

CORRUPTION IN ASIA PACIFIC

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Abstract

This study was conducted to investigate the effect of economic development (GDP and GNI) on corruption (Corruption Perception Index) in Asia Pacific countries. The data used were obtained for 21 selected countries samples during the period 2010-2016. For this data panel, we use Eviews program to analyze it. The results of this study shows that first, simultantly, all variables GDP, GNILN, and GNIGR have positive and significant effect on corruption. Second, partially GDP has negatif effect and GNILN has positif effect on corruption. Third, although the statistical results of this study prove that GDP and GNI have an influence on corruption, it stands that the countries with the highest CPI are not the countries with the highest GDP and GNI. Similarly, countries with the lowest CPI is not the country with the lowest GDP/GNI.

Key words: *Gross Domestic Product, Gross National Income, Corruption*

Introduction

Tanzi (1998) stated that corruption is an old story and a long long time phenomen. Corruption has long been known as two thousand years ago. It was told in Arthashastra, a book written by Kautilya, the prime minsiter of an Indian king. Also, Dante and Shakespeare include it in their art work. Barker and Carter (1994) defined corruption as acts containing three elements: violations of law, rules, regulations, or ethical standards; misuse of an office's position; and acceptance of some actual or expected material reward or gain. Luo (2005) defines corruption as an illegitimate exchange of resources involving the use or abuse of public or collective responsibility fo rprivate ends. Rose-Ackerman (2008: 551) stated that corruption as he misuse of public office for private gain and also Rose-Ackerman stated that corruption as a symptom that something has gone wrong in the management of the state (1999: 9).

Kotera et.al (2010) state that corruption is a phenomenon widely observed in both developed and developing countries. There are various studies related to corruption in relation to the country's characteristics. Those Characteristics can be seen, among others, through common law system, share of protestants in country's population, former British Colony or UK, index of political rights and civic liberties as well as the economic development or size of government (GDP, GNI, etc.). Rich countries are perceived to be less corrupt than poor ones. This provides strong reason to believe that, whatever the effect of corruption on growth, higher economic development does itself reduce corruption (Treisman, 2000). Corruption-related studies show different results. Several studies have shown positive relationship between the level of per capita gross domestic product and corruption (Braun and Di Tella, 2000; Ades and Di Tella, 1999), while other results showed a negative relationship

(Mauro, 1995; (Treisman, 2000; Paldam, 2002).

Economic Development and Corruption

Economic growth can be interpreted as a process of continuously changes in economic conditions of a region/country toward better one. Indicators of economic growth, among others are gross domestic income (GDP) and/or Gross national income (GNI). Thus when the GDP or GNI of a country continues to increase from year to year it is said that the country is experiencing economic growth. In addition to GDP and GNI, economic growth is also influenced by many factors such as Human Resources (HR), natural resources, technology and culture, political conditions, and so forth.

Corruption has various definitions, but has the same meaning. Simply, corruption is the illegal use of facilities and public rights and / or the misuse of power for personal gain. Corruption is influenced by the lack of bureaucracy and law enforcement. Both of these are loopholes that allow for corruption. With the weakness of the bureaucracy and the enforcement of existing laws resulted in the vulnerability of abuse of power. This is what causes corruption to flourish.

Corruption leads to inefficiency due to waste, the use of goods / public facilities that are not appropriate allocation, and the low quality and quantity of public services available. In turn, this has an impact on income gaps, poverty levels and economic growth. Thus there is a negative relationship between economic growth and corruption and vice versa. Corruption leads to inefficiency due to waste, the use of goods / public facilities that are not appropriate allocation, and the low quality and quantity of public services available. In turn, this has an impact on income gaps, poverty levels and economic growth. Thus there is a negative relationship between

economic growth and corruption and vice versa.

Research Methods

This study was conducted to investigate the effect of economic development (GDP and GNI) on corruption (Corruption Perception Index). Independent variables are Gross Domestic Product per capita (GDP) and GNI. Dependent variable is Index of Corruption. In this research, 21 countries that were studied. Countries were categorized as Asia Pacific based upon OECD groupings (www.oecd.org).

The data used were obtained for 21 selected countries samples during the period 2010-2016. Sources of data come from the Organisation for Economic Co-operation and Development (OECD) and Transparency International websites. In this research, multiple regression is used using Eviews 9.0 program. The estimation equation used is:

$$CPI_i = \beta_0 + \beta_1 \text{GDP per capita} + \beta_2 \text{GNILN} + \beta_3 \text{GNIGRT} + e$$

Where:

CPI = Corruption Perceptions index

GDP = Gross Domestic Product per capita (log natural)

GNILN = Gross National Income (log natural)

GNIGRT = Gross National Income (growth)

e is a standard error term.

Results

Corruption is not an easy thing to examine, because there are so many factors that influence it. Discussing corruption means breaking down very complex things. Across the world, corruption is considered a criminal case. Same with other types of criminal activity, it is hard to observe corruption directly, and so researchers must rely on surveys of corruption's victims, the accuracy of which is often difficult to assess. However, various studies related to economic development and corruption

index indicate that there is a relationship between them.

GDP (gross domestic product) is a way to measure national income of a country. GDP shows the amount of goods and services produced to see the level of welfare of a country. But since this is a simple measure, it can not be the only way to measure of actual well-being. In other words, large GDP or high growth does not necessarily indicate the magnitude or improvement of people's well-being equally. Therefore, economic growth of a country may be high but the increase in

welfare can only be enjoyed by certain groups of people.

From Table 1, Along period 2011-2016, average countries GDP is always increase year to year. In Asia Pacific region, China (CHN) is the country with highest average GDP (29.83) in year 2011-2016. The second place is Japan (29.30), and the third, is India (28.29). It also showed that Bhutan (BTN) has the lowest GDP, about 21.36 in average, then Mongolia with 23.11 and Lao PDR with 23.14 GDP value.

Table 1. Countries' GDP Year 2011-2017

No	Country	Code	2011	2012	2013	2014	2015	2016	2017	Avrg
1	Afghanistan	AFG	23.49	23.61	23.75	23.72	23.72	23.70	23.69	23.67
2	Australia	AUS	27.76	27.96	28.06	28.08	28.01	27.93	27.82	27.95
3	Bangladesh	BGD	25.47	25.58	25.62	25.73	25.88	26.00	26.12	25.77
4	Bhutan	BTN	21.18	21.32	21.32	21.31	21.40	21.44	21.53	21.36
5	China	CHN	29.44	29.66	29.78	29.89	29.98	30.03	30.05	29.83
6	Cambodia	KHM	23.14	23.28	23.37	23.46	23.54	23.62	23.72	23.45
7	Hong Kong	HKG	26.16	26.24	26.29	26.34	26.40	26.46	26.49	26.34
8	India	IND	28.14	28.23	28.23	28.25	28.34	28.38	28.45	28.29
9	Indonesia	IDN	27.35	27.52	27.55	27.54	27.52	27.48	27.56	27.50
10	Japan	JPN	29.37	29.45	29.46	29.27	29.21	29.11	29.23	29.30
11	Lao PDR	LAO	22.69	22.83	23.04	23.20	23.31	23.39	23.49	23.14
12	Malaysia	MYS	26.26	26.42	26.47	26.50	26.55	26.41	26.41	26.43
13	Mongolia	MNG	22.70	23.07	23.23	23.26	23.23	23.19	23.14	23.11
14	Myanmar	MMR	24.63	24.82	24.81	24.82	24.91	24.86	24.93	24.83
15	Nepal	NPL	23.50	23.66	23.66	23.68	23.72	23.78	23.77	23.68
16	New Zealand	NZL	25.71	25.85	25.89	25.97	26.03	25.89	25.94	25.90
17	Pakistan	PAK	25.90	26.09	26.14	26.17	26.22	26.33	26.37	26.17
18	Philippines	PHL	26.02	26.14	26.25	26.33	26.37	26.40	26.44	26.28
19	Singapore	SGP	26.19	26.34	26.39	26.44	26.45	26.42	26.42	26.38
20	Sri Lanka	LKA	24.76	24.90	24.95	25.03	25.10	25.11	25.12	25.00
21	Thailand	THA	26.56	26.64	26.71	26.76	26.73	26.71	26.73	26.69
Average			25.54	25.70	25.76	25.80	25.84	25.84	25.88	25.76

Another measure of economic growth is Gross National Income (GNI). GNI is the amount of national income as a power of economic actors in which the GNI

is derived from GDP minus depreciation and indirect taxes. Throughout 2011-2016, the average GNI of countries in the Asia Pacific region has increased from year to

year. When viewed per country, the country with the highest GNI average is China with an average of GNI 21.03. The second place is occupied by India with an average GNI (Ln) of 20.97, and the third highest is

Indonesia with an average of 19.34 GNI. the lowest GNI average is owned by the state of Bhutan ie 13.55, followed by Thailand 13.99, and Mongolia 14.87.

Table 2. Countries' GNI (LN) Year 2011-2017

No	Negara	Kode	2011	2012	2013	2014	2015	2016	2017	Avrg
1	Afghanistan	AFG	17.18	17.21	17.24	17.27	17.30	17.33	17.36	17.27
2	Australia	AUS	16.91	16.92	16.94	16.96	16.97	16.98	17.00	16.95
3	Bangladesh	BGD	18.84	18.85	18.86	18.88	18.89	18.90	18.91	18.88
4	Bhutan	BTN	13.50	13.52	13.53	13.55	13.56	13.58	13.59	13.55
5	China	CHN	21.01	21.02	21.02	21.03	21.03	21.04	21.04	21.03
6	Cambodia	KHM	16.48	16.49	16.51	16.53	16.54	16.56	16.57	16.52
7	Hong Kong	HKG	15.76	15.77	15.78	15.79	15.80	15.80	15.81	15.79
8	India	IND	20.93	20.94	20.96	20.97	20.98	20.99	21.00	20.97
9	Indonesia	IDN	19.31	19.32	19.33	19.35	19.36	19.37	19.38	19.34
10	Japan	JPN	18.67	18.67	18.66	18.66	18.66	18.66	18.66	18.66
11	Lao PDR	LAO	15.65	15.66	15.67	15.69	15.70	15.71	15.73	15.69
12	Malaysia	MYS	17.15	17.17	17.19	17.21	17.22	17.24	17.26	17.21
13	Mongolia	MNG	14.81	14.83	14.85	14.87	14.89	14.91	14.92	14.87
14	Myanmar	MMR	17.73	17.74	17.75	17.76	17.77	17.77	17.78	17.76
15	Nepal	NPL	17.11	17.12	17.14	17.15	17.16	17.17	17.18	17.15
16	New Zealand	NZL	15.29	15.29	15.30	15.31	15.32	15.34	15.36	15.32
17	Pakistan	PAK	18.95	18.98	19.00	19.02	19.04	19.06	19.08	19.02
18	Philippines	PHL	18.36	18.37	18.39	18.41	18.42	18.44	18.45	18.41
19	Singapore	SGP	15.44	15.46	15.49	15.50	15.51	15.53	15.54	15.50
20	Sri Lanka	LKA	16.82	16.82	16.83	16.84	16.85	16.86	16.87	16.84
21	Thailand	THA	13.92	13.94	13.96	13.98	14.01	14.03	14.05	13.99
Average			17.13	17.15	17.16	17.18	17.19	17.20	17.22	17.18

Based on GNI growth (Table 3) , it can be seen that, on average, the growth of GNI in Asia Pacific countries during 2011-2017 is 1.30. If observed deeply, the average of GNI annual growth fluctuated, where the lowest average growth occurred

in the year 2017 that is 1.25. For each country, over the same period, Afghanistan was the country with the highest growth rate of 3.04. The lowest growth country is Japan, which is -0.12. Japan experienced a decline in GNI growth from year to year.

Table 3. Countries' GNI (Growth) Year 2011-2017

No	Negara	Kode	2011	2012	2013	2014	2015	2016	2017	Avrg
1	Afghanistan	AFG	2.81	3.10	3.27	3.32	3.18	2.94	2.69	3.04
2	Australia	AUS	1.56	1.39	1.72	1.70	1.47	1.39	1.41	1.52
3	Bangladesh	BGD	1.12	1.15	1.17	1.18	1.16	1.12	1.08	1.14
4	Bhutan	BTN	1.83	1.75	1.67	1.58	1.49	1.40	1.31	1.58
5	China	CHN	0.48	0.48	0.49	0.49	0.51	0.51	0.54	0.50

6	Cambodia	KHM	1.54	1.59	1.63	1.65	1.64	1.60	1.56	1.60
7	Hong Kong	HKG	0.73	0.67	1.17	0.46	0.75	0.88	0.56	0.75
8	India	IND	1.37	1.31	1.26	1.22	1.19	1.17	1.15	1.24
9	Indonesia	IDN	1.32	1.30	1.28	1.26	1.22	1.18	1.14	1.24
10	Japan	JPN	0.02	-0.19	-0.16	-0.14	-0.13	-0.11	-0.12	-0.12
11	Lao PDR	LAO	1.52	1.39	1.28	1.23	1.25	1.32	1.41	1.34
12	Malaysia	MYS	1.82	1.84	1.85	1.82	1.74	1.62	1.50	1.74
13	Mongolia	MNG	1.65	1.79	1.89	1.93	1.89	1.80	1.68	1.80
14	Myanmar	MMR	0.71	0.79	0.85	0.90	0.92	0.92	0.91	0.86
15	Nepal	NPL	1.05	1.12	1.17	1.21	1.20	1.17	1.13	1.15
16	New Zealand	NZL	1.11	0.76	0.55	0.77	1.51	1.89	2.09	1.24
17	Pakistan	PAK	2.08	2.10	2.12	2.11	2.09	2.05	2.00	2.08
18	Philippines	PHL	1.62	1.64	1.65	1.65	1.63	1.60	1.56	1.62
19	Singapore	SGP	1.77	2.08	2.45	1.62	1.30	1.19	1.30	1.67
20	Sri Lanka	LKA	0.75	0.75	0.76	0.78	0.90	0.93	1.12	0.86
21	Thailand	THA	0.49	0.48	0.46	0.44	0.40	0.35	0.30	0.42
Average			1.30	1.30	1.36	1.29	1.30	1.28	1.25	1.30

Corruption can be measured by Corruption Perceptions Index (Herzfeld and Weiss, 2003). A high CPI indicates that countries are relatively clean from corruption, while a low index is an indication of high corruption. Kotera et.al (2010) state that corruption is a phenomenon

widely observed in both developed and developing countries. Rich countries are perceived to be less corrupt than poor ones. This provides strong reason to believe that, whatever the effect of corruption on growth, higher economic development does itself reduce corruption (Treisman, 2000).

Table 4. Countries' CPI Year 2011-2017

No	Negara	Kode	2011	2012	2013	2014	2015	2016	2017	Avrg
1	Afghanistan	AFG	14	15	8	8	12	11	15	11.86
2	Australia	AUS	87	88	85	81	80	79	79	82.71
3	Bangladesh	BGD	24	27	26	27	25	25	26	25.71
4	Bhutan	BTN	57	57	63	63	65	65	65	62.14
5	China	CHN	35	36	39	40	36	37	40	37.57
6	Cambodia	KHM	21	21	22	20	21	21	21	21.00
7	Hong Kong	HKG	84	84	77	75	74	75	77	78.00
8	India	IND	33	31	36	36	38	38	40	36.00
9	Indonesia	IDN	28	30	32	32	34	36	37	32.71
10	Japan	JPN	78	80	74	74	76	75	72	75.57
11	Lao PDR	LAO	21	22	21	26	25	25	30	24.29
12	Malaysia	MYS	44	43	49	50	52	50	49	48.14
13	Mongolia	MNG	27	27	36	38	39	39	38	34.86
14	Myanmar	MMR	14	15	15	21	21	22	28	19.43
15	Nepal	NPL	22	22	27	31	29	27	29	26.71
16	New Zealand	NZL	93	95	90	91	91	91	90	91.57

17	Pakistan	PAK	23	25	27	28	29	30	32	27.71
18	Philippines	PHL	24	26	34	36	38	35	35	32.57
19	Singapore	SGP	93	92	87	86	84	85	84	87.29
20	Sri Lanka	LKA	32	33	37	37	38	37	36	35.71
21	Thailand	THA	35	34	37	35	38	38	35	36.00
Average			42.33	43.00	43.90	44.52	45.00	44.81	45.62	44.17

Table 4 shows the CPI of Asia Pacific countries during the period 2011-2017. CPI of 21 countries seems to increase from year to year. This means that corruption in Asia-Pacific countries is diminishing, although it can not be said to be good. The average index of this corruption has a value of 44.17 from a score of 100. If further examined, there is a huge gap between the highest CPI achieved by New Zealand (the average value of 91.57) with the lowest CPI value held by Afghanistan (11.86). New Zealand is the country with the best corruption index worldwide that has the same value as Denmark.

Five countries with the highest CPI score were New Zealand (91.57), Singapore (87.29), Australia (82.71), Hongkong (78.00), and Japan (75.57). These five countries are included in a group of developed countries. So it is in line with the statement of Treisman (2000) that rich countries are perceived to be less corrupt than poor ones. Afghanistan became the country with the highest corruption rate (lowest CPI score). In addition to being included in a country with low per capita incomes also became a country with a never-ending civil war. With unstable political conditions, it is difficult for this country to provide the best service for the community. It condition gives more opportunities for the polifiration of

corruption practices both in the government and in the community itself.

Although the statistical results of this study prove that GDP and GNI have an influence on corruption, but the tables show that the countries with the highest CPI are not the countries with the highest GDP and GNI. Similarly, countries with the lowest CPI is not the country with the lowest GDP/GNI. The results of the study using Fixed Effect Model/FEM (selected by model test), to prove the effect of economic development on corruption of 21 countries for period 2010-2016, show that, simultantly, all variables GDP, GNILN, and GNIGR have positive and significant effect on corruption index. It can be seen from Prob(F-statistic) that has value 0.0000 (lower than $\alpha = 0.05$).

Also it shows that, partially, GDP (X_1) has a significant negatif effect (coefficient = - 0.4060 to CPI with p-value 0.0141. This result means that any 1% increase in GDP will decrease 0.0141% countrie's CPI. GNI (LN) has significant positif effect (coefficient = 44.8953 to CPI with p-value 0.0000. This means that any 1% increase in GNILN will increase 44.8953% countries' CPI. GNIGR has no significant positif effect (coefficient = 1.0808 to CPI (Y) with p-value 0.4375. This means that any 1% increase in GNILN will increase 1.0808% countries' CPI. The structural equation form is described below.

$$\text{CPI}_{it} = -717.4422 - 0.405960 \cdot \text{GDP}_{it} + 44.89529 \cdot \text{GNILN}_{it} + 1.080785 \cdot \text{GNIGR}_{it}$$

P	(0.0141)	(0.0000)	(0.4375)
t-stat	(-2.4910)	(5.0661)	(0.7790)

Study result from Billger and Goel (2009) showed that an increase GDP leads

to a reduction in corruption at almost all degrees of corruption. It means that there is

a negatif relationship between GDP and corruption. The result of this study relevant to Billger and Goel study and inline with Treisman (2010) statement that rich countries are perceived to be less corrupt than poor ones. Countries with high income have higher accountability, government effectiveness, and control of corruption (Herzfeld and Weiss, 2003)

Output result of individual value effect (Ci) from selected model (Fixed Effect Model), also shows the sensitivity of each country to corruption. From Table below, it can be seen that Bhutan (BTN) has the highest intercept value (178.8799) while China (CHN) has the lowest intercept value (=178.4278). This means that, if assumed that all independent variables has no effect (Ceteris Paribus), Bhutan (BTN) has the highest index of corruption perception, while China (CHN)) has the lowest corruption perception index.

Conclusion

The effect of economic development (GDP, GNI LN, and GNI GT) on corruption (CPI) were studied in this research. The results of the analyses point towards some conclusions. **First**, It is found that, simultantly, all variables GDP, GNILN, and GNIGR have positive and significant effect on corruption index. **Second**, partially, GDP has a significant negatif effect but GNI LN has significant positif effect and GNIGR has no effect on corruption. **Third**, although the statistical results of this study prove that GDP and GNI have an influence on corruption, it stands that the countries with the highest CPI are not the countries with the highest GDP and GNI. Similarly, countries with the lowest CPI is not the country with the lowest GDP/GNI. There are other factors that influence corruption in a country, including transparency, accountability, legal systems and so on.

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Dependent Variable: CPI
Method: Panel Least Squares
Date: 01/07/18 Time: 15:54
Sample: 2010 2016
Periods included: 7
Cross-sections included: 21
Total panel (unbalanced) observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	-0.405960	0.162969	-2.491023	0.0141
GNILN	44.89529	8.861996	5.066047	0.0000
GNIGR	1.080785	1.387342	0.779033	0.4375
C	-717.4422	152.7445	-4.697008	0.0000

Effects Specification

Cross-section fixed (dummy variables)			
R-squared	0.323314	Mean dependent var	44.57931
Adjusted R-squared	0.306789	S.D. dependent var	24.27037
S.E. of regression	3.039077	Akaike info criterion	5.211076
Sum squared resid	1117.555	Schwarz criterion	5.703777
Log likelihood	-353.8030	Hannan-Quinn criter.	5.411277
F-statistic	394.0436	Durbin-Watson stat	0.826523
Prob(F-statistic)	0.000000		

Individual value effect (Ci)

	CROSSID	Effect
1	Afghanistan	-42.17100
2	Australia	48.20607
3	Bangladesh	-94.83365
4	Bhutan	178.8799
5	China	-178.4278
6	Cambodia	5.042052
7	Hong Kong	96.23547
8	India	-177.9634
9	Indonesia	-108.4494
10	Japan	-33.02942
11	Lao PDR	46.05448
12	Malaysia	1.632968
13	Mongolia	92.58143
14	Myanmar	-51.39017
15	Nepal	-17.16881
16	New Zealand	130.3350
17	Pakistan	-100.3591
18	Philippines	-67.40880
19	Singapore	117.9439
20	Sri Lanka	6.429386
21	Thailand	135.8122