

CORRUPTION PERCEPTION RATE: EFFECT OF DOMESTIC LOANS, URBAN POPULATION, AND IMPORTS OF GOODS AND SERVICES

Noerlina*¹, Vania Setiawan¹, Desi Maya Kristin¹, B A Makalew², Tirta Nugraha Mursitama³, Sasmoko⁴

¹Information Systems Department, School of Information Systems,
Bina Nusantara University, Jakarta, Indonesia 11480

²Mobile Application Technology Program, School of Computer Science,
Bina Nusantara University, Jakarta, Indonesia 11480

³International Relations Department, Faculty of Humanities,
Bina Nusantara University, Jakarta, Indonesia 11480

⁴Primary Teacher Education, Bina Nusantara University, Jakarta, Indonesia 11480
Email: *nurlina@binus.edu

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Abstract

This study uses secondary data for data collection. The variables used are DCPS (domestic credit to private sector), IGS (import of goods and services), PA (population in agglomeration), and CPI. The variables mentioned above will be calculated using regression analysis using IBM SPSS software to determine whether there is an influence between independent variables and dependent variables. From the calculation of the results it also shows that the three independent variables mentioned above have an influence on the level of perception of corruption.

Index Terms-- economy, corruption, population, import, loans, population.

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INTRODUCTION

According to Transparency International, corruption is a behavior that can damage people's trust in systems, such as political, economic, and institutional systems. This behavior can cost peoples livelihood. The size of corruption can be classified based on how much money is lost and in what sector this happens. In this case corruption occurs because of abuse of power and authority that has been given to get money or position [1]. Corruption can pose a serious threat to stability and security, which can weaken institutions, the values of democracy, ethical values, justice, it can also jeopardize sustainable development and law enforcement [2].

Economic development has an important role in controlling corruption. Economic prosperity can create an environment where community institutions can be strengthened, while legal regulations governing corruption can be formulated with greater strength and effectiveness [3]. This study is similar to the findings that economic growth can reduce corruption even without anti-corruption efforts [4]. Economic growth will not increase if there are too many domestic loans [5]. In addition are other studies discussing economic indicators related to imports prove that there is a strong correlation between imports and the reduction in labor in the industrial sector [6].

In addition to discussing economic indicators, there are also population indicators that are related to corruption as previous studies stated that the population could be more willing to bribe or even tolerate corrupt practices [7]. Other research suggests that population growth is a tool to combat corruption that only applies in countries with low incomes and corruption control initiatives must be adjusted from bad anti-corruption countries to good ones related to democracy and population growth [8].

Therefore this study will use several variables, namely domestic credit to private sectors, population in agglomeration, import of

goods and services, and CPI. Similar studies have never used the variables mentioned above.

Research on economy and population really needs to be done because a country with a high economic level has a higher chance to improve its welfare compared to a country that has a low economic level. Countries that have high population levels also have more possibility to produce domestic labor

The level of corruption in each country can be measured by the Corruption Perception Index (CPI). In addition to the CPI variable, domestic credit to private sector is used to perceive domestic loans for the private sector, population in agglomeration is used to perceive population in urban areas, while imports of goods and services are used to perceive imports of goods and services available worldwide. CPI data is taken from Transparency International, while other data are obtained from the World Bank. The purpose of this study is to determine the significance of the influence of domestic credit variables level to private sectors, population in agglomeration, import of goods and services on CPI. In this study samples were taken from several countries in the Asia Pacific because they were considered to have.

THEORETICAL FRAMEWORK

This study uses several independent variables, namely domestic credit to private sector, population in agglomeration, and imported goods and services, and the dependent variable is CPI. These variables are then measured using multiple regression analysis. The result of this analysis are expected to have a certain level of significance and influence between independent variables and dependent variables.

Loan

Loans within the private sector refer to financial resources provided to the private sector by financial companies, such as

through loans, purchases of securities that have no effect, and trade credits and other receivables that establish claims for repayment. For some countries, this claim includes credit for public companies. Financial corporations include monetary authorities and money deposit banks and other financial companies where data is available (including companies that do not accept transferable deposits but carry out obligations, namely time deposits and savings). Examples of other financial companies are financial and leasing companies, money lenders, insurance companies, pension funds, and foreign exchange companies. One research found that there is causality between domestic loans to economic growth [9] while economic growth can reduce corruption even without anti-corruption efforts [4].

H1: increased lending affects the reduction in perceptions of corruption

Urban Population

The population in urban agglomeration of more than one million means the country's population living in the metropolitan area has a population of more than one million people. The level of corruption will decline if there is an increase in economically active and highly educated populations [10]. Population growth is also a tool for fighting corruption in low-income countries [11]. Besides that from other studies it is said that the population and the level of corruption will go hand in hand so that the more population the more potential bribes will occur [12].

H2: increase in urban population has an effect on reducing the perception of corruption

Import

Imports of goods and services represent the value of all other market goods and services received from all over the world. Market value of goods and services include the value of merchandise, shipping, insurance, transportation, travel, royalties, licensing fees, and other services, such as communication, construction, finance, information, business, private, and government services. Previous research state that economic growth was driven by export and import strategies [13]. One research also supports the statement by stating that economic growth had a positive correlation with corruption [14]. So far there has been no direct research related to the relationship between imports of goods and services to corruption. Therefore, this research will discuss the direct relationship between imports of goods and services to corruption

H3: increased imports have an effect on reducing perceptions of corruption

The research question is whether there is an influence between domestic credit to private sector, population in agglomeration, import of goods and services on corruption? The framework in this study aims to provide an overview of the causes of corruption and proposing hypotheses that represents the relationships between variables.

METHODOLOGY

This study uses secondary data for data collection. Secondary data is data obtained and has been processed into publications [15]. Regression test needs to be done to determine the relationship between the independent variable and the dependent variable [16], namely domestic credit to private sectors, population in agglomeration, import of goods and services, and CPI. To calculate the influence between variables, this study uses regression with IBM SPSS software.

The variables in this study are Domestic Credit to Private Sector (DCPS), Population in Agglomeration (PA), and Import of Goods and Services (IGS) classified as independent variables while Corruption Perception Index (CPI) is as dependent variable.

Sample

Data of domestic credit to private sectors, population in agglomeration, and import of goods and services, and CPI are from several countries in the Asia Pacific region, namely Australia, Brunei, China, Indonesia, Korea, Cambodia, Malaysia, Myanmar, Mongolia, the Philippines, and Vietnam. Samples from these countries were taken because the Asia Pacific region has an influence on the lives of researchers. Due to the importance of the renewal aspect, sample year used is the most recent, from 2008 to 2017.

Corruption perception index (CPI) from Transparency International (TI) is depicted as variable of corruption. TI was founded in 1993 and aims to prevent corruption. Corruption perception index (CPI) data is available from 1995, but this study uses CPI data from 2008 to synchronize in all sampled countries' available data.

Model and Variables

This study uses secondary data for data collection. Secondary data is data obtained in the form that has been processed before, usually secondary data is in the form of publications [15]. Regression testing needs to be done to determine the relationship between the independent variable and the dependent variable [16].

This is in accordance with other studies which say that using a regression test is the most appropriate because among other statistical models an analysis using a regression test can show promising results because of reasonable accuracy and fairly simple and easy to understand implementation compared to other methods [17] and also analysis using regression is the most widely used analysis for research and scientific work [18]. The purpose of this study is to determine the relationship between variables such as domestic credit to private sectors, population in agglomeration, import of goods and services, and CPI. To find out whether or not the effect between variables, this study uses IBM SPSS software. Therefore, the equation model is made as follows:

$$\text{Corruption} : \beta_0 + \beta_1 \cdot \text{DCPS} + \beta_2 \cdot \text{PA} + \beta_3 \text{IGS} + \eta_i + \mu_t$$

Where i and t represent country name and year. η_i represent the stability of a country where as μ_t represent standard error.

There are several hypotheses written in this research which are: (a) there is a significant influence between domestic credit to private sector on corruption (hypothesis H1), (b) there is an influence between population in agglomeration on corruption (hypothesis H2), and (c) there is an influence between import of goods and services on corruption (hypothesis H3).

In this study, corruption is seen using the corruption perception index (CPI) taken from Transparency International which is the perception of entrepreneurs or experts about the level of corruption of a country or region. CPI data is seen in the form of a scale of 0 to 10. Scale 0 is the lowest level of corruption while scale 10 is the highest level of corruption.

RESULTS

The following Hypothesis will be tested:

- H1 : the influence of DCPS and PA variables on CPI
- H2 : the influence of DCPS and IGS variables on CPI
- H3 : the influence of PA and IGS variables on CPI

Descriptives Results:

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev	Min	Max
CPI	90	4.981	2.396	1.30	9.20
DCPS	90	94.078	46.722	26.55	166.95
PA	90	38.840	28.598	10.79	100
IGS	90	51.731	46.124	0.07	210.41

Notes: CPI is a corruption perception index taken from Transparency International. DCPS is the domestic credit to private sector (% of GDP) taken from the World Bank. PA is population agglomeration (% of population) taken from the World Bank. IGS is your import of goods services (% of GDP) taken from the World Bank.

Table 2 explains the descriptive statistics for some of the variables used. It can be seen that the average of the dependent variable CPI is 4,981 (scale 0-10, from high to low corruption). Despite variations in the countries used as research samples, it can be seen that Singapore has a fairly low average CPI scale since 2008 to 2017, which is 9.3. Therefore it can be said that Singapore is a country that has a low level of corruption. Whereas for a country that has a high level of corruption is a Myanmar country of 1.3. In short, Myanmar is more corrupt and has a higher level of corruption compared to Singapore.

Table 2 also explains the average for the independent DCPS variable which is 94,078% (observed from percentage of GDP). For the average independent variable PA is 38,840% (observed from percentage of population) while for the average of the independent variable IGS is 51,731% (observed from percentage of GDP)

It can be observed that the highest average of domestic credit to private sectors is Japan by 161.5%. Whereas for the country with the smallest average is Indonesia, which is 33.47%. According to article Liputan 6 [19], it is said that Indonesia's loans are still relatively insignificant and Indonesia also has strong economic fundamentals, recognized by international institutions, namely the World Bank.

The highest average imports of goods and services is the state of Singapore with a striking 168.5%, while the country that has a low average is Indonesia at 2.87%. Previous studies stated ASEAN countries such as Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam are the largest countries in nominal GDP, these 6 countries has investment potentials due to their abundant natural and human resources and abundant markets for goods and services [20]. Besides, the government should be more active in increasing exports and controlling imports in Indonesia due to a deficit in the trade balance [19].

It can be observed from the graph above that the highest average population agglomeration is Singapore at 99.78%, while the country that have a low average is Myanmar at 11.23%.

Also seen from the Indonesian CNN article [21], it was said that the population in Indonesia could reach 325 million by 2045, different than the 2015 inter-census population survey data which stood at 255.1 million. Indonesian population that year will increasingly focus on urban areas with a figure of 63.1% of the population.

It can be observed from the graph above that the lowest CPI index was in 2008 at 4.7 while for the highest CPI index was 2017 at 5.72. In addition it was observed that there was an increase from 2016 to 2017.

Exploratory Results:

Table 2. Bivariate Correlations

	CPI	DCPS	PA	IGS	VIF
CPI	1	0.691**	0.899**	0.466**	-
DCPS	0.691**	1	0.548**	0.213*	1.503
PA	0.889**	0.548**	1	0.648**	2.474
IGS	0.466**	0.213*	0.648**	1	1.814

Notes: CPI is a corruption perception index taken from Transparency International. DCPS is the domestic credit to private sector (% of GDP) taken from the World Bank. PA is population agglomeration (% of population) taken from the World Bank. IGS is your import of goods services (% of GDP) taken from the World Bank. * = pvalue <0.05; ** = pvalue <0.01; *** = pvalue <0.001

Table 3 explains the bivariate correlations between the variables used. It can be observed that there is a strong correlation between DCPS and CPI at 0.691. In addition, a strong correlation also occurs between the variable PA and CPI at 0.889, PA against DCPS at 0.548. Weak correlation also occurs between the IGS and CPI at 0.466 then IGS and DCPS at 0.213.

Table 3. Variables effect on CPI

	Coef.	Std. Error	Coef.	Std. Error	Coef.	Std. Error
DCPS	0.027***	0.003	-	-	-	-
PA	-	-	0.074***	0.004	-	-
IGS	-	-	-	-	0.024**	0.005
Constant	2.208	0.266	2.088	0.197	3.704	0.342
Adj. R ²	0.411		0.788		0.209	
R ²	0.415		0.889		0.466	

Notes: CPI is a corruption perception index taken from Transparency International. DCPS is the domestic credit to private sector (% of GDP) taken from the World Bank. PA is population agglomeration (% of population) taken from the World Bank. IGS is your import of goods services (% of GDP) taken from the World Bank. * = pvalue <0.05; ** = pvalue <0.01; *** = pvalue <0.001

Table 3 explains that the highest Adj. R2 is PA variable at 0.788, the lowest Adj. R2 is IGS variable at 0.209. It can be observed, that the DCPS, PA, and IGS variables have a high significant level (sig level <0.05). Therefore, it can be concluded that if DCPS increases by 1 point, the level of corruption perception will increase by 0.027. If PA variable increases by 1 point, the level of corruption perception will increase by 0.074 and if IGS variable increases by 1 point, the level of corruption perception will increase by 0.024.

Table 4. Variable Effect on CPI

	Coef.	Std. Error	Coef.	Std. Error	Coef.	Std. Error	Coef.	Std. Error
DCPS	0.015***	0.003	0.032***	0.004	-	-	0.014***	0.003
PA	0.081***	0.004	-	-	0.085	0.005	0.069***	0.005
IGS	-	-	0.017***	0.004	-0.010	0.003	-0.006*	0.003
Constant	1.202	0.226	1.077	0.391	2.208	0.192	1.358	0.231
Adj. R ²	0.848		0.574		0.807		0.853	
R ²	0.850		0.584		0.811		0.858	

Notes: CPI is a corruption perception index taken from Transparency International. DCPS is the domestic credit to private sector (% of GDP) taken from the World Bank. PA is population agglomeration (% of population) taken from the World Bank. IGS is your import of goods services (% of GDP)

taken from the World Bank. * = pvalue <0.05; ** = pvalue <0.01; *** = pvalue <0.001

Table 4 explains that the highest Adj. R2 is DCPS and PA variables at 0.846. The lowest Adj. R2 are the DCPS and IGS variables at 0.574. The relationship of the 3 independent variables DCPS, PA, and IGS to the dependent variable CPI has an Adj. R2 number of 0.853. In addition it can also be observed that each variable has a high significant level (level of sig <0.05)

DISCUSSION

Based on the test results, it was found that there is a difference between the results with a predetermined hypothesis.

The result shows that an increase in DCPS will increase the level of perception of corruption, but hypothesis in this study proposed the contrary. Then it was found that there is causality between domestic loans to economic growth [9], where economic growth can reduce corruption even without anti-corruption efforts [4].

Findings show that with an increase in PA, the perception of corruption will increase, contrary to the predetermined hypothesis which proposed an increase in the urban population will decrease the level of perception of corruption. The results of this study are similar to previous studies which states the population and the level of corruption will go hand in hand, this means the more the population, bribes will occur more often [12].

However, other previous research states population growth seen as the tool to fight corruption, only applies in countries with low income [8]. This difference is likely due to the differences in sampled area under study.

As for the IGS variable, if there is an increase in imports, the level of perception of corruption will also increase, contrary to the predetermined hypothesis that with an increase in imports, the level of perception of corruption will decrease. Other study stated imports have a one-way causality relationship with economic growth [22] and economic growth has a positive correlation with corruption [14], others stated corruption has an important role in economic growth [23].

CONCLUSION

According to Transparency International, corruption is a behavior that can damage people's trust in systems, such as political, economic, and institutional systems. This study uses secondary data for data collection. The independent variables used are Domestic Credit to Private Sector (DCPS) which depicts domestic loans in the private sector, Population in Agglomeration (PA) which depicts population in urban areas, and Import of Goods and Services (IGS) which depicts import of goods and services. The dependent variable used is the Corruption Perception Index (CPI) which determines the level of corruption perception of a country. The variables will be calculated using regression analysis using IBM SPSS software that determines the influence of independent variables to the dependent variable. The test results show that the 3 independent variables above influence the dependent variable significantly as they have an appropriate value of Adj. R2. The results also show that Domestic Credit to Private Sector, Population in Agglomeration and Import of Goods and Services have an influence on the level of corruption perception.

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