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How Indonesia Economics Works: Correlation Analysis of Macroeconomics in 2010 - 2019

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Abstract

The purpose of this study is to provide benefits and ethically-rooted managerial implications based on theoretical underpinnings through an empirical study using correlation between wages, bank credit, government expenditure on economic growth, and employment via a case study in Indonesia. Besides that, managerial implications strive to provide benefits to the government regarding the importance of establishing effective and pro-development regulations to realize economic growth and employment through the efficient role of wages, bank credit, and government spending. This study uses secondary macroeconomic data from the period 2010-2019 with analysis using the correlation test with the Pearson correlation method. Out of eight hypotheses tested, two hypotheses do not have a significant correlation. The details of the statistical results obtained the following correlations: the correlation between bank credit and wages has a significant, but indirect (negative) correlation. However, the correlation between bank credit and economic growth has a direct and significant (positive) correlation. Government expenditure correlates positively with wages, but correlates negatively with bank credit. Wages are positively correlated with economic growth, but have no significant effect on employment. Finally, economic growth has a positive correlation with government expenditure, but does not have a significant correlation with employment.

Keywords : Bank Credit, Wages, Government Expenditure, Economics Growth, Employment

JEL Classification Code: H1, H5, J1

1. Introduction

The issue of wages is a fundamental element of economic principles in the world. In Indonesia alone, the government increases wages from year to year to improve people's living standards, evidenced by statistical data in the post-reform period, rising from IDR1,134,963 in 1997 to IDR2,455,716 in 2019. On the one hand, efforts to increase wages instantly eliminate the main problems that become the polemic of the national economy. The pros and cons of efforts to raise salaries are still alive. Government efforts in maximizing the level of community welfare through wage increases are still considered small to meet the needs of people's lives. An increase in wages is undoubtedly a hope for workers. Where the delivery of wage increases will be in line with the fulfillment of a decent standard of living needs, an increase in public consumption is also considered. There is recognition of the achievements, skills, and abilities of workers in terms of competence and capability.

Increasing wages can also be considered as a simple solution to a problem. The impact of wage increases can harm the development of the business climate where one of the adverse effects caused after the determination of the minimum wage increase is the staff retrenchment (PHK) which can macro-impact on high unemployment and sluggish macroeconomic growth, including the growth of the economic sector, which will in turn have an impact on the consumption by the community itself (Böhm, 1978; Sasaki et al., 2013; Du & Wang, 2019; Greiner et al., 2004; Lankisch et al., 2019; Okudaira et al., 2019). Several studies have made the variable wage a hot issue discussed among researchers who link wages and employment (e.g., Ariga &

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Kambayashi, 2010; Baek & Park, 2016; Dickson & Fongoni, 2019; Holtemöller & Pohle, 2019; Li et al., 2018; Perugini & Pompei, 2016). From the economic theory and wage theory, there is causality between wages and labor absorption. Labor issues in Indonesia must receive serious attention from various parties, both government and private. Labor issues are the main problems that must be faced by the state and the people of Indonesia. So, it is suggested that the government should embrace the private sector to reduce and resolve labor problems jointly. The limited employment triggers some of the main issues of employment in Indonesia low quality of labor, high unemployment, wage factors, and social security factors that are considered inadequate.

The influence between wages and labor absorption can be realized as long as regulatory factors are seen to be flexible by the government; job security factors and aggregate demand for labor can take place in a positively environment (Ariga & Kambayashi, 2010). But different opinions are expressed in research by Baek and Park (2016), which states that the increase in the minimum wage does not affect employment in the energy sector. Sasaki et al. (2013) states that a high wage rise will affect the economic balance and employment. Of course, the increase in wages is expected to be in line with the quality and quantity of production and labor factors, including the absorption of workers who are capable of both education and performance. Yamamoto et al. (2019) point out the information asymmetry factor towards employment in the Southeast by different levels of education. Yamamoto et al. (2019) show that education is a sub-factor that is very important in terms of employment other than wages.

In Indonesia, there is still a gender gap between male and female workers. The wage gap based on gender is assumed to be linked to the highest education level that has been completed in addition to socio-cultural issues that traditionally consider and view women as having a lower position than men. Apart from that, the wage gap between male and female workers is caused by differences in occupational and demographic characteristics, including work experience (www.tirto.id, 2018). Furthermore, the relationship between wages and economic growth is also clarified in several previous studies (e.g., Du & Wang, 2019; Greiner et al., 2004; Lankisch et al., 2019; Okudaira et al., 2019). Causality is driven by macroeconomics where Grieben and Şener (2017) and Lingens (2007) revealed the bargaining power factor in international trade. Zagler (2005) says there is an impact on employment, which is correctly identified by the role of industry and innovation.

Furthermore, in the government's effort to increase economic growth in all investments, another way to look at is the effectiveness of state expenditure (government expenditure). Reflecting on the State Budget in Indonesia in 2018, total state expenditure allocated a budget of 2,220.7 trillion rupiahs, where the most significant state expenditure category was budgeted for ministry and agency (K / L) expenditure of 847.4 trillion rupiahs, regional transfers and village funds amounting to 766.2 trillion and non-K / L expenditure of 607.1 trillion rupiah (www.kemenkeu.go.id, 2018). The purpose of the state expenditure is to implement social protection programs and sharpen social assistance, one of which is in education and health.

However, several aspects of the study state that government spending has a significant role in economic growth (Fizaine & Court, 2016; Dahliah et al., 2020; Dinh, 2020; Luong et al., 2020), so is the causality between economic growth and employment, which must be bridged with government policy (Roşoiu, 2015), thereby increasing the level of community welfare (Sangha et al., 2019) and the level of acceptance of a country (Lukman et al., 2018). The correlation between bank credit growth and economic growth is in line with several research results including thereby increasing the level of community welfare (Bordo et al., 2016; Chi & Li, 2017; Ketteni & Kottaridi, 2019), which concluded that the intermediary role of banking institutions is very influential in a country's economic growth. When there is a decrease in the amount of credit extended due to caution from the bank, indirectly, there will be a slowdown in economic growth in the country concerned. There are different results regarding the relationship between bank credit and economic growth, Restrepo (2019) and Mandel and Seydl (2016) stated that the bank credit factor, which was bridged between economic and tax policies, did not affect economic growth.

The tricky problem with the issue of bank credit in Indonesia is the failure of a loan identified in the debtor identification procedure based on the principle of appropriateness. In addition to that, the problem of global economic instability is also a trigger, which also influences economic growth in Indonesia. Objectively, in several aspects, this current study differs from previous studies regarding the impact of minimum wages on the labor market in Indonesia, the effect of wages on economic growth, the impact of bank credit, and government spending both on economic growth and employment. Empirically, this study is expected to provide a picture, especially for the Indonesian government, of future macro and micro-economic strategies.

2. Literature Review and Hypotheses Development

Taylor et al. (2016) found that there was a significant positive effect between economic growth driven by an increase demand growth (see also Inchausti-Sintes, 2015), investment and investment implementation, distribution of goods, productivity, and a balance in the financial capital market and employment. It is in line with the results of studies (e.g., Auricchio et al., 2020; Bohlmann et al., 2019)

from the standpoint of equilibrium theory, which adds to the variables of trade, household income, consumption and the level of exports and imports (Jin & Rafferty, 2017). Then, the influence on employment will also be balanced by the existence of a remuneration system, as well as the development of environmental aspects (Ioan, 2014). The study is complemented by research (i.e., Kim et al., 2019; Soto, 2009; Sasaki, 2015), which states that a link between economic growth and employment can be realized when the factor of education, fiscal policy (Doménech et al., 2018), and the balance between job seekers based on gender can be realized ideally. This is also recognized by improving the quality of services and the effect of dollarization on state policy. However, different opinions are expressed by Ioan (2014) and Moutinho et al. (2015), who suggest that market demand, research and development from the government and universities have no significant effect on employment. Ioan stated in his study that investment is a counterweight to the short-term economic growth strategy and technological capacity advancement as a new strategy in terms of optimal employment.

Several researchers have found the influence and relationship between wages and labor absorption (e.g., Ariga & Kambayashi, 2010; Baek & Park, 2016; Dickson & Fongoni, 2019; Holtemöller & Pohle, 2019; Li et al., 2018; Perugini & Pompei, 2016). The influence between wages and employment can be realized as long as regulation, job security, and aggregate demand for labor can take place positively. Whereas optimal wages and remuneration factors provide a real impact that bridges between wages and positive employment (Baek & Park, 2016; Vazzana & Bachmann, 1995; Clemens & Wither, 2019; Caliendo et al., 2018; Bauducco & Janiak, 2018), the factor of discrimination in terms of wages will harm employment (Borowczyk-Martins et al., 2017; Cheng et al., 2013; Perugini & Pompei, 2016; Wang et al., 2019). Conversely, other studies (e.g., Lee & Wolpin, 2010; Säve-Söderbergh, 2019; Schober & Winter-Ebmer, 2011; Xu et al., 2015) found that differences between wages by gender did not affect employment.

Sasaki *et al.* (2013) states that a high rise will wage affect the economic balance and employment. Then from the aspect of wage theory and asymmetric approach says that the loss aversion factor of a worker and wages become contradictory. Dickson and Fongoni (2019) and Su *et al.* (2019) state that the loss aversion factor and asymmetric information bridge the relationship between wages and labor absorption, low loss aversion person, and the high level of asymmetry of personal details of a worker ignores the role of the minimum wage received. Yamamoto *et al.* (2019) states the information asymmetry factor towards employment in the Southeast by differences in educational levels. Yamamoto et al. (2019) make it clear that education is a sub-factor that is very important in terms of employment other than wages.

The link between wages and economic growth is shown in previous studies (e.g., Du & Wang, 2019; Greiner et al., 2004), which state that there is a significant influence between low wages, the quality of labor skills and the mastery of technological factors. Lankisch et al. (2019) and Okudaira et al. (2019) stated that there was a significant influence, including low wages on the quality of the company, so that it had an impact on economic growth. In macroeconomics, Grieben and Şener (2017) and Lingens (2007) revealed the factor of bargaining power in international trade. Zagler (2005) also agrees, stating that low wages would have an impact on employment, correctly identifying industry and innovation. Palokangas (2009) suggests that employment can be realized as long as there is wage optimization and research and development support to produce innovation, especially for industry.

The relationship between government spending and employment has been echoed by several previous studies (e.g., Barrow, 2004; Polo et al., 2008), which justify the fact that there is a significant influence on the tourism sector by government spending on employment which is bridged by the level of education as well as government policy (Wu et al., 2010). Sangha et al. (2019) states that labor capability contributes to the high level of employment. From the military sector, the opposite facts are revealed by a few studies (e.g., Dunne & Smith, 1990; Alptekin & Levine, 2012; Manamperi, 2016; Yildirim & Sezgin, 2003). They found an opposite fact where they considered that government spending on the military and defense had no effect on labor absorption from the military defense sector in developed countries, but has a significant impact on government spending on the military industry on economic growth for developing countries (Chen et al., 2014; Islam, 2015) including government spending in the forestry sector (Whiteman et al., 2015).

However, for the energy sector and energy policy, government spending in this sector has a significant role in terms of economic growth (Fizaine & Court, 2016), as well as government policy (Roşoiu, 2015), public welfare (Sangha et al., 2019) and level of national income (Lukman et al., 2018).

In developing the conceptual framework in the third path analysis, which states the relationship between bank credit and employment, for example, Benmelech et al. (2019) states that there is a significant relationship between bank credit and employment from the viewpoint of economic theory by linking the relationship between confidence, taxation that is coercive, short-term compensation, and foreign debt. It is also in line with what has been disclosed (e.g., Cornille et al., 2019; García-Posada Gómez, 2019; Haltenhof et al., 2014; Popov & Rocholl, 2018). However, different opinions were expressed by Degryse et al. (2019) and Han and

Hare (2013). They revealed that bank credit did not have a significant impact on employment rates. Apart from that, several studies state the relationship between bank credit and economic growth is primarily influenced by several factors such as financial institutions and bank factors as well as business turnover and economic policy (Bordo et al., 2016; Chi & Li, 2017; Hasanov & Huseynov, 2013; Soedarmono et al., 2017; Ketteni & Kottaridi, 2019), but a surprising point was made by Mandel and Seydl (2016), who argue that there is no significant relationship between bank credit and economic growth; other studies (i.e., Restrepo, 2019; Saksonova & Koļeda, 2017) suggest that industrial growth factors are a bridge between bank credit and economic growth. Based on the previous research matrix, and the relationship between the variables that have been presented, the following hypotheses are developed:

H1: *Bank credit has a significant correlation with wages.*

H2: *Bank credit has a significant correlation with economic growth*

H3: *Government expenditure has a significant correlation with wages*

H4: *Government expenditure has a significant correlation with bank credit*

H5: *Wages have a significant correlation with economic growth*

H6: *Wages have a significant correlation with employment*

H7: *Economic growth has a significant correlation with government expenditure*

H8: *Economic growth has a significant correlation with employment*

3. Research Methods and Materials

3.1. Samples

The data used in this research are descriptive quantitative data. This study's data sources are secondary data obtained from Indonesian macroeconomic data from 2010 to 2019, which includes data on wages, bank credit, government spending, economic growth, and employment.

3.2. Measurement

The measurement value equalization model requires several stages, such as variable investment and government expenditure, namely, data transformation using SPSS's Log-10 compute variable. The next step is testing the normality using the asymptotic/Kolomogorv-Smirnov method to determine the correlation test, using the Pearson correlation method. After transforming the value variable, the trial is continued by testing the hypotheses through the correlation testing method with significance ($p < 0.05$). The secondary data sample of the study is illustrated in Appendix 1.

Illustrations of recapitulation of the minimum wage variable data are calculated based on the average value of 34 provinces in Indonesia. Variable bank credit (i.e., average credit from the instruments of agriculture, hunting, fisheries, mining and quarrying, processing industry, gas and water electricity, construction, wholesale and retail trade, provision of accommodation and provision of food and beverages, transportation, warehousing and communication, financial intermediaries, real estate, rental business, and company services, government administration, defense and compulsory social security, educational facilities, health services, and social activities, community services, social culture, entertainment, and other individuals, individual services were serving households, international agencies and other international extra bodies, events which have unclear boundaries). The average variable of government expenditure is based on function (i.e., public services, defense, order and security, economy, environment, housing and public facilities, health, tourism and culture, religion, education, social protection). Complete economic growth variable and employment variable data are in Appendix 2.

4. Results and Discussion

4.1. Results

The statistical test referring to Section 3.2 is first to homogenize data values using the logmethod10 described in Appendix 6. Then, in normality testing, the Asymptotic significance method with unstandardized residual values of XY (Res-1) obtained a value of $0.928 > 0.05$, which confirms that the data are normally distributed/parametric. The coefficient of determination (R-Square) predictors obtained a value of 0.691 and a value of $R = 0.831$, so it can be concluded that all predictors are strongly related by 69.1%. Cronbach's alpha predictor value produced a value of 0.735, so the reliability of the predictor of the dependent variable is robust, which is equal to 73.5%. Based on the results of hypothesis testing as well of the eight hypotheses developed in the previous section, two hypotheses do not support the variables that explain the relationship between wages on economic growth and economic growth on employment.

4.2. Discussion

We have demonstrated through the analysis of the correlation of each variable, that a reciprocal relationship posited in several hypotheses proves a significant influence both positively and negatively. On the other hand, there is

also a hypothesis that shows no significant effect at all. The factor of bank credit recorded during the years 2010 to 2019 on a micro-scale in banking in Indonesia is predominantly channeled to the gas and water electricity sector, while government spending is more dominant in the general public service sector, including; employee wages and others. The relationship that describes a significant negative correlation is assumed that the relationship between these variables requires an intermediate variable as an intervening relationship.

We highlight some of the results of studies that have a significant negative correlation, and we can conclude that significant negative means indirect correlation. Examples include the correlation between variables of bank credit on wages and the correlation between government expenditure on bank credit. This means that there is a significant result on the increase in wages driven by the rise in bank credit, so, there must be a connecting variable. We tried to simulate some variables as intervening variables in this study, for example, by modifying the model between bank credit as independent, economic growth as an intervening variable, and wages as the dependent variable with the regression model, but the results were not significant. An essential aspect in the discussion is how bank credit is directly linked to economic growth. This means that the community's outstanding bank credit assumes that it can increase economic growth and the velocity of money in the community. Economic activity that runs in the community will trigger significant state tax revenue, so that government expenditure will also increase primarily to raise wages so that rising wages will also trigger economic growth. In other words, economic stimulus in Indonesia does require debt in the form of bank credit to turn the wheels and the economic cycle, and finance several sectors for the needs of the people (see Figure 1). This statement is fundamental and rational. Given the economic growth in Indonesia over the last few years to 5% before the coronavirus pandemic, economic growth is also in line with the increase in Indonesia's foreign debt, which also continues to increase (See. www.databoks.katadata.co.id, 2020).

It is very rational to see how the role of government and private debt or credit banks have a significant impact on the economic wheels of the Indonesian economy because the most prominent government spending is the expenditure allocated to ministries/institutions or non-K/L and the financing of tactical funds again governmental needs. The dominant source of income comes from the tax sector and natural resource income. The natural resource income sector is not all owned by Indonesia, but still belongs to foreign companies (i.e., Vale, Chevron Pacific, Newmont, Freeport, PetroChina, Conoco Philips, BP, Niko Resources, etc). The positive side of bank credit can be a stimulus to increase economic growth. But of course, in a fair way, bank credit or macro debt will also have a negative impact, for example, it will put pressure on the tax sector that is increasingly large and massive to balance the debt position, and is feared to have an effect on fiscal, monetary, and state strategic policies. Wisely and ideally to overcome the adverse effects of the high debt burden in the form of credit banks in Indonesia, the government regulation policy is sought and maximized so that the debt function becomes effective as suggested in the study (Roşoiu, 2015; Sangha et al., 2019; Lukman et al., 2018).

Our study has also provided a comprehensive picture for academics and macroeconomic practitioners, specifically about the role of bank credit in increasing economic growth and its cycle, both at the macro and micro levels. This study also supports the assertion that there is a significant correlation and influence between government spending and bank credit on economic growth (e.g., Fizaine & Court, 2016; Bordo et al., 2016; Chi & Li, 2017; Ketteni & Kottaridi, 2019; Cornille et al., 2019; García-Posada Gómez, 2019; Haltenhof et al., 2014; Popov & Rocholl, 2018). It also provides differing opinions from Mandel and Seydl (2016), which suggested the role of government and private R&D and the development of human capital form a bridging variable between government spending and economic growth; this study focuses more on the urgency of credit banks to increase economic growth and reflect increased government spending. Benmelech et al., (2019) revealed that there was a significant correlation between bank credit and employment. In contrast, in our study, the relationship can exist, but after passing through several stages, the implications are explained in Figure 1.

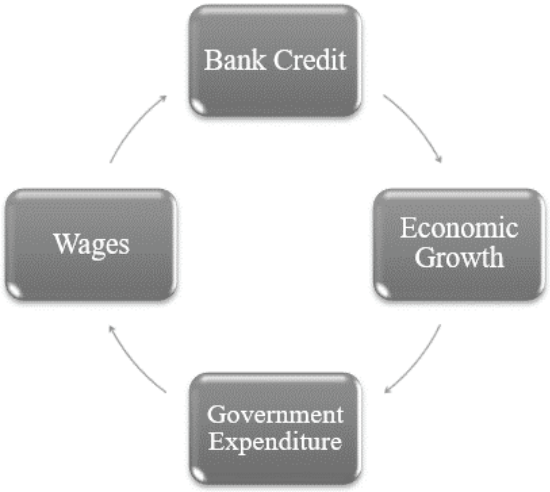

Figure 1: How the Indonesia Economics Works *(Authors, 2020)*

5. Conclusions

This study has provided a broad picture on the vital role of bank credit in triggering effects on micro and macroeconomic growth to the stages where the contribution of bank credit can increase the value of wages. The existence of a negative correlation gives a significant signal that our assumption that the role of government regulations related to credit bank management professionally and ethically can be a good bridge in promoting economic growth. On the other hand, in addition to regulations regarding the optimal management and use of credit banks, it is also expected that our findings inform strategic economic policy. Further research could modify the model with variations in the intervening causality.

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Appendix 1: Wages of 34 Province in Indonesia (In billion rupiah)

Province	Year									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Aceh	1.300	1.350	1.400	1.550	1.750	1.900	2.118	2.500	2.718	2.917
Sumatera Utara	965	1.035	1.200	1.375	1.505	1.625	1.812	1.961	2.132	2.303
Sumatera Barat	940	1.055	1.150	1.350	1.490	1.615	1.800	1.949	2.755	2.289
Riau	1.016	1.120	1.238	1.400	1.700	1.878	2.095	2.538	1.888	2.662
Jambi	900	1.028	1.142	1.300	1.502	1.710	1.906	2.358	2.074	2.424
Sumatera Selatan	927	1.048	1.195	1.630	1.825	1.974	2.206	2.266	2.464	2.804
Bengkulu	780	815	930	1.200	1.350	1.500	1.605	2.063	2.596	2.040
Lampung	767	855	975	1.150	1.399	1.581	1.763	1.737	2.244	2.240
Bangka Belitung	910	1.024	1.110	1.265	1.640	2.100	2.341	2.388	2.119	2.976
Kep. Riau	925	975	1.015	1.365	1.665	1.954	2.178	1.908	2.563	2.769
Dki Jakarta	1.118	1.290	1.529	2.200	2.441	2.700	3.100	1.931	1.544	3.941
Jawa Barat	671	732	780	850	1.000	1.000	2.250	3.355	2.099	1.668
Jawa Tengah	660	675	765	830	910	910	-	1.420	1.454	1.605
Di Yogyakarta	746	808	892	947	988	988	-	1.367	1.486	1.571
Jawa Timur	630	705	745	866	1.000	1.000	-	1.337	1.508	1.630
Banten	955	1.000	1.042	1.170	1.325	1.600	1.784	1.388	3.648	2.268
Bali	829	890	967	1.181	1.542	1.621	1.807	1.956	2.127	2.298
NTB	891	950	1.000	1.100	1.210	1.330	1.483	1.631	2.543	2.012
NTT	800	850	925	1.010	1.150	1.250	1.425	1.525	2.560	1.793
Kalimantan Barat	741	802	900	1.060	1.380	1.560	1.739	1.883	2.454	2.211
Kalimantan Tengah	986	1.134	1.327	1.553	1.724	1.896	2.057	2.258	2.047	2.663
Kalimantan Selatan	1.024	1.126	1.225	1.337	1.620	1.870	2.085	2.227	2.421	2.652
Kalimantan Timur	1.002	1.084	1.177	1.752	1.886	2.026	2.161	2.354	2.648	2.747
Kalimantan Utara	-	-	-	-	-	2.026	2.175	2.359	2.193	2.765
Sulawesi Utara	1.000	1.050	1.250	1.550	1.900	2.150	2.400	2.030	2.824	3.051
Sulawesi Tengah	777	827	885	995	1.250	1.500	1.670	2.598	1.965	2.123
Sulawesi Selatan	1.000	1.100	1.200	1.440	1.800	2.000	2.250	1.808	2.177	2.860
Sulawesi Tenggara	860	930	1.032	1.125	1.400	1.652	1.850	2.002	2.222	2.352
Gorontalo	710	762	837	1.175	1.325	1.600	1.875	2.435	2.207	2.400
Sulawesi Barat	944	1.006	1.127	1.165	1.400	1.655	1.864	2.017	-	2.369
Maluku	840	900	975	1.275	1.415	1.650	1.775	1.925	1.825	2.400
Maluku Utara	847	889	961	1.200	1.440	1.577	1.681	1.975	1.660	2.508
Papua Barat	1.210	1.410	1.450	1.720	1.870	2.015	2.237	2.663	2.667	2.934
Papua	1.316	1.403	1.585	1.710	2.040	2.193	2.435	2.421	2.895	3.240

Appendix 2: Data on Bank Credit in Indonesia Conducted by Function (in billions of rupiah)

Function	Year								
	2011	2012	2013	2014	2015	2016	2017	2018	2019
Agriculture, Hunting	1.584	3.106	2.943	2.922	2.812	2.651	3.759	4.191	6.874
Fishery	133	106	103	101	102	100	99	112	109
Mining and excavation	321	2	1.265	1	159	2	27	3	3
Processing industry	2.868	3.756	4.356	3.276	3.373	248	249	852	41
Gas and water electricity	9.999	8.127	8.581	7.093	7.048	4	4	4	108
Construction	766	804	1.002	1.037	1.133	31	36	16	15
Wholesale and retail	529	481	804	844	715	584	597	579	511
Provision of accommodation and Provision of food and drink	3.689	40	16	91	39	39	35	36	46
Transportation, warehousing, and communication	2.822	1.916	2.002	1.741	1.819	34	32	40	340
Financial intermediaries	20	408	346	355	453	480	601	540	469
Real estate, rental business, and company services	205	175	171	600	222	176	160	160	157
Administration of government, defense, and social security	198	200	197	199	178	40	40	40	40
Educational services	0	30	30	30	30	30	30	30	38
Health services and social activities	70	80	73	90	96	93	93	96	93
Community services, social culture, entertainment	578	539	550	529	535	516	526	525	523
Individual services serving households	25	21	189	13	13	12	12	12	11
International Bodies and other international Extra Bodies	82	85	-	80	79	77	74	83	82
Activities that have no clear boundaries	5.536	4.702	4.747	4.300	4.253	4.326	4.048	4.754	4.463

Appendix 3: Government Expenditures Based on Function (In Billion rupiah)

Function	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Public service	495.320	517.167	647.998	705.724	797.763	624.497	275.123	307.147	375.196	440.928
Defense	20.968	47.419	61.226	87.510	86.113	105.907	98.248	117.506	106.832	107.426
Order and security	14.926	22.067	29.096	36.120	34.856	52.941	113.349	135.748	143.305	140.660
The economy	57.359	101.414	105.574	108.082	97.140	177.105	288.344	307.787	382.420	384.134
Living environment	7.889	11.070	8.814	10.590	9.326	9.874	8.941	10.613	13.709	14.031
Housing and public facilities	20.907	23.425	26.440	33.790	26.244	16.981	27.816	27.277	32.198	21.596
Health	18.002	13.649	15.181	17.577	10.893	23.225	59.639	57.225	61.869	59.675
Tourism and culture	1.416	2.901	2.516	1.818	1.469	3.166	4.379	5.770	10.700	3.891
Religion	913	1.397	3.419	3.872	4.001	5.097	8.463	8.870	9.379	10.027
Education	84.086	91.483	105.207	114.969	122.697	143.638	131.974	138.507	145.941	149.877
Social protection	3.457	4.586	5.081	17.107	13.070	20.867	137.737	148.905	173.771	194.903

Appendix 4: Economics Growth (In Percentage)

Province	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Aceh	-5,51	2,74	3,28	3,85	2,61	1,55	-0,73	3,29	4,18	4,61
Sumatera Utara	5,07	6,42	6,66	6,45	6,07	5,23	5,1	5,18	5,12	5,18
Sumatera Barat	4,28	5,94	6,34	6,31	6,08	5,88	5,53	5,27	5,29	5,14
Riau	2,97	4,21	5,57	3,76	2,48	2,71	0,22	2,18	2,68	2,34
Jambi	6,39	7,35	7,86	7,03	6,84	7,36	4,21	4,37	4,64	4,71
Sumatera Selatan	4,11	5,63	6,36	6,83	5,31	4,79	4,42	5,04	5,51	6,04
Bengkulu	5,62	6,1	6,85	6,83	6,07	5,48	5,13	5,28	4,98	4,99
Lampung	5,26	5,88	6,56	6,44	5,77	5,08	5,13	5,14	5,16	5,25
Kep. Bangka Belitung	3,74	5,99	6,9	5,5	5,2	4,67	4,08	4,1	4,47	4,45
Kep. Riau	3,52	7,19	6,96	7,63	7,21	6,6	6,02	4,98	2	4,56
Dki Jakarta	5,02	6,5	6,73	6,53	6,07	5,91	5,91	5,87	6,2	6,17
Jawa Barat	4,19	6,2	6,5	6,5	6,33	5,09	5,05	5,66	5,35	5,64
Jawa Tengah	5,14	5,84	5,3	5,34	5,11	5,27	5,47	5,25	5,26	5,32
DI Yogyakarta	4,43	4,88	5,21	5,37	5,47	5,17	4,95	5,05	5,26	6,2
Jawa Timur	5,01	6,68	6,44	6,64	6,08	5,86	5,44	5,57	5,46	5,5
Banten	4,71	6,11	7,03	6,83	6,67	5,51	5,45	5,28	5,73	5,81
Bali	5,33	5,83	6,66	6,96	6,69	6,73	6,03	6,33	5,57	6,35
Nusa Tenggara Barat	12,14	6,35	-3,91	-1,54	5,16	5,17	21,76	5,81	0,12	-4,56
Nusa Tenggara Timur	4,29	5,25	5,67	5,46	5,41	5,05	4,92	5,12	5,11	5,13
Kalimantan Barat	4,8	5,47	5,5	5,91	6,05	5,03	4,88	5,2	5,17	5,06
Kalimantan Tengah	5,57	6,5	7,01	6,87	7,37	6,21	7,01	6,35	6,72	5,64
Kalimantan Selatan	5,29	5,59	6,97	5,97	5,33	4,84	3,82	4,4	5,28	5,13
Kalimantan Timur	2,28	5,1	6,47	5,48	2,76	1,71	-1,2	-0,38	3,13	2,67
Kalimantan Utara	-	-	-	-	-	8,18	3,4	3,55	6,79	6,04
Sulawesi Utara	7,85	7,16	6,17	6,86	6,38	6,31	6,12	6,16	6,31	6,01
Sulawesi Tengah	7,71	8,74	9,82	9,53	9,59	5,07	15,5	9,94	7,1	6,3
Sulawesi Selatan	6,23	8,19	8,13	8,87	7,62	7,54	7,19	7,42	7,21	7,07
Sulawesi Tenggara	7,57	8,22	10,63	11,65	7,5	6,26	6,88	6,51	6,76	6,42
Gorontalo	7,54	7,63	7,71	7,91	7,67	7,27	6,22	6,52	6,73	6,51
Sulawesi Barat	6,03	11,89	10,73	9,25	6,93	8,86	7,31	6,01	6,62	6,23
Maluku	5,44	6,47	6,34	7,16	5,24	6,64	5,48	5,73	5,82	5,94
Maluku Utara	6,07	7,95	6,8	6,98	6,36	5,49	6,1	5,77	7,67	7,92
Papua Barat	13,87	28,47	3,64	3,63	7,36	5,38	4,15	4,52	4,01	6,24
Papua	22,22	-3,19	-4,28	1,72	8,55	3,65	7,35	9,14	4,64	7,33

Appendix 5: Employment (In Percentage)

Province	Tahun								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Aceh	63,17	62,53	61,72	62,24	63,06	63,44	64,26	63,74	64,24
Sumatera Utara	69,51	67,62	69,27	70,62	67,07	67,28	65,99	68,88	71,82
Sumatera Barat	66,36	65,33	64,42	62,92	65,19	64,56	67,08	66,29	67,27
Riau	63,66	63,21	62,52	63,44	63,31	63,22	66,25	64,00	65,23
Jambi	65,78	65,48	64,92	62,68	65,59	66,14	67,54	67,52	68,46
Sumatera Selatan	70,23	68,30	69,61	66,75	68,85	68,53	71,59	69,50	68,69
Bengkulu	71,86	70,22	70,14	67,59	68,29	70,67	72,69	69,30	70,06
Lampung	67,95	65,27	66,30	64,84	66,99	65,60	69,61	67,83	69,67
Bangka-Belitung	66,53	64,19	65,58	65,38	65,45	66,71	68,93	66,72	67,79
Kepulauan Riau	68,85	65,71	66,92	65,92	65,95	65,07	65,93	66,41	64,72
DKI Jakarta	67,83	69,30	71,47	67,79	66,61	66,39	66,91	61,97	63,95
Jawa Barat	62,38	61,34	63,64	62,82	62,77	60,34	60,65	63,34	62,92
Jawa Tengah	70,60	70,15	71,26	70,43	69,68	67,86	67,15	69,11	68,56
DI Yogyakarta	69,76	70,15	71,37	69,29	71,05	68,38	71,96	71,52	73,37
Jawa Timur	69,08	68,06	69,60	69,78	68,12	67,84	66,14	68,78	69,37
Banten	65,34	65,61	65,17	63,55	63,84	62,24	63,66	62,32	63,49
Bali	77,38	75,19	76,58	74,93	74,91	75,51	77,24	75,24	76,78
Nusa Tenggara Barat	66,63	65,71	65,93	65,42	66,63	66,54	71,57	68,49	65,91
Nusa Tenggara Timur	72,77	68,58	69,98	68,15	68,91	69,25	69,18	69,09	70,17
Kalimantan Barat	73,17	72,41	71,40	69,53	69,93	69,68	69,32	68,63	68,65
Kalimantan Tengah	69,86	70,14	69,88	68,50	68,56	71,11	71,30	67,74	70,03
Kalimantan Selatan	71,26	71,94	71,95	69,31	69,46	69,73	71,57	70,06	70,27
Kalimantan Timur	66,41	66,56	66,37	63,50	64,10	62,39	67,79	63,75	64,99
Kalimantan Utara	-	-	-	-	-	63,45	62,40	68,24	67,81
Sulawesi Utara	63,31	62,66	61,54	59,41	59,99	61,28	65,11	60,85	63,01
Sulawesi Tengah	69,22	68,65	65,92	65,56	66,76	67,51	72,28	67,14	69,52
Sulawesi Selatan	64,14	63,43	62,71	60,32	62,04	60,94	62,92	60,98	63,02
Sulawesi Tenggara	71,86	66,73	67,30	65,91	66,87	68,35	73,47	68,70	69,78
Gorontalo	64,42	64,06	62,57	61,46	62,84	63,65	67,89	64,78	67,34
Sulawesi Barat	71,46	69,87	71,71	66,83	71,06	70,27	71,90	66,96	68,46
Maluku	66,48	67,21	62,94	61,93	60,92	64,47	64,51	60,18	62,90
Maluku Utara	65,11	64,57	66,05	64,35	63,88	66,43	66,19	63,65	65,21
Papua Barat	69,29	66,87	67,20	66,69	68,30	68,68	70,05	67,47	67,88
Papua	80,99	77,75	78,18	77,70	78,67	79,57	76,70	76,94	79,11
Indonesia	66,55	65,44	65,65	64,28	64,87	66,85	68,46	66,94	67,95

Appendix 6: Statistical Analysis

Transformation Log10					
Wages	**Bank Credit**	**Government Expenditure**	**Economics Growth**	**Employment**	**Unstandardized Residual**
5.96	3.21	4.82	5.88	65.69	0.0829
6.0	3.21	4.88	6.83	66.55	0.90478
6.04	3.14	4.96	6.08	65.44	-0.0990
6.11	3.21	5.01	6.26	65.65	0.4530
6.18	3.11	5.04	6.1	64.28	-1.4242
6.23	3.11	5.03	5.52	64.87	-0.8967
6.3	2.72	5.02	5.71	66.85	-1.1136
6.32	2.76	5.06	5.34	68.46	0.9139
6.36	2.83	5.12	5.24	66.94	-0.0638
6.39	2.89	5.14	5.27	67.95	1.2427

Normality Test	
	Unstandardized Residual
N	10
Normal Parameters [a,b]	
Mean	.0000000
Standard Deviation	.00733673
Most Extreme Differences	
Absolute	.172
Positive	.172
Negative	-.107
Kolmogorov-Smirnov Z	.545
Asymp. Sig. (2-tailed)	.928

R = 0.831, R Square = 0.691. Cronbach Alpha = 0.735

Hypothesis Test with Pearson Correlation Test

Model	Pearson Correlation	p-value	Result
Bank Credit → Wages	-0.854	0.002 < 0.05	Negative Significant
Bank Credit → Economics Growth	0.726	0.017 < 0.05	Positive Significant
Government Expenditure → Wages	0.928	0.000 < 0.01	Positive Significant
Government Expenditure → Bank Credit	-0.661	0.038 < 0.01	Negative Significant
Wages → Economics Growth	-0.811	0.004 < 0.05	Positive Significant
Wages → Employment	0.548	0.101 > 0.05	Insignificant
Economics Growth → Government Expenditure	-0.691	0.027 < 0.05	Positive Significant
Economics Growth → Employment	-0.462	0.179 > 0.05	Insignificant