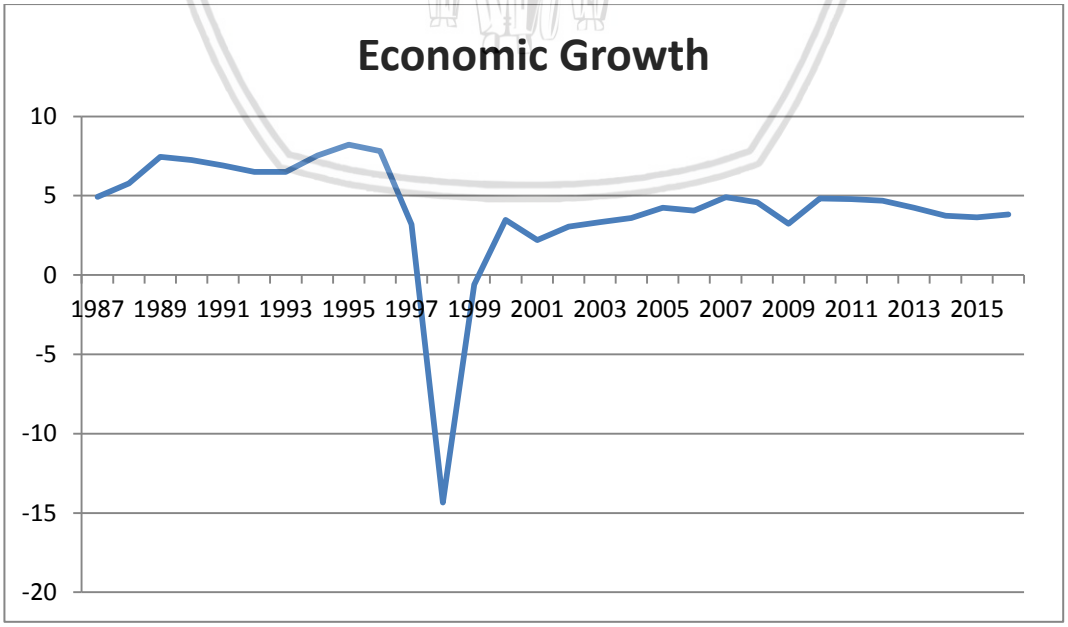
Inflation Rate in Indonesia 1987-2016



Source: World Bank (2017, August)

Graph 1.2

GDP Growth Rate in Indonesia (1987-2016)



Source: World Bank (2017, August)

By observing the two figures above, it is easy to see that there is a huge discrepancy between inflation and GDP Growth. In 1987 until 1990, Indonesia kept on increasing its economic growth that in the span of 4 years, the economic growth that was in 4,9% reached 7,2% in 1990. However, the trend was broken in the next year for 3 years until 1993 that showed the economic growth to fall at the lowest in the last 3 years which is 6,5%. After that, the economic growth started to catch up and it increased in the next 4 years until it reaches 1997 which reduced the economic growth by twice, 3,2% in 1997 as in 1996, the economic growth was 7,8% in 1998 because in 1998, the economic Growth rate decreased from 4,7% to (-13,1%) which is followed by a steep rise in inflation from 12,6% to 75,3%. This proves that there is negative co-relation between inflation and economic growth, and it also proves that the higher the inflation rate is, the worse the state of the economy in a country is, if it were left alone. Although there is not much difference between the two in the next few years, there is bound to be problems in the future.

As the global economic growth in 2016 suffered if compared to 2015, in 2017, the economic growth rose significantly thanks to the developed countries that kept on producing goods and exported them to gain more investment which gave way to more production and more export, and the developing countries that kept their consumption high despite the global economic growth's slow down by producing more foods and export natural resources like oil to gain more power in currency that would later helped in the import of goods.

Economic growth depends on the GDP, so as to increase GDP; there are several methods to increase it, for example by promoting Foreign Direct

Investment and elevating the level of education to increase the skill of human resources in Indonesia. Foreign direct investment is crucial for Indonesia to accelerate economic growth because domestic investment is not enough to finance the development of Indonesia and by increasing the level of education, there will be a lot of high-quality workers ready to be employed by either domestic firms or foreign firms, and they would also be able to create innovations and new technologies to either increase the efficiency or replacing old technologies to produce higher quality and higher quantity of commodities, especially in developing country like Indonesia.

As Fischer (1993) mentioned, inflation may have some benefit by existing, but if it were to be left alone, then it will cause a problem in the long term, but inflation can never be eliminated, because as Friedman (1977) pointed out, that inflation will exist as long as there is economic growth. This study will be focused on the analysis of inflation on economic growth in developing country, in this case, Indonesia from 1987-2016, to check whether inflation has an adverse effect on economic growth or not.

1.2 Research Questions

Based on the background, there are several problems to be listed as there is both negative and positive co-relation between inflation and economic growth, and this study will be focused on whether Indonesia, a developing country as of 2016, has negative or positive co-relation between the two. Therefore, the question would be as follow:

1. Does inflation have a significant impact on economic growth in Indonesia?
2. Does inflation have an adverse effect on economic growth in Indonesia?

1.3 Objective of the Research

This study will be focused on the co-relation between inflation and economic growth on either it being negative, or positive, and also to find out whether there is a significant impact of inflation to the economic growth in Indonesia.

1.4 Significance of the Research

This study is expected to provide benefits for various parties concerned either directly or indirectly. Benefits that can be obtained are as follows:

1. For related parties and government

   This study is expected to provide benefits to allow the government to know how significant the impact of inflation to economic growth in Indonesia.

2. For the writer.

   For the writer, this study is expected to provide benefits of having increased knowledge regarding inflation and economic growth, and the co-relation between them.

3. The next writer.

   For the next writer, this study is expected to provide benefits as reference for their writings about the co-relation between inflation and

economic growth, and the impact of inflation to economic growth in developing country, in this case, Indonesia.

4.For students and other readers.

This study is expected to provide benefits of knowing the impact of inflation to economic growth, and the co-relation between them with the information gotten from several sources.

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CHAPTER II

LITERATURE REVIEW

2.1 Economic Growth

Economic growth, in classical economics or Ricardian Economics, the theory of production and the theory of growth are based on the theory of variable proportions, which by increasing one among the factors of production while holding the other constant, will allow the increase of output or quantity of commodities.

According to L. Linahan et al (2014), Economic development is simultaneously a concept, an activity, and a professional practice, and economic growth is a narrower concept of it. Economic growth focuses on the increase in a country's real GDP which can be caused by an increase in the quantity of commodities, quality of commodities, or both, or even an increase in value of commodities produced by every sector of economy.

Economic growth, as Nguyen Hoang Quy (2016) defined, is a long-term rise in capacity to supply the increasingly diverse commodities to the population to improve their well-being. It can also refer to a country's increase in output or GDP, economic goods provision, and advanced technology presence. There are three major definitions of economic growth that can be expressed as nominal, output real value, and per capita value definitions. Economic growth expressed as nominal can be calculated using only GDP of a year and the previous year as the measurement. As for the definition that is expressed as output real value, unlike nominal, the GDP need to be adjusted with inflation. The value in this case is

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expressed as percentage that shows the rate of change for a country's GDP from a year and the year prior to the year in question. For the last definition, per capita value, it uses GDP per capita, which is a measure of total output of a country or GDP itself, divided by the number of people in the country. Every time there is an increase in GDP per capita, then there is a growth in the economy, which can be calculated in percentage by dividing the difference between GDP per capita of a year with year prior to it, then divided by GDP per capita of the latter year.

2.1.1 Gross Domestic Product (GDP)

Economic growth is synonymous to GDP because every time there is an increase in GDP, the economic growth would increase, which means that it has positive co-relation with GDP. In order to understand economic growth better, it is needed to understand GDP. Also according to Ahmad Ma'ruf and Latri Wihastuti(2008), an increase in GDP causes an increase in economic growth, therefore, it can be inferred that GDP growth is similar to economic growth.

Dhiraj Jain et al (2015) mentioned that GDP is a very strong measure to gauge the economic growth and it reflects the total of production of a country and as such comprises all purchases of goods and services produced by a country and services used by individuals, firms, foreigners, and government. GDP accounts all production of goods and services produced by both domestic and foreign firms and institutions. GDP is mostly used as an indicator by almost all the governments and economic decision-makers to plan and formulating policies. It allows one to judge whether the economy is growing or weakening, whether it needs a boost or restraint, and if a threat like recession or inflation looms in the country.

In order to increase GDP, there are several factors that largely influence GDP, for example Foreign Direct Investment (FDI), human resources, and Information and Communication Technology (ICT). Goeltom (2008) pointed out that in Indonesia, the domestic saving cannot fully cover the development of Indonesia, thus needing the investment from other country. In order to achieve higher GDP, FDI is needed to finance the development of a country by producing goods in Indonesia, therefore increasing the GDP. The existence of FDI also creates more work, thus leading in the reduction of unemployment, transfer of technology to increase the efficiency of producing commodities, knowledge on managerial and business practices, access to international markets, and access to international financing. Although foreign firms might not create as much employment as domestic firms, they often create better-paid jobs that require higher skills.

Human resources, being one of the factors that affect GDP, depend on the level of education of the country, as Nada Karaman Aksentijevic and Zoran Jezic (2009) said. In order to achieve high GDP rate, elevating the education in Indonesia would result in higher rate. As stated above, FDI requires high skilled people to work on their firms, thus higher level of education will assist in promoting FDI. Nada and Zoran (2009) believed that economic growth and prosperity are based on the combinations of optimal functioning of an educational system and development level of research capacity, which determines the development of innovations and technologies. By having highly educated people, it would lead to the creations of a lot of innovations, and innovations leads to technological changes, which will significantly accelerate economic growth.

According to the analysis of Philippe Aghion et al (2014), economic growth rate increases as there are innovations. It has been pointed out that countries that invest more on in higher education will achieve a higher productivity of research, and will also reduce the opportunity cost of research by increasing supply of skilled labors. Economic growth also increases with the size of innovations. A country that is lagging behind in innovations has an advantage named advantage of backwardness, which is the further it lags behind, the bigger the productivity would be if it can implement technology when it innovates technologies.

Contributing to the definition of what makes GDP a calculator to calculate economic growth, as Rasiova, Manuela & Durcova, Julia (2014) had written, that there were 2 ways to know economic growth is by using demand perspective and supply perspective, whereas the former will be based on the GDP and it's component, and the latter will be based on the neoclassical production functions for example capital, labor, and technology.

As an increase in the GDP growth means an increase in economic growth, then there is a need to research about what causes the increase in GDP growth, therefore, the factors other than inflation that need to be understood are for example taxes, export, import, and exchange rate.

2.1.1.1 Tax

Tax, one of the factors that can affect economic growth, is part of a tool that is used by government to control inflation which is called fiscal policy. Other than as tools, tax is also part of financial policy that is used to manage financial system. Tax is also one of the sources of funds for national budgets that could be

used as a means to fulfill the needs of the people at large, not specifically, for example making a new road, bridge, etc. Ilyas Wirawan and Richard Burton(2013) also mentions that taxes is the main source of national funds as it covers 70% of the whole national funds.

The amount of taxes levied to the people varies among one to another. The levies are mostly on transactions on goods and services, government institutions, private properties, and public properties. The tax is paid by personal and corporations, and it is also a forced contribution as it was regulated by the law. As an addition, according to tax is a form of contribution from the society to the government.

2.1.1.2 Export and Import

Among one of the factors that can affect economic growth or GDP growth is export and import. Export and Import are international trades that are conducted between two countries. Export is an international trade that is about producing goods domestically and shipped towards partners in trade in other countries for trade in the foreign countries. The sale of such goods will increase GDP, therefore leading to an increase in economic growth. Import on the other hand, is the opposite of export, whereby the goods that are produced in foreign countries to be shipped into domestic country to be sold. Should a country has higher import than export, the country would suffer negative in the balance of international trade.

How import and export can affect economic growth is by looking at the balance of the trade. If the export is more than import, then the country would gain profit and vice versa. The result of the research done by Saaed, Afaf Abdul J.

and Hussain Majeed Ali(2015) showed the result that there is an unidirectional causality between import with export and export with economic growth. The research was done in Tunisia, and Tunisia's economic growth was propelled growth led import and export led import, and therefore import was seen as the source of economic growth in Tunisia as the imported goods would allow other goods to be produced and exported, leading in the more export than import.

2.1.1.3 Exchange Rates

As another factor that affects GDP growth, exchange rate is rather volatile as the rate depends on the domestic currency's value and the foreign currency's value. Exchange rate is the price of a country's currency in terms of foreign country's currency. There are two quotations regarding exchange rate. The first one is direct quotation, which means the price of a unit of domestic currency and the second one, indirect quotation, is expressed in the term of unit of foreign currency. Exchange rate is usually used for international trade of both import and export.

How exchange rate can affect economic growth, or in another case, GDP growth as Dr. Jayachandran.G (2013) had researched, exchange rate has significantly positive impact on GDP growth in the long run, but not short run. This research implies that in the short run, the GDP growth would not be significantly high, because exchange rate depends on the export and import of a country. Just as the explanation of the export and import from above, that GDP growth is affected by import and export of a country. The research also showed that there was a significant negative impact on export and import, implying that higher exchange rate fluctuations will reduce export.

2.2 Inflation

Inflation, according to Wily Julitawaty (2015), is the increase in general prices of commodities. The increase in the price is of one or two items cannot be called inflation unless the increase is widespread and the result of the increase affected the price of other commodities. Inflation is persistent, which means that it cannot be eliminated, and it will exist as long as there is economic growth.

Once inflation reaches or exceeds 50% per month, or more than 1% per day, it is no longer called inflation, but hyperinflation. Hyperinflation in this case means that the price level will massively increase. There will be inflation if there is an increase in price of commodities as a whole because inflation can influence the price of commodities. Should there be an increase in some commodities for a short term, then it cannot be called inflation because inflation is calculated for at least a month.

2.2.1 Inflation Indicators

Inflation has always been followed by increase in price, even if the price level fluctuates; it still shows that there is a tendency of increase in prices in not only 1 product, but all commodities. There are several macroeconomic indicators that can be used to measure inflation, for example Consumer Price Index (CPI), Producer Price Index (PPI), and GDP Deflator.

1. Consumer Price Index

CPI represents the changes in price level of commodities that are specifically used to track the progress of inflation in economy purchased by consumers. The formula to calculate CPI is as followed:

$$CPI = \frac{Price\ of\ the\ Current\ Year}{Price\ of\ the\ Base\ Year}\ x\ 100$$

Price of the current year includes the average of all commodities in the period that needs to be calculated, while the base year, consists of the average of all commodities in the base period. In order to calculate inflation, the formula below will explain it:

$$Inflation = \frac{CPI - CPI'}{CPI'}\ x\ 100\%$$

In order to get inflation rate, there needs to be CPI of the current year and CPI'(CPI from the previous year). The result from the difference in the CPI, divided by the CPI', and the result would be the inflation rate of the current year.

Not only CPI can be used to calculate inflation, but it can also be used to calculate economic growth through GDP in the form of GDP Growth. According to Mahmoud, Limam Ould Mohamed(2015), that researched the connection between CPI and GDP Growth and found out that there is a positive and significant relationship between the two. It also referred that moderate inflation will increase productivity and output level.

2. Producer Price Index

Unlike consumer price index that is looking at the price in the perspective of the consumer, producer price index is observed in the perspective of the producer. In order to calculate it, the formula used is as follow,

$$PPI = Q\ x\ P0\ \frac{P1}{P0} x\ Q\ x\ 100$$

To calculate PPI, the aggregate quantity of commodities of the year, aggregate price of the base year, and aggregate price of commodities of the year will be needed. In order to calculate inflation, the same formula from calculating inflation using CPI can be applied to PPI.

$$Inflation = \frac{PPI - PPI_{-1}}{PPI_{-1}} \ x \ 100$$

3. GDP Deflator

$$GDP\ Deflator = \frac{Nominal\ GDP}{Real\ GDP} \ x \ 100$$

By using Nominal GDP and Real GDP, multiplied by 100, GDP deflator can be calculated. In order to calculate inflation using GDP Deflator, the same formula of calculating inflation using CPI can be applied into GDP Deflator.

$$Inflation = \frac{GDP\ Deflator - GDP\ Deflator_{-1}}{GDP\ Deflator_{-1}} \ x \ 100$$

To calculate inflation, the GDP Deflator is the GDP Deflator of the current year, and GDP $Deflator_{-1}$ is the GDP Deflator of the previous year or base year.

By looking at the explanation from above, it can be assumed that there is a deep relationship between economic growth and GDP, and inflation with GDP. An increase in inflation rate will affect the price of commodities, and the effect on price would influence the demand and supply of the goods because of the economy cycle between consumer and producer that involves the purchasing of

commodities and production of commodities. Inflation rate would reduce the demand for commodities.

2.2.2 Types of Inflation

Inflation reflects on price, and price level will affect the demand for goods and the whole economy cycle, however, there are several types of inflation that is beneficial for Indonesia. Types of inflation can be categorized based on the intensity and cause.

2.2.2.1 Types of Inflation Based on the Intensity

The types of inflations categorized by intensity are listed below:

1. Hyperinflation

Hyperinflation is the condition whereas the prices of commodities rise significantly at ≥50%. This kind of inflation significantly reduces the real power of money of a country. Unlike normal inflation, hyperinflation can be observed by just tracing the price of commodities of the time and prior to the inflation, which is one year before it happened. Hyperinflation happens because the government recklessly prints money, in most cases, to pay for war.

2. Creeping Inflation

Creeping inflation, or mild inflation is when the prices of commodities increases by ≤ 3% a year. This type of inflation is beneficial for countries as it will increase the price of commodities, while keeping the demand for them stable or even increases. During this inflation, price increase is beneficial as it'll increase the value of product.

3. Walking Inflation

The speed at which walking inflation is faster than creeping inflation as it is a condition when the prices of commodities increases by 3% ≤ 10% a year. This type of inflation is harmful as it will lower the demand for commodities because the sudden increase in price is big as the commodities were purchased in large amount and it ended up causing the suppliers to be unable to keep up.

4. Galloping Inflation

Galloping inflation is even worse than walking inflation as the prices increases by more than 10% a year. During this inflation, the value of money would be significantly decreased in a quick pace that business and the employee income can't keep up with the costs and prices. Foreign investors avoid the country, depriving it of needed foreign investment. The economy becomes unstable, and loss of government's credibility.

2.2.2.2 Types of Inflation Based on Causality

Types of inflation based on the causes, listed with some additions, are listed below:

1. Monetary/Currency Inflation

This inflation happens due to printing more money by the government to cover its deficit, or to pay for war. If the government were to print money to cover everything needlessly, it will only lead to hyperinflation.

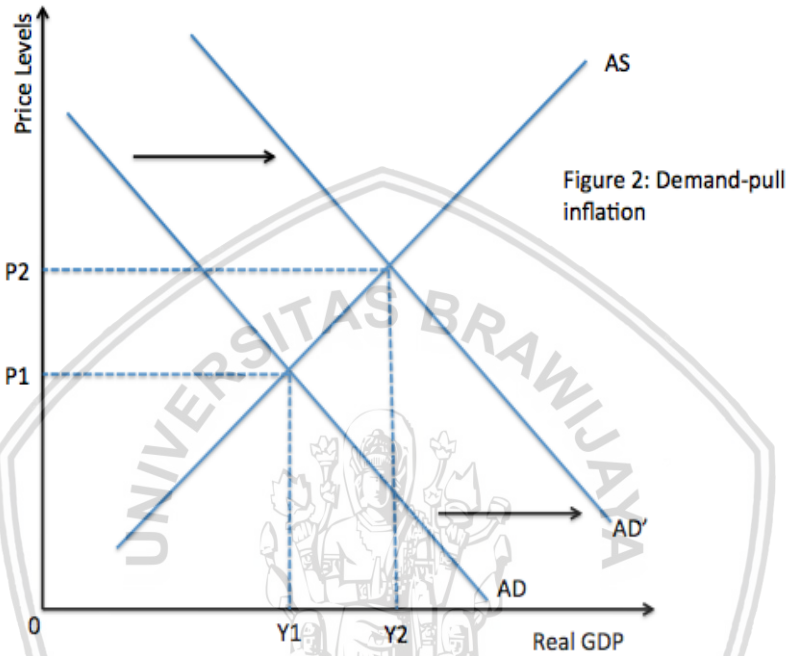
2. Demand Pull Inflation

Demand pull inflation is an increase in aggregate demand over the available commodities results into the rise of price level. This inflation happens

when aggregate demands for goods and services exceed the available aggregate supply. With less supply for commodities, the price naturally increases.

Figure 2.1

Demand Pull Inflation



Source: Supriya Guru, Your Article Library, 2017

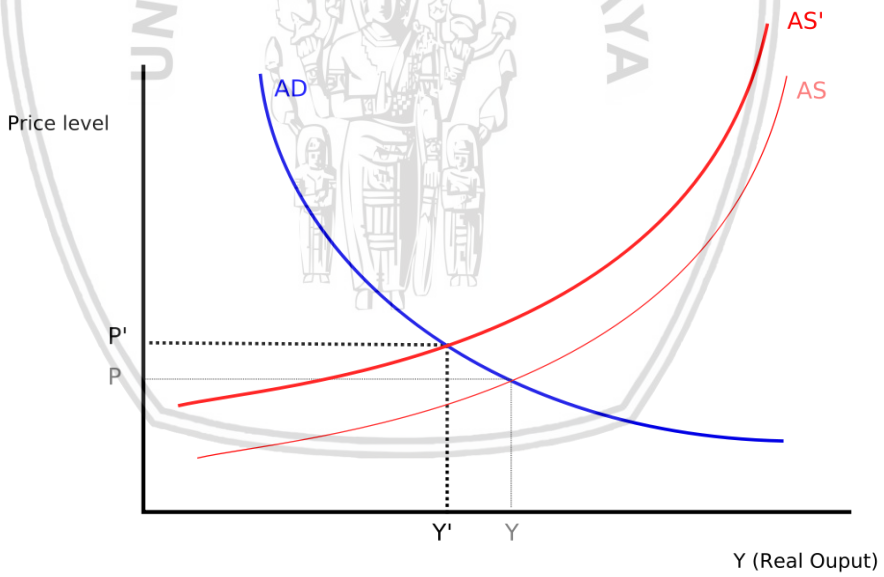
The increase in the aggregate demand from AD to AD` will cause the price to increase from $P_1$ to $P_2$. As long as the price isn't on the right side of Aggregate Supply (AS), the inflation will not happen, but once the aggregate demand reaches AD` and price higher than P_2, then the inflation will occur. Until the producers of commodities increase the aggregate supply of goods and services, the inflation will hurt the economy.

3. Cost-Push Inflation

Contrary to demand pull inflation, cost push inflation will happen when there is an increase in the price of raw materials will cause the increase in cost of production, which in turn will increase the price of the products and reduce the supply of the products. Not only for raw materials, but also necessity goods, for example oil and gas, can affect the whole economy, as the more expensive gasoline, means that the cost of production will increase.

Figure 2.2

Cost Push Inflation



Source: Supriya Guru, Your Article Library, 2017

The graph above can explain the effect of the cost of inflation. The Aggregate Supply from AS curve shifting to AS', will cause a decrease in quantity from Y to Y' and the price will increase from P to P'. Just as the

explanation in the beginning, the increase of an important goods or services will result in the increase of cost of production.

2.3 Theoritical Framework

The theoretical framework of this study is as follows:

2.4 Hypothesis

H_0: The null hypothesis of this research is that there is no correlation between inflation and economic growth.

H_1: The main hypothesis of this research is that there is a correlation between inflation and economic growth, be it negative or positive.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Approach

The research approach regarding this study is through quantitative approach, which will allow the explanation of the effect of inflation on economic growth. This type of approach is used as to measure the statistical analysis of the co-relation between inflation and economic growth and to see whether the connection is positive or negative, or the two have no relation with one another.

3.2 Types and Sources of Data

The types of data, as the research approach is quantitative approach, the data would be in numerical value and the input data would be on every year starting from 1987 up to 2016. In order to find the data, this study will use internet to gather the data in World Bank site. The data gathered would be consisting of Economic Growth (E) and Inflation (In) in Indonesia.

3.3 Variables Identification

The variables, referred from the research questions and the hypothesis in the first chapter, are Economic Growth as the dependent variable and Inflation as the independent variable.

1. Dependent variable is a variable that can be influenced by independent variable(s). In this research, the dependent variable is Economic Growth (E) in Indonesia by using the data gathered from 1987 to 2016.

2. Independent variable is a variable that can influence dependent variable and is not affected by the other of the similar variables. In this research, the independent variable is Inflation (In) in Indonesia by using the data gathered from 1987 to 2016.

3.4 Operational Definition

The independent and dependent variables of this research can be explained even more detailed as follow:

1. Economic Growth (E) in this research act as the dependent variable (Y) and the variable will contain the data of economic growth in percentage (%). Economic growth is
2. Inflation (In) in this research act as the independent variable (X) and the variable will contain the data of inflation.

3.5 Analysis Method

To know whether the variable, in this case inflation, can affect economic growth in Indonesia or not, there is a simple regression method by using time series data. The data will be consisting of the economic growth in Indonesia starting from 1987 up to 2016 and inflation starting from 1987 to 2016 by using E-Views. Since this research is using simple regression method then it has to fulfill certain numbers of criterion of classical assumptions like normality test, heteroscedasticity test, hypothesis test, multicollinearity test, and autocorrelation test.

3.6 Classical Assumptions

Panel Data is a combination of time series and cross section, and this research will be using a part of the panel data, the time series model. The time series model will be used as the data for the variables in this research can be observed yearly.

3.6.1 Normality Test

Normality test is used to determine whether a data set is modeled by normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed. A good regression model has normal or near normal distribution. The test could be done by using Jarque-Bera test, which has interpretation hypothesis as follows:

H_0: Residual normal distributed

H_1: Residual not normal distributed

3.6.2 Heteroscedasticity

A method to calculate Heterocesdasticity test is by using White-test method. White developed a test or method that will show the existence of normality on residual. Heteroscesdasticity can be seen from the probability value of chi squares that is bigger from the significance level (α).

3.6.3 Autocorrelation Test

The purpose of the autocorrelation test is to find whether there is correlation among the disturbance variables, which causes the result to be more

efficient. A method to test autocorrelation is by using Durbin-Watson trial, which is done by testing table f with several Durbin-Watson test rules < F. It then can be explained that there is no autocorrelation among the independent variables in the regression equation and vice versa.

The classification steps in the Durbin-Watson test are as follows:

a. Consider the complete regression to find the residual value.

b. Calculate the d value (Durbin-Watson statistics) using the following formula:

$$d = \frac{\Sigma(en - en - 1)2}{\Sigma e2n}$$

c. The result from the formula above will show the d value from the regression calculation. Then compare the range table for autocorrelation provisions that is in table 3.1 that describes about 2 upper limit value (du) and lower limit value (dl) for various n and k values. The autocorrelation positive rule can be seen from (0 < p < 1). Meanwhile, the zero hypothesis (H_0) can be accepted if d > du, it is applies if (H_0) is disapproved, d < dl. The table below will explain and show the rules in the autocorrelation model range.

Table 3.1

Value Range for Autocorrelation Rules

d Value	Description
< 1,10	There is autocorrelation
1,10 – 1,54	No conclusion
1,55 – 2,63	There is no autocorrelation
2,64 – 2,90	No conclusion
>2,91	There is autocorrelation

Source: Wijaya (2009:112)

3.6.4 Multicollinearity

Multicollinearity is an assumption where one or more dependent variable can create a linear combination from the other independent variable. The purpose of using this model is to find whether there is a fine relation among the independent variables in the regression. If there is a standard error that is far greater than the coefficient in the model, the result cannot be accurately guessed. Another method in detecting whether or not there is multicollinearity is by using F-Ratio calculation testing to test the location. Then the result from VIF statistics is compared with F-Table.

Through VIF or variance inflation, the multicollinearity factor can explain how a variant from the estimator will increase if there is multicollinearity in a model. For example, if the R-square result from regression estimation partially approaches 1, then the value from the VIF will have an infinite value. Thus, if a multicollinearity model increases, it will result in a variant increase in the limit of infinity.

3.6.5 F Test

This test will be used to give information whether statistically a coefficient of a regression from the independent variable simultaneously gives an effect that can be used as a benchmark by comparing the F-statistics probability value with F table. If F – statistics > table F then H_0 is disapproved and H_1 is accepted. This means that the independent variables significantly affect the dependent variable.

The F test uses the following formulation:

$$F = \frac{MSR}{MSE}$$

Description:

MSR = *Mean of squares due to regression*

MSE = *Mean of squares due to error*

The acceptance or disapproval hypothesis provisions are as follows:

a. If F's significance level is ≤ 0,05 then the hypothesis of the F test will be accepted,
b. If F's significance level is ≥ 0,05 then the hypothesis of the F test will be disapproved.

3.6.6 T-Test

The T test will be used to find whether independent variable individually affects the dependent variable. This analysis uses the comparison of the statistics t value and table t. Several hypotheses are used as the benchmarks in this testing, which is the t test: $t = \frac{b_1}{sb_1}$

Where:

b_1 = Xi estimation

sb_1 = Regression coefficient standard deviation

a. If Ho: bi = 0, the result shows that the independent variables do not affect the dependent variable.

b. b. If Ho: bi ≠ 0, the result shows that the independent variables affect the dependent variables.

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CHAPTER IV

FINDINGS AND DISCUSSION

4.1 Condition in Global Economy 2017

The condition of the global economy in 2017 was better than the previous year as in 2017, the global GDP growth increased by 3,7%, which is 0,2% better than the previous one which is at 3,2%. The global economy growth is helped by developed countries and the continuing development of developing countries. The source of the global economy growth also spread wide to investment instead of the previous year, which focused on consumption. The improvement of investment pushed the volume of trade of the world to reach 4,5%, which was 3 times more than the previous year which is only 1,5% in 2016. The growth also causes the increase in price of commodities globally, especially energy and metal commodities. The global economic growth in 2017 will also causes the improvement in global foreign currency market with low risk included compared to the previous year.

The response of the policy, that is followed by several countries in general, will be directed towards the improvement of economy and to protect the chain of the improvement. The target of the policy will be done by using different strategy from 2016, as in 2017, the policy needs to adapt to the condition and the challenge that many countries faced. From monetary policy, several developed countries that gradually entered normalization phase to give response to economy improvement that is quite strong and is followed by inflation that is projected to

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increase. While on that, most of the developing countries are still in loose monetary policy in order to push economic improvement. As for fiscal policy, a lot of countries are still giving big roles to the policy to sustain the improvement of economy, while the other countries are still struggling for the limitations of fiscal space. The improvement of global economic condition is also responded through structural reform policies to improve the productivity, to overcome problems in labor market, and to promote potential of economic growth. International cooperation will also be done in order to achieve a strong, sustainable, balanced, and resilient economy growth.

The improvement of global economic that is getting better in 2017 is sustained by the growth of developed countries and developing countries. The improvement of economic in developed countries is especially big as the economic growth of the countries is accelerated and the inflations are controlled. The economic growth for developed countries in 2017 increases by 2,3% which is 0,6% more than the previous year which is 1,7% in 2017. The improvement of the economy is mostly sustained by United States(US), England, Europe Union(EU), and Japan as their growth are the highest in 2017 compared to the previous year. The growth is mostly affected by solid consumption and increasing export. As for investment, the improvement of investment performance encouraged positive performance of the economy. As a whole, the acceleration of economic growth in developed countries will give a lot of push towards inflation.

Table 4.1

Economic Growth of Developing Countries

Country	2017	2016	2015
World	**3.7**	**3.2**	**3.4**
Developed Countries	***2.3***	***1.7***	***2.2***
United States	2.3	1.5	2.9
Europe Union	2.5	1.8	2
England	1.8	1.9	2.2
Japan	1.6	0.9	1.1

Source: Bank Indonesia, 2018

The economic growth in United States in 2017 increased from 1,5% in 2016 to 2,3% in 2017. The reason of the improvement in 2017 is that the growth was sustained by strong consumption, especially goods, and improvement in labor market while investment noted an increase in growth near 4%, and in comparison to the growth in 2016 which was around 2,5%, the growth in 2017 can be said that it was good. The improvement in investment was originally from non-residential investment, mainly in the mining and manufacturing sectors. The result can be seen from the purchasing manager index that is in the expansion phase and industrial output that are in high level since the start of 2017. The improvement of economic growth in United States has positive effect towards the decrease in unemployment. The unemployment in United States in 2017 was around 4,1% which is lower than before when the country suffered from global economic crisis in 2007 with the number of around 4,7%.

The improvement of economic growth of Europe in 2017 was also strengthened as the number reaches 2,5% compared to 1,8% in the previous year. The improvement in the economic growth did not only happen in Germany or France, but also other countries in Europe like Italy and Greece, also Slovenia, Cyprus, Latvia, and Estonia. Not only the economic growth, but also political risk also decreased and the stability of monetary system that was protected, also helped in sustaining the economic growth. The economic recovery in Europe is mainly sustained by the strengthened consumption, export, and investment. Consumption that kept on improving is also supported by the improvement in the labor wages. As for the export in Europe, it was also noted that there is higher increase in export in 2017, while the investment in Europe was sustained by the optimism towards the continuation of improvement in the economic growth which can be seen in the Economic Confidence Index that was averagely 104,3 in 2016 and 110,7 in 2017.

In Japan, the economic growth increased from 1,6% in 2017 which is higher than the previous year which was 0,9% in 2016. The growth was sustained by consumption, investment, and export. The contribution of consumption in economic growth can be seen in the improvement in the trust level of consumer. The economic condition in Japan is also increased by export followed by the increase in the world demand, including Asian Countries that became partners in trade of Japan. The increase in the demand, in both domestic and foreign, encouraged the growth in investment. The economic growth in Japan also has an effect in the inflation. The reaction of the increase caused the inflation in japan to increase by 1%. Albeit it is below the inflation target of Bank of Japan which was

2%, it did not cause any problems for other sectors. The increase inflation was caused by the increase in inflation of foods and energies while in the other sectors, there were not much increases. The limitation of inflation in the sectors of other than foods and energies were because of they were affected by the restrained growth in wages as the aftereffect of the aging population and part-time labor usage that is still high.

The last among the four countries, England became one of the few developed countries that suffered slowdown in the growth and increase in inflation. The economic growth in England in 2017 was noted to be 1,8% which was lower than the previous year, which was 1,9%. The economic slowdown's reason was not far from Brexit, a process of England leaving Europe Union. This caused the inflation to increase from 1% in 2016 to 2,6% in 2017, and it caused the decrease in consumption and real wages. The increase in inflation is not only caused by Brexit, but also because of the effect of the decrease in the exchange rate of Pounds after Brexit, increase in the price of oil, and accommodative monetary policy.

Table 4.2

Economic Growth of Developing Countries

Country	**2017**	**2016**	**2015**
World	**3.7**	**3.2**	**3.4**
Developing Countries	***4.7***	***4.4***	***4.3***
Non-Commodities Export Countries	4.9	4.7	5
China	6.9	6.7	6.9
India	6.7	7.1	8

Commodity Export Countries	2.2	1.9	1.3

Source: Bank Indonesia(2018)

The improvement in economic growth in developing countries are also improving as it could be shown from the result above whereas the economic growth in 2016 was 4,4% while in 2017, the growth was 4,7%. The improvement in the economic growth was sustained by the improvement in the global economic and the positive effect of the increase in price of commodities. The economic growth in the developing countries is mostly because of the export of commodities, especially the non-energy commodities.

China, as one of the most developed among the other developing countries had an improvement in their economic growth which was 6,7% in 2016 and it became 6,9% in 2017 followed by the increase in demand for export. The increase in the export is mostly affected by the increase in demand, especially from developed countries. The increase in the export caused an improvement in the manufacture activity. The growth can be seen from the increased Purchasing Manager Index of manufacture and the profit of industrial factor. The improvement in the export later increased encouraged solid consumption that it ended up as the main contribution towards its economic growth in 2017.

The increase in economic growth in China was slowed down by the investment. The public investment was slowed down as it was followed by government strategy that involved rebalancing the country's economy to achieve a chain of economic growth. The growth of investment in China was mostly slowed down by the government's policy that was made of the decline in the mining

capacity, environment inspection to maintain the environment's quality, tightening the property sector, and deleveraging policy to finance government's project. The decrease in the capacity that is mostly focused on coals and aluminium, caused the investment contraction in the mining sector, and also it caused the increase in the price of coals and aluminium in the international market. The strict environment inspection caused the slowdown in the manufacture activity and also the increase in price of productivity. The tightening policy in the property sector caused an increase in the restricted private investment. The deleveraging policy to finance the government for government's project also caused the slowdown in the infrastructure investment.

In the middle of the increase in the economic growth, the inflation in China decreased from 2,1% in 2016 into 1,8% in 2017. The growth is mostly affected by the deflation in the food category, while the main inflation increased. The deflation in food since the start of 2017, was caused by the improvement in the supply of foods and the inflation effect on food that is high since the previous year. On the other hand, the increase in the main inflation was encouraged by the strong demand. The inflation in the production level also increased as the aftereffect of the increase in the price of raw materials caused by the increase in the price of international commodities in the mid-2016.

Unlike the developing countries in general, the economic growth in India suffered a slowdown from 7,1% in 2016 into 6,7% in 2017. The economic slowdown was caused by temporary effect of the implementation of structural reformation by India's Government. The growth was slowed down in the first semester of 2017 after the government initiated demonization policy and goods

and services tax reformation. This reformation caused the economy actor, mainly in cities, as it limited their activity because of the uncertainty of taxation.

The economic growth's slowdown in India was projected to be just temporary followed by the adaptation of economy actors towards the implementation of government's policy. The slowdown only happened in the first semester of 2017 as in the second semester of 2017, there was an indication that there was increase in the value of money in circulation and the increase in the demand for private transportations, mainly motorcycles and cars. Although in the end, India suffered a slowdown in its economic growth, India can still improve in its economic growth as the consumption in India is still high and the increase in export. Unlike the cities with limited consumption because of the uncertainty of the application of the goods and services tax reformation, villages had high consumption in 2017. The high consumption in villages was encouraged by the increase in the performance in the farming sector and rain that helped the growth of the crops. The export increased as the positive aftereffect of the high demand in Asia and Europe, and the weakening of rupee that it encouraged the economic growth in India. The inflation in India, was controlled as it only reached 3,3%, which was lower than the maximum target of inflation that India's Central Bank set, 4%.

4.2 Geographic Condition of Indonesia

Indonesia is the largest archipelagic country in the world, located on north of Australia and south of Philippines and is part of Southeast Asia. In terms of area, Indonesia is the 15th largest country in the world. Indonesia stretches

5,120 kilometers (3,575 miles) along the equator, across three times zones from Malaysia in the west to Papua New Guinea in the east, and 1,760 kilometers 1,100) miles from north to south, from northern Kalimantan in Borneo in the north to a small group of islands south of Timor in the south. There are 5 big islands in Indonesia namely Java, Sumatera, Kalimantan, Sulawesi, and Papua. Indonesia also has a lot of mountains and some of the islands are still covered in dense forest, especially in eastern area far from Capital City, Jakarta, located on Java Island. As the location is surrounded by seas and the 5 major islands are separated widely from one to another, the cost of transportation for goods would be high and would cause the price of the goods to increase when sold on the island far from the place the goods were produced.

4.3 Economic Development in Indonesia

In order to develop a country, there are several factors that can affect the development, especially in the economy sector. Among the factors, there is inflation that could affect the economic growth. In Indonesia, there was a time when the inflation rate was so high because of the economic crisis in 1998 and this situation also caused the economic growth to fall into the lowest point ever since the last few decades ago. From the proof of what happened, it can be conferred that inflation rate has relatively negative correlation with economic growth in that exact year.

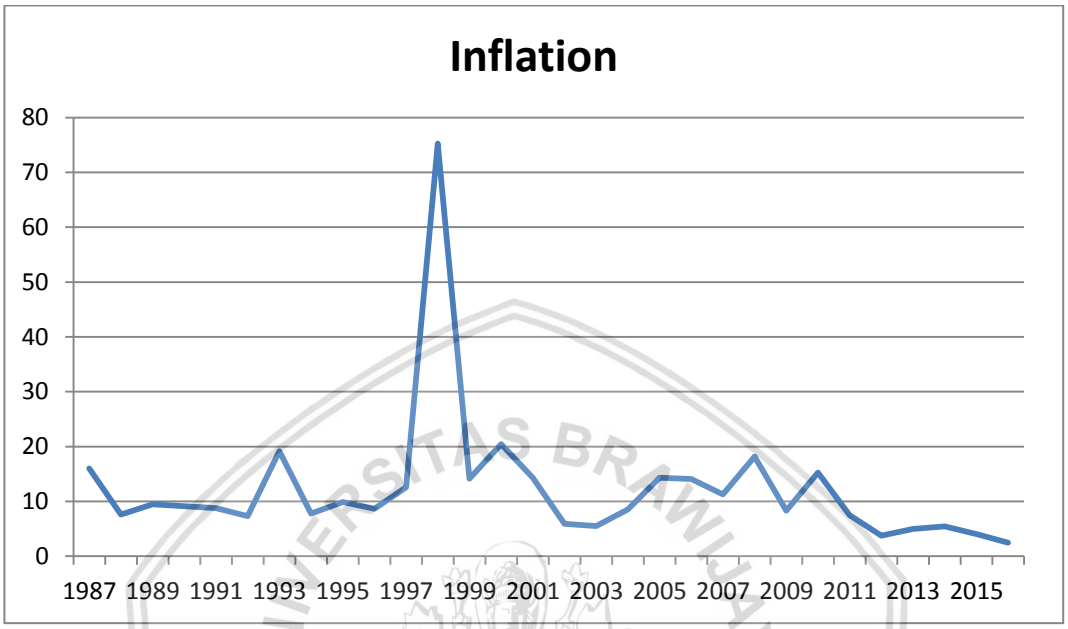
A high economic growth is favorable for any country, but a high inflation is relatively not. Most Economist and notably Federal Reserve determined that inflation can be beneficial if the scale is neither high nor low for

the country. Indonesia had high inflation since the last few decades, and even worse, because of the Asian Economic Crisis as the inflation rate increased high enough to reach 6 times of the previous year.

The dynamics of the inter-regional economy in Indonesia was influenced by the development of world commodity prices and the role of government in infrastructure development. High economic growth was particularly noted in regions with natural resources-based economy. The economic growth in Kalimantan that was significantly high compared to the previous years, was caused by the improvement in the performance of farm, the export for Crude Palm Oil, and coals from the mining sector. The economic growth in Sumatera was also caused by the increase in the farm-based commodities export and also construction of many infrastructure projects. As for Java, the economic growth was stable as it was supported by the investment in infrastructure project. The intensive construction project in Java encouraged the increased performance of construction sector. The growth in Java was different compared to Bali-Nusa Tenggara/Balinusra, Sulawesi, Maluku, and Papua that slowed down. The slowdown in several regions was mostly caused by the decline in the performance of oil and natural resources mining, and farming sector.

Figure 4.1

Inflation Rate in Indonesia 1987-2016



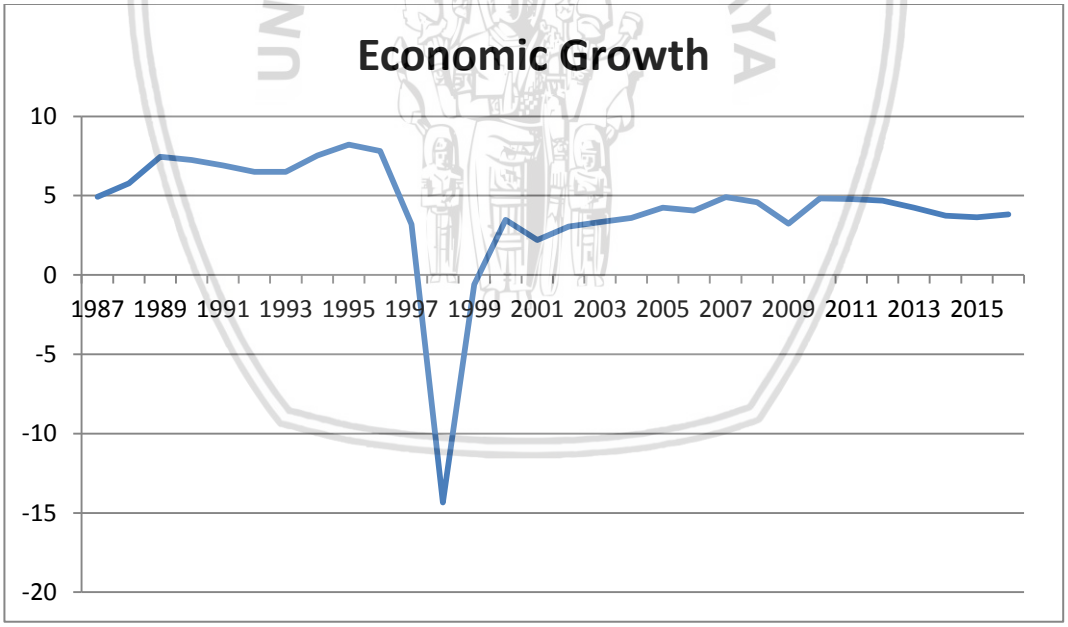
Source: World Bank(2018)

From the graph above, it can be inferred that Indonesian government had a good response for the economic crisis that happened in 1998, whereas the inflation raised from 12,57% in 1987 to 75,27%, because they caused the inflation to drop back to the previous state although a little bit higher that is 14,16% in 1999. Starting from then, the inflation rate fluctuated and was unstable as Indonesia just passed the economic crisis because the inflation rate increase to 20,45% in 2000, but decreased again to 14,3% in the next year. Starting from 2001, the inflation decreased to the scale which can be said good for Indonesia, which is 5,9% in 2002 and 5,49% in 2003. However, whether it was to respond for the global economic crisis that will happen in 2008 or not, the inflation rate in Indonesia started to increase to 8,55% in 2004, and again to 14,33% in 2005.

Although the inflation rate was suppressed from 14,09% in 2006 to 11,26% in 2007, because of the global economic crisis that happened overseas, Indonesia was also affected, but not as much as the crisis that happened in 1998 as the inflation rate only reached 18.15% in 2008. Once again, Indonesian government suppressed the inflation rate to 8,27% in 2009 but it rebounded because the crisis was still ongoing, causing the inflation rate to be at 15,26% in 2010. Once the crisis passed, the inflation rate in Indonesia started to stabilized and the inflation rate keeps on dropping from 7,47% in 2011 and eventually 2,45% in 2016.

Graph 4.2

Economic Growth in Indonesia 1987-2016



Source: World Bank(2018)

From the graph above, the economic growth in Indonesia was also affected by the crisis in in 1998 and albeit small, the crisis in 2008. Unlike inflation from the previous graph, the economic growth didn't get affected much

during the global economic crisis as the economic growth in 2008 was 4,59% and it decreased to 3,24% in 2009, but it once again increased to 4,83% in 2010. However, instead of increasing, on the contrary to the statement that there is a negative correlation between inflation and economic growth, the economic growth kept on decreasing starting from 2010 to 2016. This caused the proof of that there is negative correlation between inflation rate and economic growth that happened in 1998 to be nulled, just from the number.

4.4 Classical Assumptions

4.4.1 Normality Test

Normality test is aimed to test whether the residual is normal distributed or not, and it can be tested by using Jarque-Bera test. The hypothesis of the normality test is as follow:

H_0: Residual normal distributed

H_1: Residual not normal distributed

The criteria of testing stated if the probability from the result of Jarque-Bera testing ≥ level of significant (α=5%) then the stated residual would be normal distributed. The result of the normality test assumption using Jarque-Bera method is as follow:

Table 4.1

Table of *Jarque-Bera* – Normality Testing

Measurement	Economic Growth
Jarque-Bera	1.572
Probability	0.458

Normality assumption test of inflation towards economic growth shows that the result of Jarque-Bera test is 1,572, which is higher than the level of significance of 5%, thus H_0 is accepted. As previously stated, H_0 means that the residual is normally distributed and with that, the assumption of normality has been fulfilled.

4.4.2 Heteroscedasticity Assumption

Heteroscedasticity test will be used to know whether the residual having variety of being homogeneous or not. It is expected that there will be varieties. Testing heteroscedasticity can be done by using White-Test method. The result of the test is as follow:

Table 4.2

Table of Heteroscedasticity White-Test

F-statistic	0.035987	Prob. F(2,27)	0.9647
Obs*R-squared	0.079759	Prob. Chi-Square(2)	0.9609
Scaled explained SS	0.030527	Prob. Chi-Square(2)	0.9849

Should the result of all probabilities, in the case of the table above, Obs*R-squared is more than the level of significance which is 5%, then it can be stated that the residual is spread randomly or it can also be said that it is having a variety of homogeneous, thus it can be stated that the assumptions of heteroscedasticity are not fulfilled. The result of the test, obtained the value of Obs*R-squared being 7.975% with the probability of 0.984, which means that result of the test is more than the level of significance, so the heteroscedasticity assumption was not fulfilled.

4.4.3 Autocorrelation Assumption

The purpose of the autocorrelation test is to find whether there is correlation among the residual of series or observation models or not. The autocorrelation assumption test expects that the observation or series are not correlated among one another. The test will be done using Durbin-Watson or DW test. The criteria of the test stated that the value of DW test is at the value of dU – (4-dU), then the regression equation will not contain autocorrelation or the residuals are not correlated among one another. The test result can be seen as follow:

Table 4.3

Table of Durbin Watson – Autocorrelation Testing

Value of DW = 2.532		**Description**
<dL	<1.134	There is autocorrelation

dL – dU	0.134 – 1.264	There is no conclusion
dU – (4-dU)	1.264 – 3.736	There is no autocorrelation
(4-dU) - (4-dL)	3.736 – 3.866	There is no conclusion
>(4-dL)	> 3.866	There is autocorrelation

Based on the summary table above acquired the value of Durbin Watson, the result shows that there is no autocorrelation as the DW Value lies in dU – (4-dU), therefore the residuals are not correlated among one another.

4.4.4 Multicollinearity Assumption

Multicollinearity test is intended to knowing whether there is any relationship between the variables. As there is only one independent variable and one dependent variable, there is no need to do multicollinearity assumption.

4.5 Estimation Result

4.5.1 Estimation results of the Effect of Inflation on the Variable of Economic Growth

The test result of the effect of inflation on the variable of economic growth can be looked through the following table:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.305646	0.576129	12.68058	0.0000
INFLATION	-0.258394	0.032705	-7.900864	0.0000

R-squared	0.690347	Mean dependent var	4.119536
Adjusted R-squared	0.679287	S.D. dependent var	3.979584
S.E. of regression	2.253697	Akaike info criterion	4.527362
Sum squared resid	142.2163	Schwarz criterion	4.620775
Log likelihood	-65.91043	Hannan-Quinn criter.	4.557245
F-statistic	62.42365	Durbin-Watson stat	0.873517
Prob(F-statistic)	0.000000		

According to the table above, as the probability of inflation affecting economic growth is 0, which is lower than α=5%, that means inflation can greatly affect economic growth, and every time there is an increase in inflation by 1%, the economic growth will suffer a decrease by 0,26%. The Adjusted R-squared of the result shows 68%, which can be interpreted that there is other variables that affect economic growth, and in this case, there is 32% other variables that can explain the change in economic growth. Although there are 32% other variables that affect economic growth, the amount of percentage of Adjusted Residual Squared cannot be denied as inflation covered nearly 70% of what caused the change in economic growth.

4.5.2 Implications on the Effect of Inflation towards Economic Growth

Just as the result of the estimation above, the effect of inflation towards economic growth is high as it explained nearly 70% of what causes change in economic growth. Although the model above also prove that there is other variables that explained more than 30% of what affect the growth, it can't be

denied that inflation alone can greatly affect economic growth. The amount of how much inflation affects economic growth is rather high as an increase in inflation by 1%, would cause the economic growth to be decreased by 0,26%.

4.6 Hypothesis Test

From the estimation result and the implications of the above, it can be concluded that the accepted hypothesis is not H_0 but H_1, which explained that there is a relationship between inflation and economic growth from 1987 until 2016.

4.7 Economic Analysis

Looking over the estimation result and its interpretation that said there is a significant and negative impact of inflation towards economic growth. This research however, is different from the research done in Italy and Austria as the two are developed countries. The regression analysis of the two countries, resulted in probability that is higher than the acceptable error, therefore there is no significant effect of inflation towards GDP. As for the developing countries, the result of this research showed a similar result, whereas there is a significant negative impact of inflation towards economic growth. It can be concluded that this research is statistically correct only for developing countries, but not for developed countries.

CHAPTER V

CONCLUSION & SUGGESTION

5.1 Conclusion

From the estimation test and data analysis about economic growth as the dependent variable by using inflation as the independent variable, the conclusion can be summarized as followed:

1. There is a significant impact of inflation towards economic growth as inflation can explain nearly 70% of what makes economic growth.
2. By using OLS(Ordinary Least Square), the inflation in Indonesia can be said that it has negative relation with economic growth.

5.2 Suggestion

As this research is focused on only inflation and economic growth in Indonesia, there should be other countries involved to compare it with Indonesia, because in the economic analysis of this research is statistically incorrect in developed countries. By comparing Indonesia and a developed country, there will be several results that can be concluded, thus making this research to be even more detailed.

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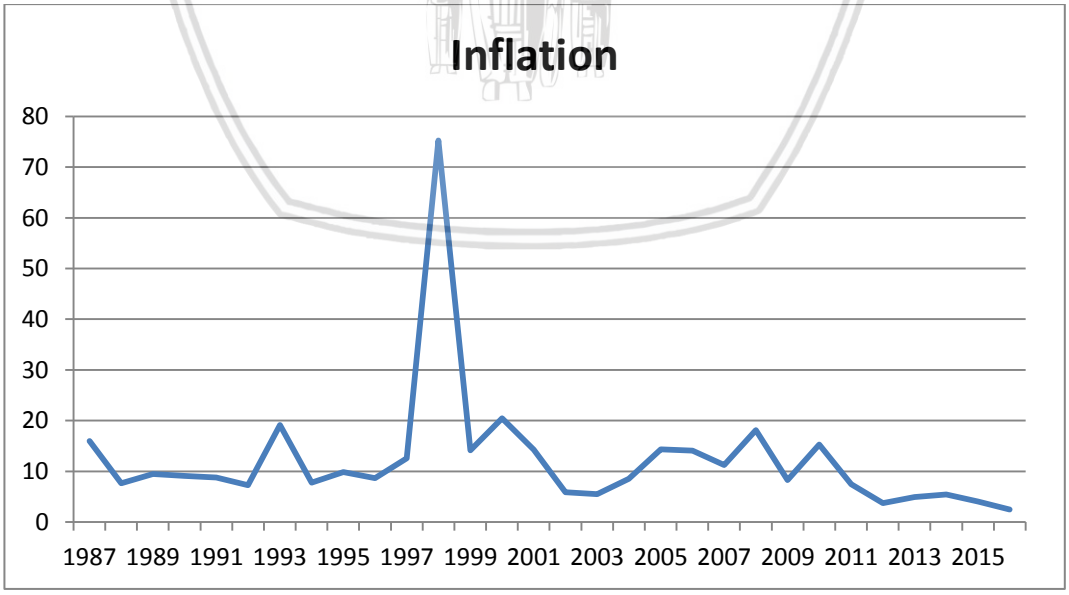
APPENDIX 6.1

Global Economic Growth in 2015-2016

Country	2016	2015
World	**3.2**	**3.4**
Developed Countries	***1.7***	***2.2***
United States	1.5	2.9
Europe Union	1.8	2
England	1.9	2.2
Japan	0.9	1.1
Developing Countries	**4.4**	**4.3**
China	6.9	6.7
India	6.7	7.1
Indonesia	3.6	3.8

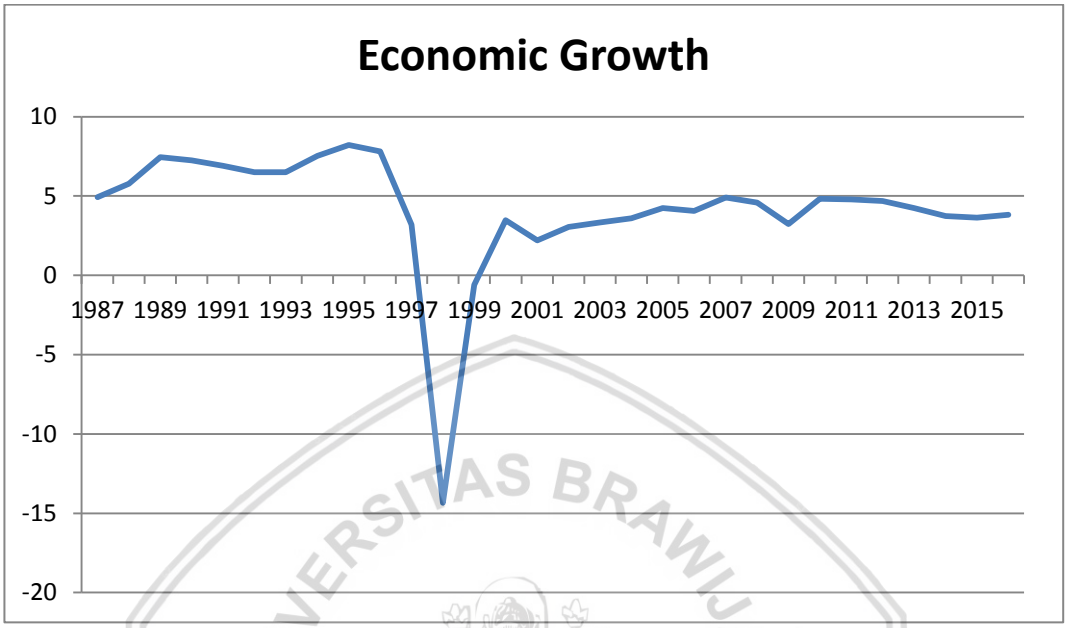
APPENDIX 6.2

Inflation Rate in Indonesia 1987-2016



APPENDIX 6.3

GDP Growth Rate in Indonesia (1987-2016)



APPENDIX 6.4

Demand Pull Inflation

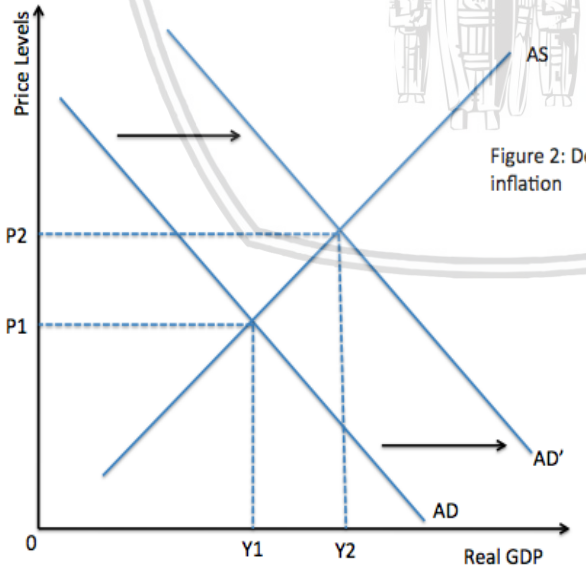
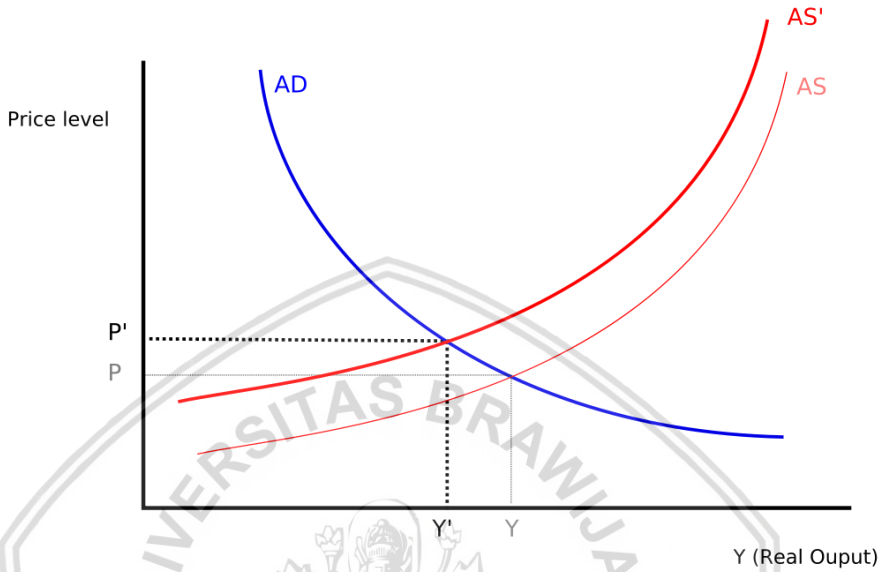


Figure 2: Demand-pull inflation

APPENDIX 6.5

Cost Push Inflation



APPENDIX 6.6

Economic Growth of Developing Countries

Country	2017	2016	2015
World	**3.7**	**3.2**	**3.4**
Developed Countries	***2.3***	***1.7***	***2.2***
United States	2.3	1.5	2.9
Europe Union	2.5	1.8	2
England	1.8	1.9	2.2
Japan	1.6	0.9	1.1

Source: Bank Indonesia, 2018

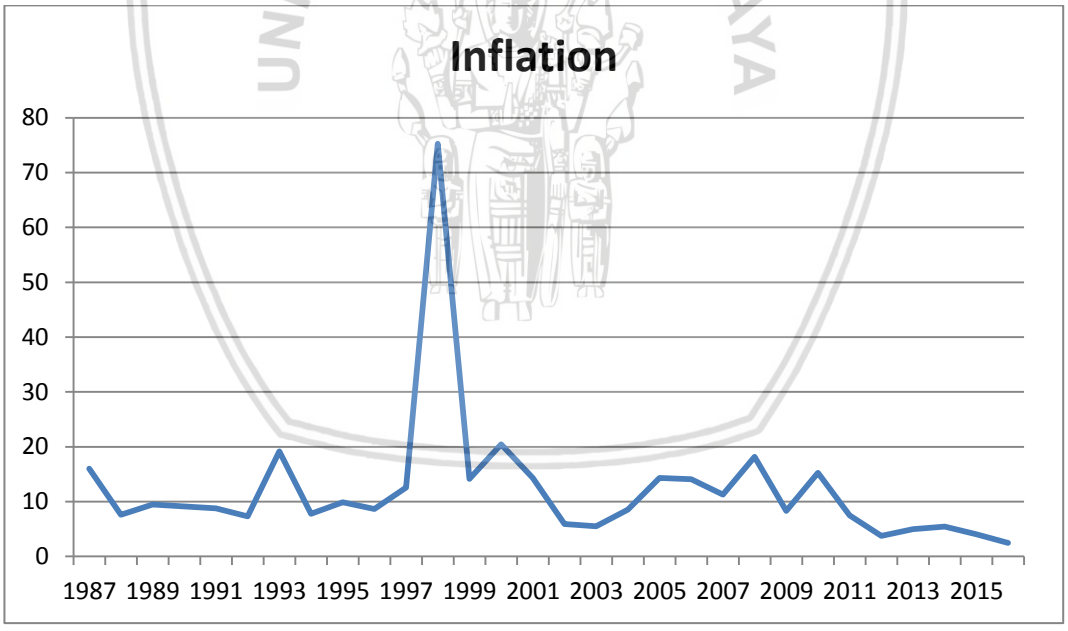
APPENDIX 6.7

Economic Growth of Developing Countries

Country	2017	2016	2015
World	**3.7**	**3.2**	**3.4**
Developing Countries	***4.7***	***4.4***	***4.3***
Non-Commodities Export Countries	4.9	4.7	5
China	6.9	6.7	6.9
India	6.7	7.1	8
Commodity Export Countries	2.2	1.9	1.3

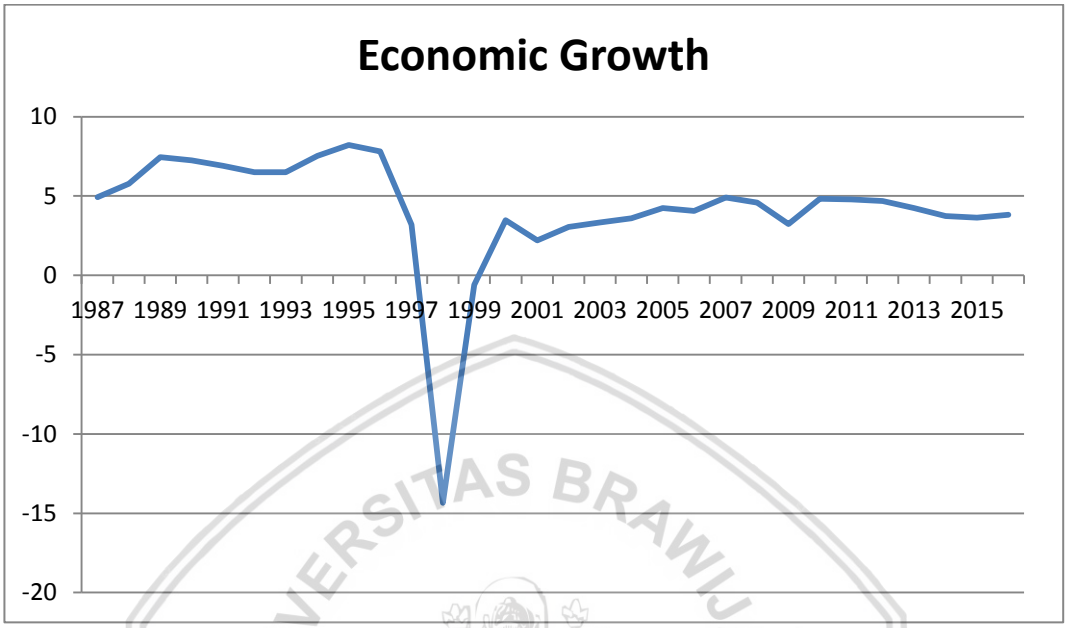
APPENDIX 6.8

Inflation Rate in Indonesia 1987-2016



APPENDIX 6.9

Economic Growth in Indonesia 1987-2016



APPENDIX 6.10

Table of *Jarque-Bera* – Normality Testing

Measurement	Economic Growth
Jarque-Bera	1.572
Probability	0.458

APPENDIX 6.11

Table of Durbin Watson – Autocorrelation Testing

Value of DW = 2.532		**Description**
<dL	<1.134	There is autocorrelation
dL – dU	0.134 – 1.264	There is no conclusion
dU – (4-dU)	1.264 – 3.736	There is no autocorrelation
(4-dU) - (4-dL)	3.736 – 3.866	There is no conclusion
>(4-dL)	> 3.866	There is autocorrelation

APPENDIX 6.12

Estimation Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.305646	0.576129	12.68058	0.0000
INFLATION	-0.258394	0.032705	-7.900864	0.0000

R-squared	0.690347	Mean dependent var	4.119536
Adjusted R-squared	0.679287	S.D. dependent var	3.979584
S.E. of regression	2.253697	Akaike info criterion	4.527362
Sum squared resid	142.2163	Schwarz criterion	4.620775
Log likelihood	-65.91043	Hannan-Quinn criter.	4.557245
F-statistic	62.42365	Durbin-Watson stat	0.873517
Prob(F-statistic)	0.000000		

APPENDIX 6.13

DATA OF THE RESEARCH

Year	EC.Growth	Inflation
1987	4.93	16.00
1988	5.78	7.63
1989	7.46	9.49
1990	7.24	9.09
1991	6.91	8.77
1992	6.50	7.29
1993	6.50	19.15
1994	7.54	7.78
1995	8.22	9.88
1996	7.82	8.68

Year	EC.Growth	Inflation
1997	3.20	12.57
1998	-14.35	75.27
1999	-0.61	14.16
2000	3.47	20.45
2001	2.21	14.30
2002	3.06	5.90
2003	3.34	5.49
2004	3.59	8.55
2005	4.25	14.33
2006	4.07	14.09

Year	EC.Growth	Inflation
2007	4.91	11.26
2008	4.59	18.15
2009	3.24	8.27
2010	4.83	15.26
2011	4.79	7.47
2012	4.68	3.75
2013	4.24	4.97
2014	3.73	5.44
2015	3.64	4.03
2016	3.83	2.45

APPENDIX 6.13

ESTIMATION RESULT WITH FIRST DIFFERENCE

Dependent Variable: D(EC_GROWTH)
Method: Least Squares
Date: 04/27/18 Time: 09:24
Sample (adjusted): 1989 2016
Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(INFLATION)	-0.244462	0.023129	-10.56944	0.0000
D(EC_GROWTH(-1))	0.177528	0.090699	1.957334	0.0611

R-squared	0.818496	Mean dependent var	-0.069722
Adjusted R-squared	0.811515	S.D. dependent var	4.504273
S.E. of regression	1.955522	Akaike info criterion	4.247941
Sum squared resid	99.42576	Schwarz criterion	4.343098
Log likelihood	-57.47117	Hannan-Quinn criter.	4.277031
Durbin-Watson stat	2.532117		

BIBLIOGRAPHY

Aghion,Philippe and co.2015.*Innovation and Growth: The Schumpeterian Perspective*.

B, ilyas Wirawan and Burton,Richard.2007, Hukum pajak, Salemba Empat, Jakarta.

Ernita,Dewi.Amar,Syamsul.Syofyan,Efrizal.2013.*ANALISIS PERTUMBUHAN EKONOMI, INVESTASI, DAN KONSUMSI DI INDONESIA*.Jurnal Kajian Ekonomi, Januari 2013, Vol. I, No. 02.

G.Jayachandran. (2013). *Impact Of Exchange Rate On Trade And Gdp For India A Study Of Last Four Decade*. International Journal of Marketing, Financial Services & Management Research, Vol.2, No. 9,.

Goeltom,Miranda S.2008.*Capital Flows in Indonesia: Challenges and Policy Responses*.

Jain,Dhiraj.Nair,K. Sanal.Jain,Vaishali.2015.*Factors Affecting GDP (Manufacturing, Services, Industry): An Indian Perspective*.Pune Vol. 3, April 2015

Julitawaty,Wily.2013. *Persistensi Inflasi Provinsi Sumatera Utara.*

Lanahan,Lauren.Kemeny,Tom.Feldman,Maryann.Hadjimichael,Theodora.2014.*E conomic Development: A Definition and Model for Investment*.University of North Carolina, Chapel Hill, NC 27514.

Karaman Aksentijević, Nada and Ježić, Zoran, *Human Resources Development and Research Capacity and Their Impact on Economic Growth (December 24, 2009)*. Zbornik radova Ekonomskog fakulteta u Rijeci, časopis za ekonomsku teoriju i praksu - Proceedings of Rijeka Faculty of Economics, Journal of Economics and Business, Vol. 27, No. 2, 2009, pp. 263-291.

Khan,Muhammad.2014.*The efects of infation on economic growth and on its macroeconomic determinants.* University d'Orleans, 2014. English.: NNT :2014ORLE0503

Lubis, Ismail Fahmi.2014.*ANALISIS HUBUNGAN ANTARA INFLASI DAN PERTUMBUHAN EKONOMI: KASUS INDONESIA*.Medan.QE Journal:Vol.03-No.01-41

Ma'ruf,Ahmad.Wihastuti,Latri.2008.PERTUMBUHAN EKONOMI INDONESIA: Determinan dan Prospeknya.Jurnal Ekonomi dan Studi Pembangunan Volume 9, Nomor 1, April 2008: 44 – 55

Mahmoud.Limam Ould Mohamed.2015.*CONSUMER PRICE INDEX AND ECONOMIC GROWTH: A CASE STUDY OF MAURITANIA 1990 – 2013*.ISSN (P): 2306-983X.Volume 5, Issue 2 pp. 16-23

Mehta,Sachin N.2015.*The Dynamics of Relationship between Exports, Import and Economic Growth in India*.Vol. 3, Issue: 7, July: 2015 ISSN:(P) 2347-5404 ISSN:(O)2320 771X

Quy,Nguyen Hoang.2016.*Relationship betwen Economic Growth, Unemployment and Poverty: Analysis at Provincial Level in Vietnam*.Canadian Center of Science and Education.International Journal of Economics and Finance; Vol. 8, No. 12; 2016

Raisova,Manuela & Durcova,Julia.2014.*Emerging Markets Queries in Finance And Business,Economic growth-supply and demand perspective*.Elsevier B.V.:Procedia Economics and Finance 15 (2014) 184 – 191

Saaed,Afaf Abdull J. and Hussain,Majeed Ali.2015.*Impact of Exports and Imports on Economic Growth: Evidence from Tunisia*.Research Institute Journals, 2015 (ISSN: 2141-7024)

Sadono Sukirno. 2003. *Pengantar Teori Mikrokonomi*. Raja Grafindo Persada. Jakarta.

Silvia,Engla Desnim.Wardi,Yunia.Aimon,Hasdi.2013.ANALISIS PERTUMBUHAN EKONOMI, INVESTASI, DAN INFLASI DI INDONESIA.Jurnal Kajian Ekonomi, Januari 2013, Vol. I, No. 02

Sugiartiningsih and Shaleh,Khafrul.2017.*PENGARUH INFLASI TERHADAP KEMISKINAN DI INDONESIA PERIODE 1998-2014*.Bandung:ISSN-2252-3936

Syahputra,Rinaldi.2017.*Analisis Faktor-Faktor Yang Mempengaruhi Pertumbuhan Ekonomi Di Indonesia*.Aceh.JURNAL SAMUDRA EKONOMIKA:VOL. 1, NO. 2 OKTOBER 2017

Online Source:

https://data.worldbank.org/ (online) accessed on 12th March 2018

https://www.bi.go.id/ (online) accessed on 14th March 2018