



Article title: Consumption Contribution to Economy Growth: -

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Consumption Contribution to Economy Growth

Ivan Sudibyو

Abstract

The analysis of the final consumption influence on the Gross Domestic Product is rarely studied. The final consumption is one important studies that follow the expenses method of GDP calculation and formation. The econometric approach gives substantial results when a longer interval is approached. The fact of econometric model is the dependence of the national economy on final consumption. Thus, the unifactorial regression model can be used to establish the influence that the value of final consumption. The Researcher make some description about final consumption in Southeast Asia+3 and US.

“GDP has recently faced unusually intense criticism with some commentators calling for it to be replaced by a more direct measure of wellbeing based on self-reports. One problem is not the concept itself, but the way it is used, and that too much is expected of it. The use of GDP as the headline measure of economic progress is particularly unfortunate, and has become more so as economies have changed and become more globally connected. I shall say something about this first, and then about how we should extend national accounts to handle distributional issues, and finally about the problem of measuring healthcare. I should also note that while I am very much in favor of the collection of self-reported measures of wellbeing, including both evaluations of wellbeing and reports of feelings, I do not think it makes sense to think of them as replacements for GDP or other measures in the national accounts. Extensive work has proved that these measures are useful, that they sometimes capture important aspects of life that are not otherwise measured, and that much can be learned from comparing them with other, more familiar, measures. I think it is unfortunate that self-reports of wellbeing are not regularly collected somewhere in the American statistical system” (Deaton, 2020).

“Again, there is nothing wrong with this situation, at least statistically, but if the news media continue to valorised GDP or per capita GDP, the concept will lose repute, undermining public confidence in the national accounts. Much better would be to focus on what is happening to people, through their levels of disposable income or consumption” (Deaton, 2020).

The analysis of the final consumption influence on the Gross Domestic Product is one of the most important studies that follow the expenses method of GDP calculation and formation. The econometric approach gives substantial results when a longer interval is approached and, one of the truths behind the econometric model is the dependence of the national economy on final consumption. Thus, the unifactorial regression model can be used to establish the influence that the value of final consumption has on the evolution of Gross Domestic Product (Anghel, et.al, 2017).

Danquah, M., et.al., (2014) find that the most robust TFP growth determinants are unobserved heterogeneity, initial GDP, consumption share, and trade openness. A split of the sample into OECD and non-OECD countries reveals some interesting findings. Danquah, M., et.al., (2014) find that initial GDP and unobserved heterogeneity are the only two robust determinants common to OECD and non-OECD countries. For the sample of OECD countries, in addition to the fixed effects and initial GDP, the results find that investment price, consumption share, trade openness, and the labor force are robustly correlated to TFP growth. With respect to non-OECD countries, the only additional variable robustly correlated with TFP growth is population density.

Asumadu-Sarkodie, et.al. (2016) used variance decomposition and find that show that almost 19% of future fluctuations in household final consumption expenditure are due to shocks in GDP, while 13% of future fluctuations in household final consumption expenditure are due to shocks in mortality rate. Meaning that GDP affects household final consumption expenditure more than mortality rate, fertility rate, and the food production index in the long-run in Ghana. Besides that, 6% of future fluctuations in GDP are due to shocks in household final consumption expenditure the while 5,75% of future fluctuations in GDP are due to shocks in food production index. Meaning that food production index affects GDP more than fertility rate, mortality rate in the long-run in Ghana.

Shaikh, N. A., et. al. (2015) found that consumption function in Pakistan estimates show significant, strong and positive relationship between GDP and consumption expenditure. P-values (in braces) associated with constant and GDP variable in column 5 (under t) are <5% or 0.05 so the estimates have high generalizability power. The slope of the consumption function is the rate of change in consumption due to the change in income by one unit. The function result is $C = -4484.05 + 0.821Y$ and the Multiplier $= \frac{1}{1-M} = \frac{1}{1-0.821} = 5.587$.

The other research state that the association between consumption, income and GDP was found significant in the all the considered panels of countries, more accentuated for the low and middle income countries. The fact that a greater level of consumption and income increases the proxy of the standard of living, but to a lower degree for the high income countries which are more proficient in investments and R&D activities, especially in human capital (Diacon, P.E., et.al., 2015).

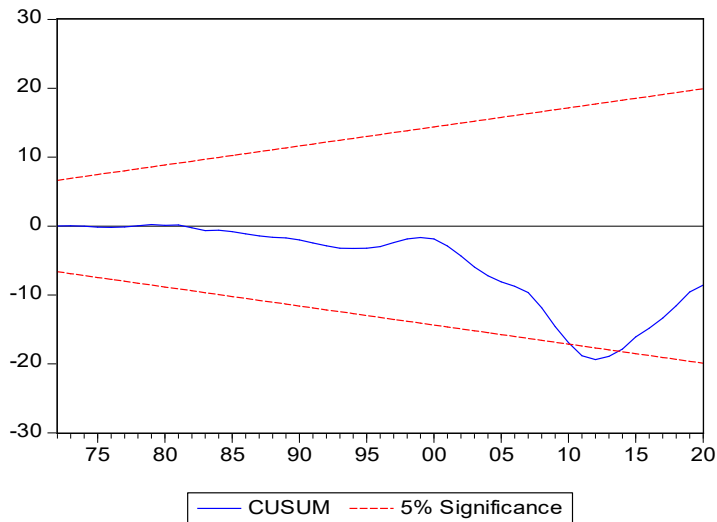
The other paper said that consumption and production were usually seen in a relationship of mutually beneficial causation: increased consumption is not only the result but also the cause of a greater production of wealth, since it increases labor productivity (Perrotta,C., 1997).

Research methodology and data

Researcher want to describe the consumption data in Southeast Asia+3 and US. Researcher used data on a yearly basis covering the period 1960-2020 from World Bank indicators database. Based on these observations and methodological elements mentioned above, Researcher used regression method as a tool to estimate the parameters of this model. The results can be summarized as follows. The following is an illustration of the consumption of ASEAN + 3 countries and the US;

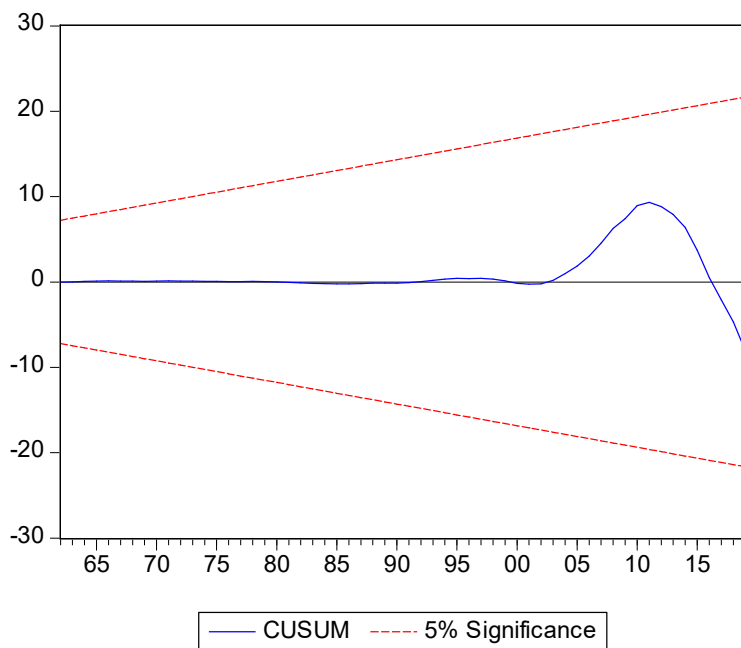
Dependent Variable: USA_GDPUSD
 Method: Least Squares
 Sample (adjusted): 1970 2020
 Included observations: 51 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
USA_CONSM	1.200462	0.005287	227.0640	0.0000
C	1.94E+11	4.75E+10	4.076330	0.0002
R-squared	0.999051	Mean dependent var		9.04E+12
Adjusted R-squared	0.999031	S.D. dependent var		6.25E+12
S.E. of regression	1.94E+11	Akaike info criterion		54.86325
Sum squared resid	1.85E+24	Schwarz criterion		54.93901
Log likelihood	-1397.013	Hannan-Quinn criter.		54.89220
F-statistic	51558.04	Durbin-Watson stat		0.217703
Prob(F-statistic)	0.000000			



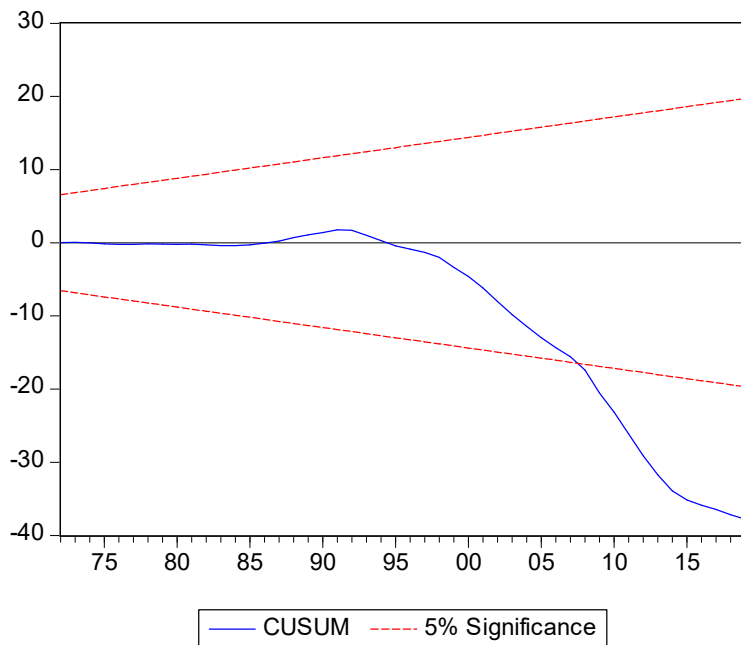
Dependent Variable: CHN_GDPUSD
 Method: Least Squares
 Sample (adjusted): 1960 2019
 Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CHN_CONSM	1.859384	0.011585	160.4990	0.0000
C	-1.87E+10	2.85E+10	-0.655044	0.5150
R-squared	0.997754	Mean dependent var		2.37E+12
Adjusted R-squared	0.997715	S.D. dependent var		3.94E+12
S.E. of regression	1.89E+11	Akaike info criterion		54.79607
Sum squared resid	2.06E+24	Schwarz criterion		54.86588
Log likelihood	-1641.882	Hannan-Quinn criter.		54.82338
F-statistic	25759.94	Durbin-Watson stat		0.166240
Prob(F-statistic)	0.000000			



Dependent Variable: JPN_GDPUSD
 Method: Least Squares
 Sample (adjusted): 1970 2019
 Included observations: 50 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
JPN_CONSM	1.320872	0.019267	68.55548	0.0000
C	1.91E+11	5.39E+10	3.539330	0.0009
R-squared	0.989890	Mean dependent var	3.36E+12	
Adjusted R-squared	0.989680	S.D. dependent var	1.94E+12	
S.E. of regression	1.97E+11	Akaike info criterion	54.89115	
Sum squared resid	1.86E+24	Schwarz criterion	54.96763	
Log likelihood	-1370.279	Hannan-Quinn criter.	54.92028	
F-statistic	4699.854	Durbin-Watson stat	0.093385	
Prob(F-statistic)	0.000000			



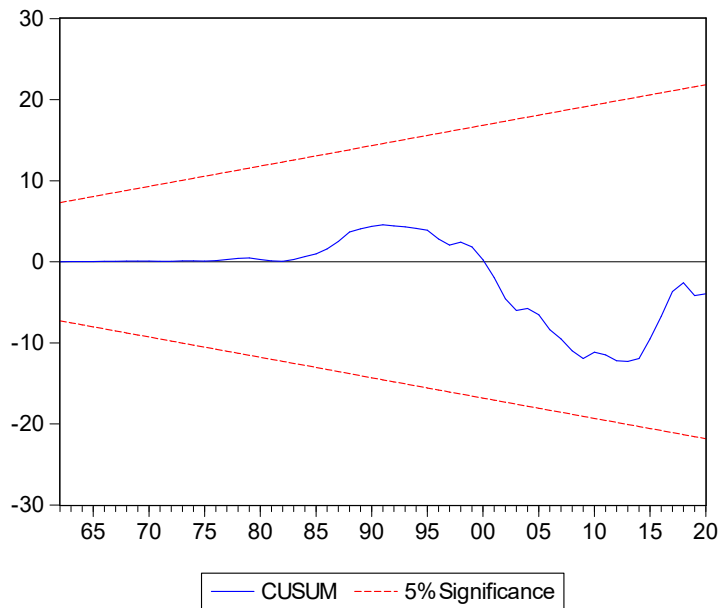
Dependent Variable: KOR_GDPUSD

Method: Least Squares

Sample: 1960 2020

Included observations: 61

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KOR_CONSM	1.544471	0.005569	277.3367	0.0000
C	-5.08E+08	2.68E+09	-0.189480	0.8504
R-squared	0.999234	Mean dependent var	5.00E+11	
Adjusted R-squared	0.999221	S.D. dependent var	5.55E+11	
S.E. of regression	1.55E+10	Akaike info criterion	49.79903	
Sum squared resid	1.42E+22	Schwarz criterion	49.86824	
Log likelihood	-1516.870	Hannan-Quinn criter.	49.82615	
F-statistic	76915.62	Durbin-Watson stat	0.605002	
Prob(F-statistic)	0.000000			



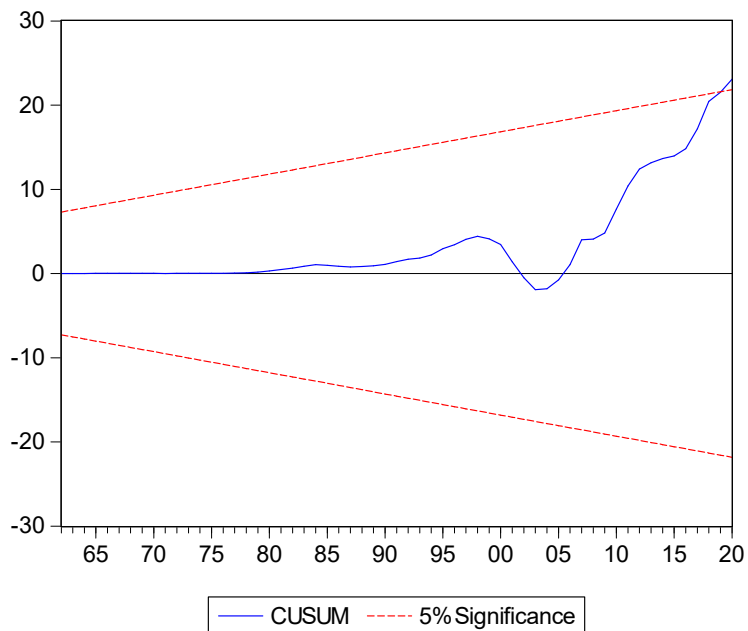
Dependent Variable: SGP_GDPUSD

Method: Least Squares

Sample: 1960 2020

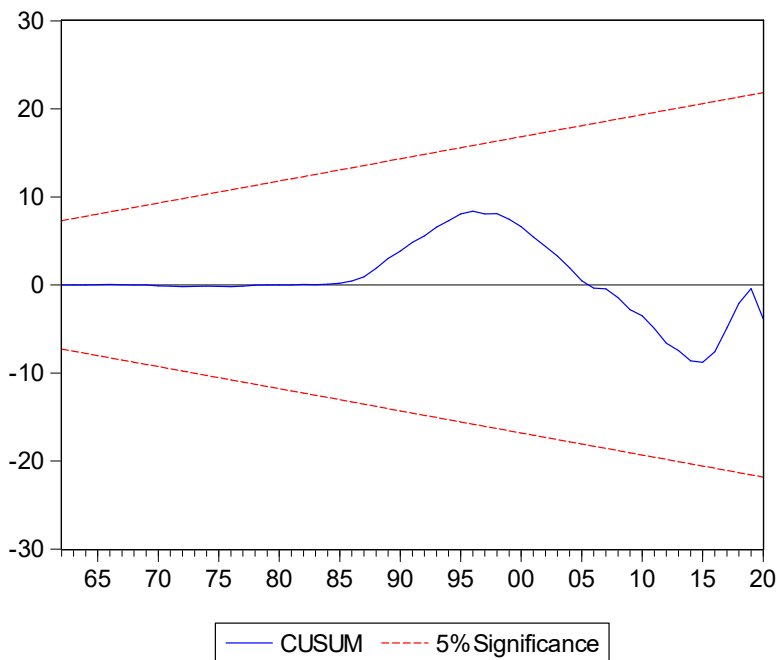
Included observations: 61

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SGP_CONSM	2.177244	0.015223	143.0245	0.0000
C	-5.19E+09	1.08E+09	-4.820480	0.0000
R-squared	0.997124	Mean dependent var		9.53E+10
Adjusted R-squared	0.997075	S.D. dependent var		1.18E+11
S.E. of regression	6.36E+09	Akaike info criterion		48.01704
Sum squared resid	2.39E+21	Schwarz criterion		48.08625
Log likelihood	-1462.520	Hannan-Quinn criter.		48.04417
F-statistic	20456.01	Durbin-Watson stat		0.476363
Prob(F-statistic)	0.000000			



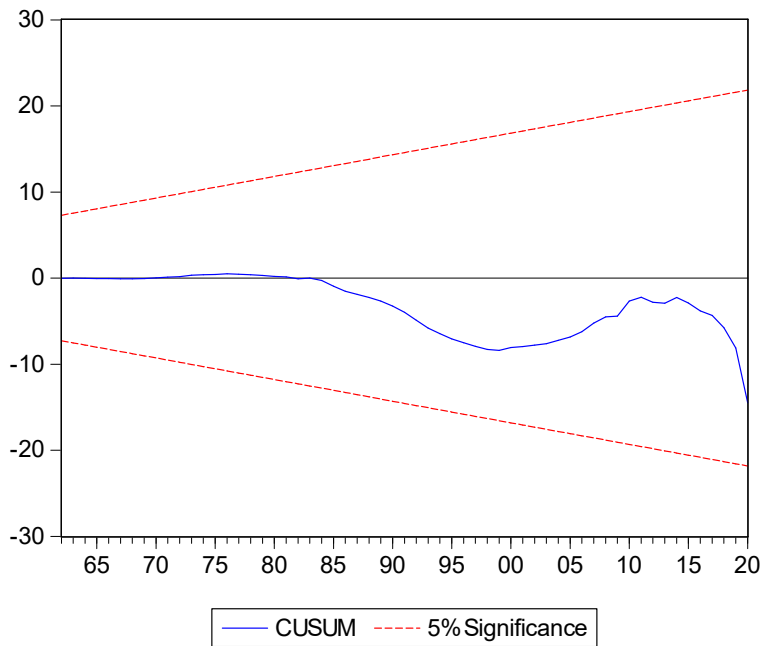
Dependent Variable: THA_GDPUSD
 Method: Least Squares
 Sample: 1960 2020
 Included observations: 61

Variable	Coefficient	Std. Error	t-Statistic	Prob.
THA_CONSM	1.481647	0.008185	181.0308	0.0000
C	-7.77E+08	1.17E+09	-0.664440	0.5090
R-squared	0.998203	Mean dependent var	1.42E+11	
Adjusted R-squared	0.998172	S.D. dependent var	1.58E+11	
S.E. of regression	6.74E+09	Akaike info criterion	48.13300	
Sum squared resid	2.68E+21	Schwarz criterion	48.20221	
Log likelihood	-1466.056	Hannan-Quinn criter.	48.16012	
F-statistic	32772.15	Durbin-Watson stat	0.705779	
Prob(F-statistic)	0.000000			



Dependent Variable: PHL_GDPUSD
 Method: Least Squares
 Sample: 1960 2020
 Included observations: 61

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PHL_CONSM	1.177430	0.006107	192.8082	0.0000
C	1.99E+09	7.34E+08	2.705613	0.0089
R-squared	0.998415	Mean dependent var	9.37E+10	
Adjusted R-squared	0.998389	S.D. dependent var	1.09E+11	
S.E. of regression	4.37E+09	Akaike info criterion	47.26512	
Sum squared resid	1.13E+21	Schwarz criterion	47.33433	
Log likelihood	-1439.586	Hannan-Quinn criter.	47.29224	
F-statistic	37174.99	Durbin-Watson stat	0.552236	
Prob(F-statistic)	0.000000			



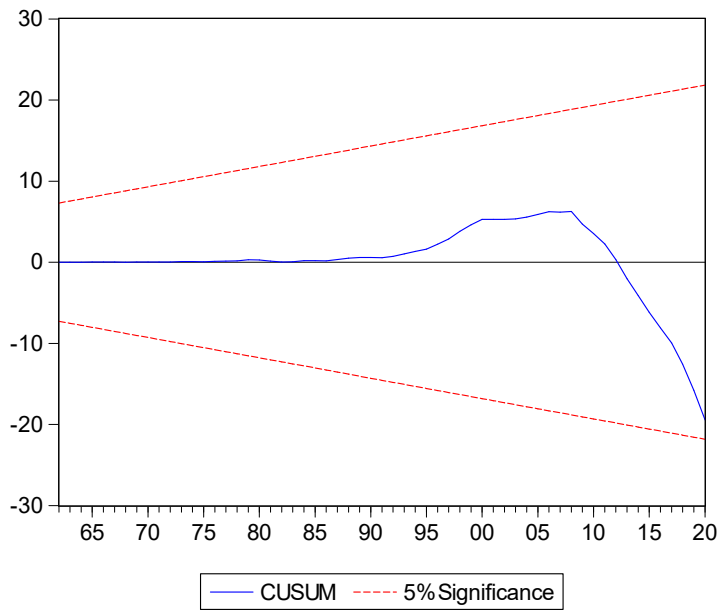
Dependent Variable: MYS_GDPUSD

Method: Least Squares

Sample: 1960 2020

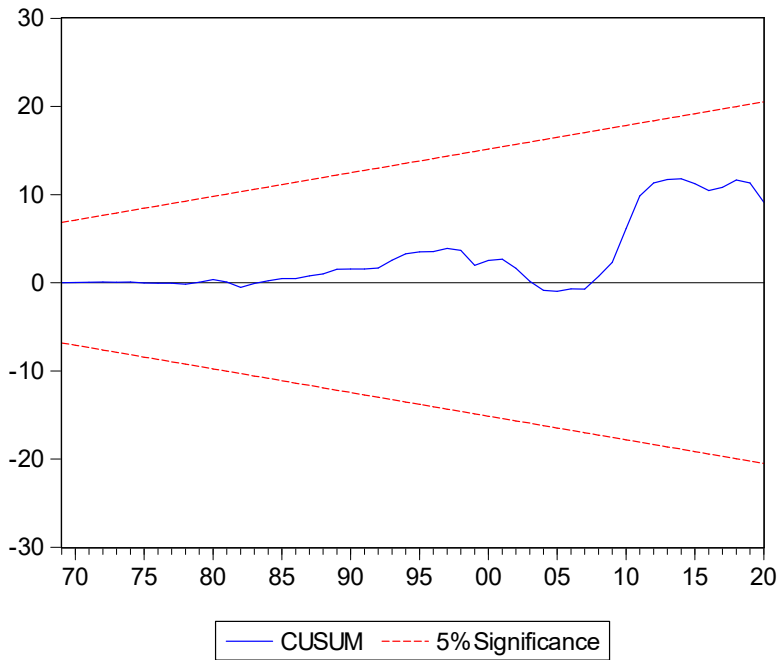
Included observations: 61

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MYS_CONSM	1.491460	0.019915	74.89166	0.0000
C	5.04E+09	2.00E+09	2.524423	0.0143
R-squared	0.989590	Mean dependent var		1.01E+11
Adjusted R-squared	0.989414	S.D. dependent var		1.17E+11
S.E. of regression	1.20E+10	Akaike info criterion		49.28532
Sum squared resid	8.49E+21	Schwarz criterion		49.35453
Log likelihood	-1501.202	Hannan-Quinn criter.		49.31244
F-statistic	5608.761	Durbin-Watson stat		0.157843
Prob(F-statistic)	0.000000			



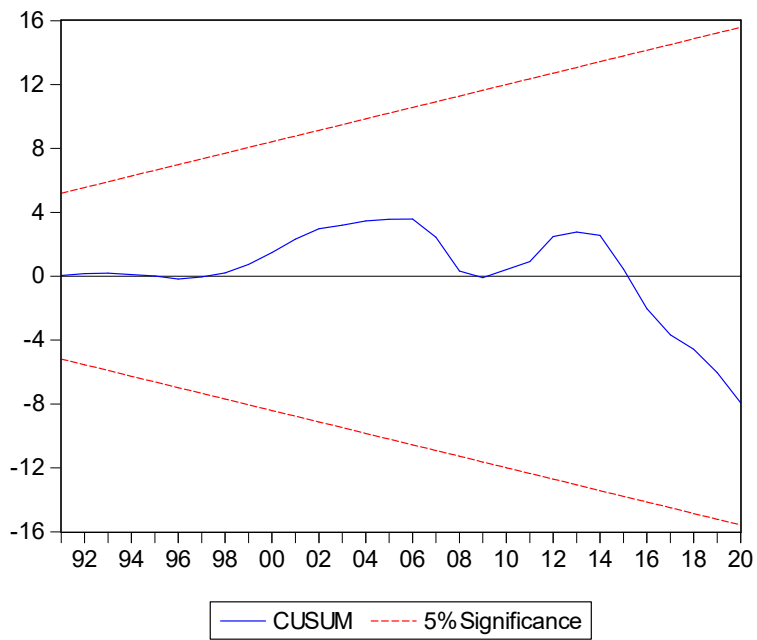
Dependent Variable: IDN_GDPUSD
 Method: Least Squares
 Sample (adjusted): 1967 2020
 Included observations: 54 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IDN_CONSM	1.512733	0.006848	220.8882	0.0000
C	-1.05E+10	2.12E+09	-4.954327	0.0000
R-squared	0.998935	Mean dependent var	3.01E+11	
Adjusted R-squared	0.998915	S.D. dependent var	3.52E+11	
S.E. of regression	1.16E+10	Akaike info criterion	49.22034	
Sum squared resid	6.98E+21	Schwarz criterion	49.29400	
Log likelihood	-1326.949	Hannan-Quinn criter.	49.24875	
F-statistic	48791.58	Durbin-Watson stat	0.671424	
Prob(F-statistic)	0.000000			



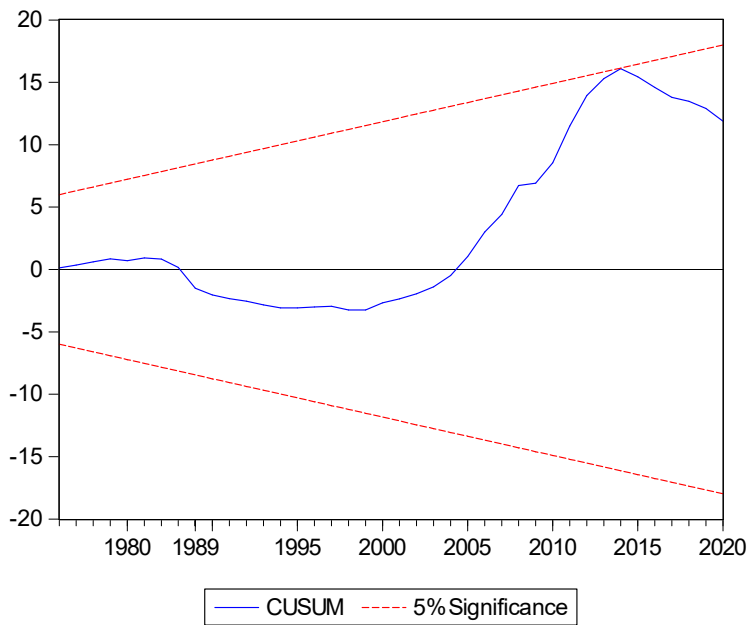
Dependent Variable: VNM_GDPUSD
 Method: Least Squares
 Sample (adjusted): 1989 2020
 Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VNM_CONSM	1.355078	0.007946	170.5266	0.0000
C	-3.12E+08	7.32E+08	-0.426127	0.6731
R-squared	0.998969	Mean dependent var	9.21E+10	
Adjusted R-squared	0.998935	S.D. dependent var	8.55E+10	
S.E. of regression	2.79E+09	Akaike info criterion	46.39641	
Sum squared resid	2.33E+20	Schwarz criterion	46.48802	
Log likelihood	-740.3426	Hannan-Quinn criter.	46.42678	
F-statistic	29079.34	Durbin-Watson stat	0.500657	
Prob(F-statistic)	0.000000			



Dependent Variable: BRN_GDPUSD
 Method: Least Squares
 Sample (adjusted): 1974 2020
 Included observations: 42 after adjustments

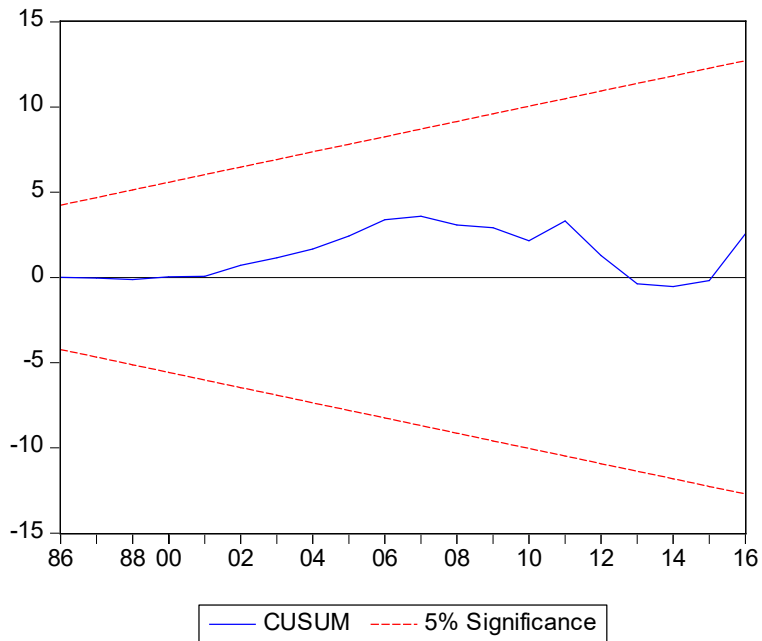
Variable	Coefficient	Std. Error	t-Statistic	Prob.
BRN_CONSM	2.330328	0.154651	15.06827	0.0000
C	1.39E+08	5.98E+08	0.231988	0.8177
R-squared	0.850217	Mean dependent var		7.76E+09
Adjusted R-squared	0.846472	S.D. dependent var		5.26E+09
S.E. of regression	2.06E+09	Akaike info criterion		45.77552
Sum squared resid	1.70E+20	Schwarz criterion		45.85827
Log likelihood	-959.2860	Hannan-Quinn criter.		45.80585
F-statistic	227.0529	Durbin-Watson stat		0.400873
Prob(F-statistic)	0.000000			



Dependent Variable: LAO_GDPUSD
 Method: Least Squares
 Sample (adjusted): 1984 2016
 Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LAO_CONSM	1.175179	0.022843	51.44525	0.0000
C	-37716169	1.40E+08	-0.268898	0.7908

R-squared	0.992500	Mean dependent var	5.47E+09
Adjusted R-squared	0.992125	S.D. dependent var	4.79E+09
S.E. of regression	4.25E+08	Akaike info criterion	42.65841
Sum squared resid	3.61E+18	Schwarz criterion	42.75760
Log likelihood	-467.2425	Hannan-Quinn criter.	42.68178
F-statistic	2646.614	Durbin-Watson stat	1.416272
Prob(F-statistic)	0.000000		



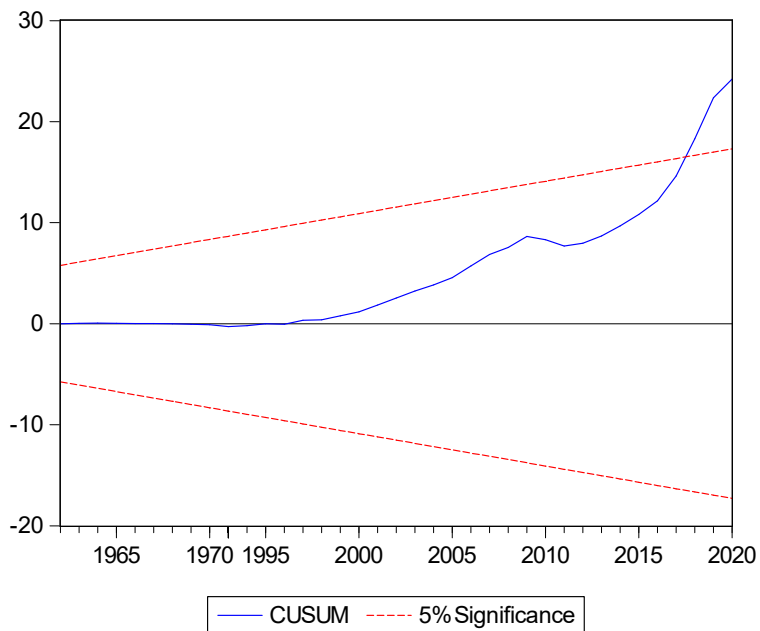
Dependent Variable: KHM_GDPUSD

Method: Least Squares

Sample: 1960 2020

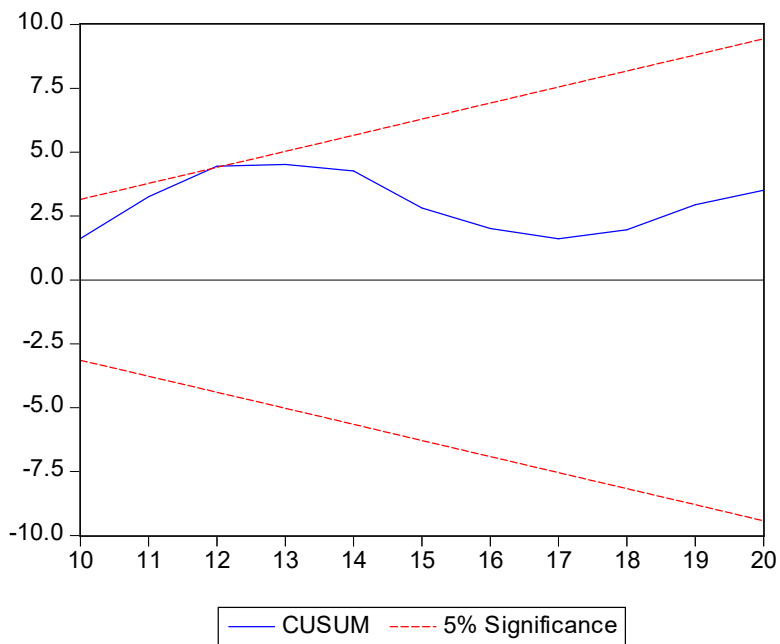
Included observations: 39

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KHM_CONSM	1.289217	0.016117	79.99102	0.0000
C	-5.82E+08	1.43E+08	-4.066270	0.0002
R-squared	0.994251	Mean dependent var	7.78E+09	
Adjusted R-squared	0.994095	S.D. dependent var	7.94E+09	
S.E. of regression	6.10E+08	Akaike info criterion	43.34548	
Sum squared resid	1.38E+19	Schwarz criterion	43.43079	
Log likelihood	-843.2368	Hannan-Quinn criter.	43.37608	
F-statistic	6398.564	Durbin-Watson stat	0.289010	
Prob(F-statistic)	0.000000			

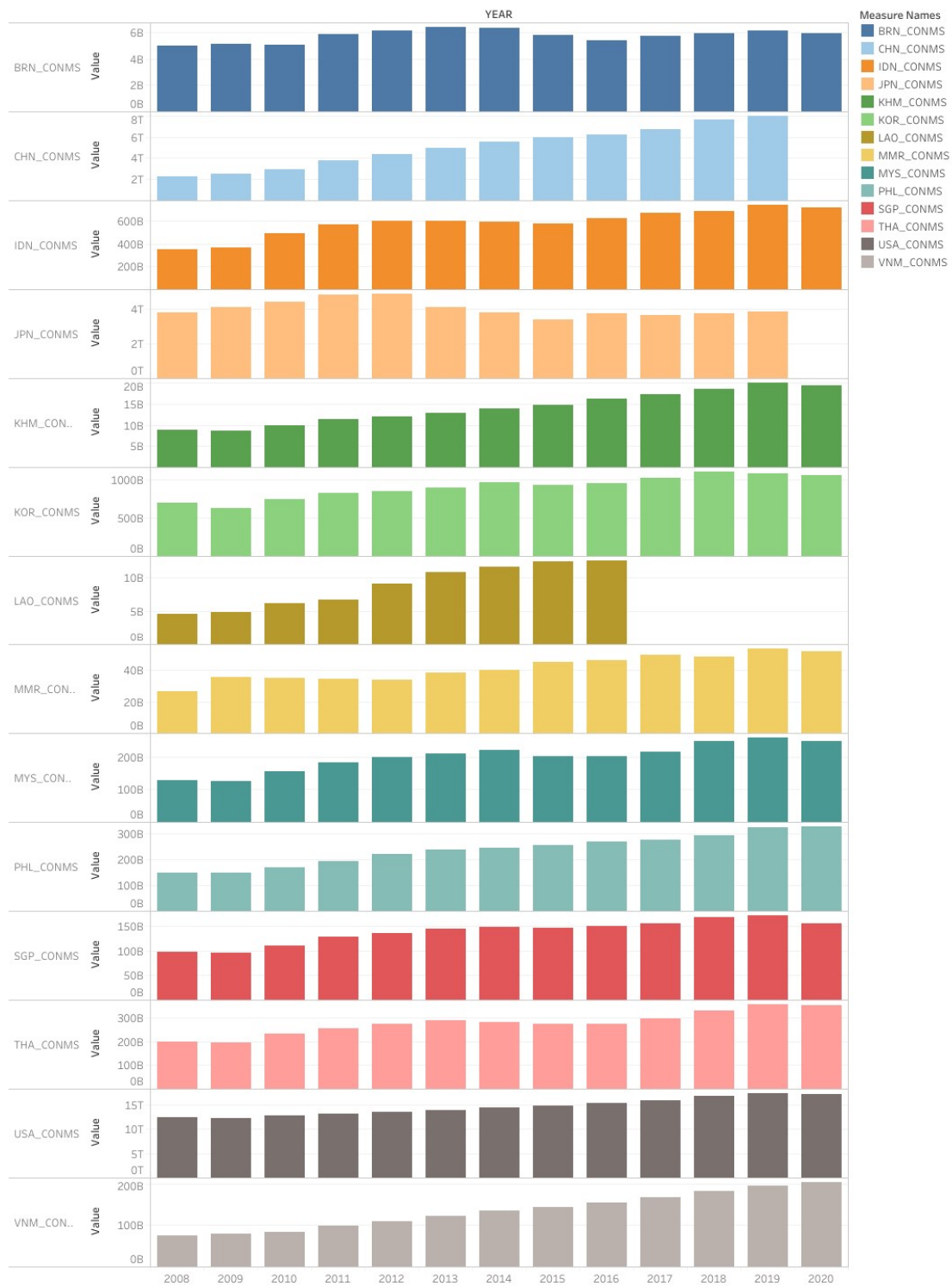


Dependent Variable: MMR_GDPUSD
 Method: Least Squares
 Sample (adjusted): 2008 2020
 Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MMR_CONSM	1.457123	0.163001	8.939337	0.0000
C	-1.50E+09	6.87E+09	-0.217838	0.8315
R-squared	0.879004	Mean dependent var		5.88E+10
Adjusted R-squared	0.868004	S.D. dependent var		1.30E+10
S.E. of regression	4.73E+09	Akaike info criterion		47.53138
Sum squared resid	2.46E+20	Schwarz criterion		47.61830
Log likelihood	-306.9540	Hannan-Quinn criter.		47.51352
F-statistic	79.91174	Durbin-Watson stat		0.850615
Prob(F-statistic)	0.000002			



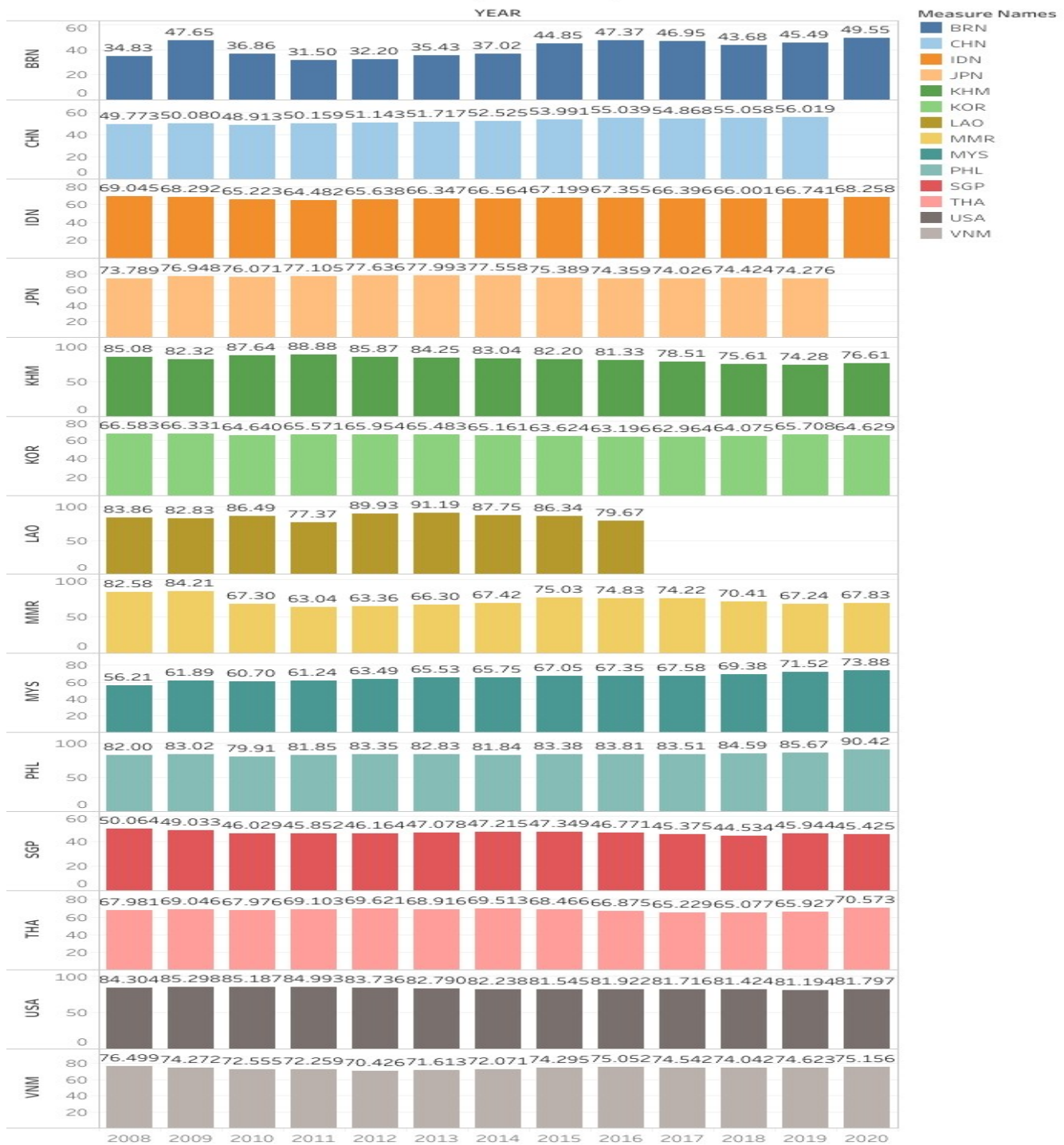
Consumption



source: World Bank indicators

In the graph, we can see together, the countries with the largest consumption value are the US, China, Japan, Korea. As we can see, the advanced countries have large consumption value.

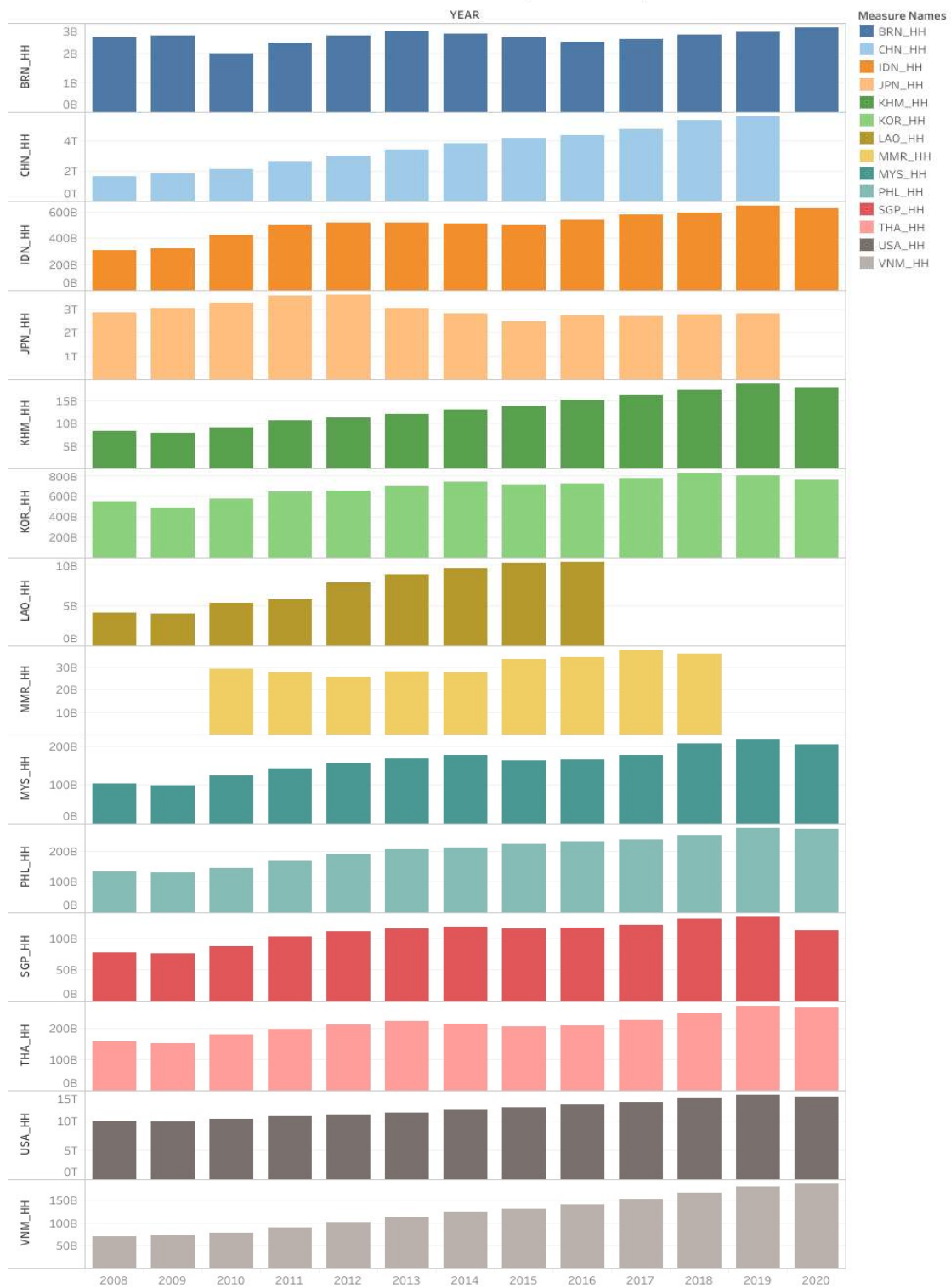
Final consumption expenditure (% of GDP)



source: World Bank indicators

Based on the graph, it appears that the share consumption of each country varied depend on its economic characteristic.

Households and NPISHs Final consumption expenditure (current US\$)

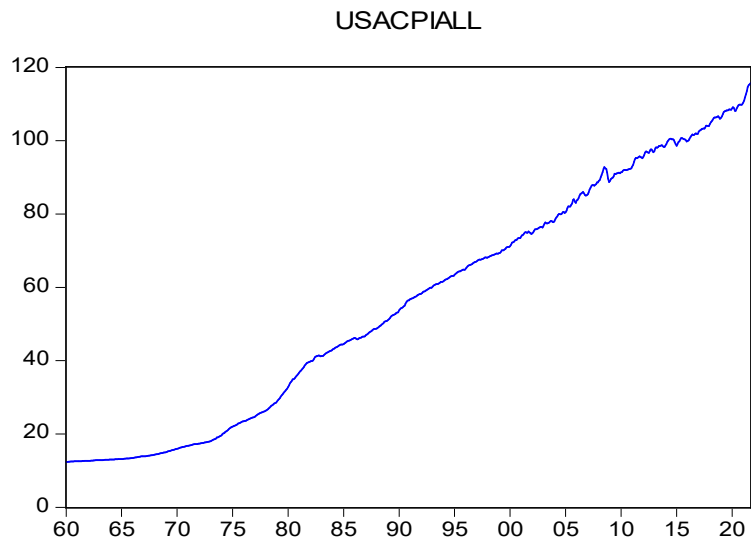


source: World Bank Indicators

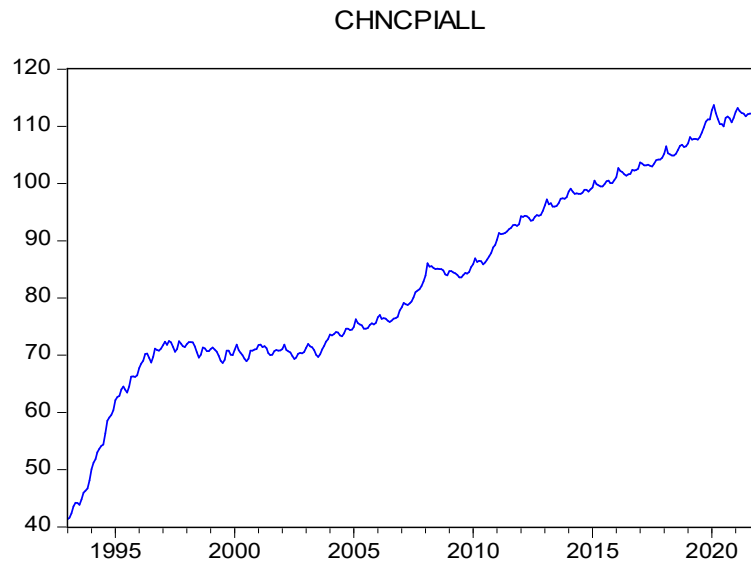
Based on the graph, we can see that the US, China, Japan, Korea have the largest value in household and NPISHs consumption expenditure.

Index 2015=100 source: OECD,2021

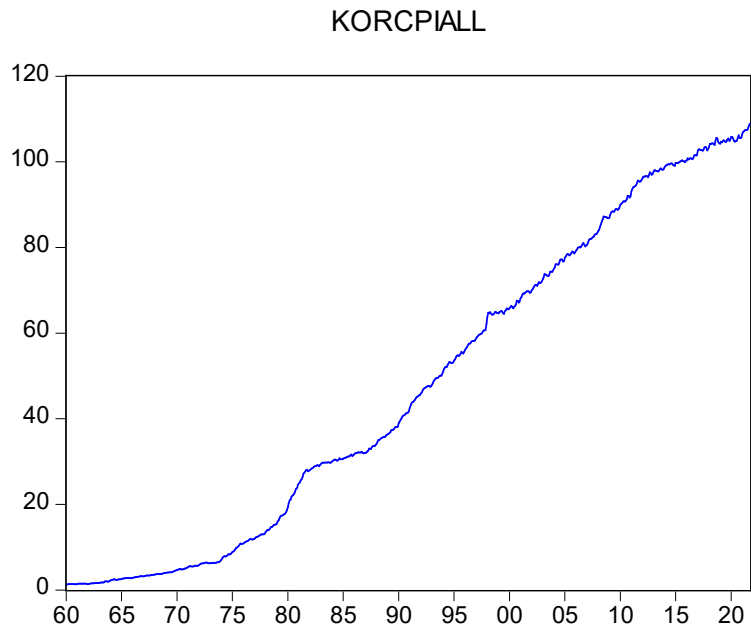
US monthly CPI



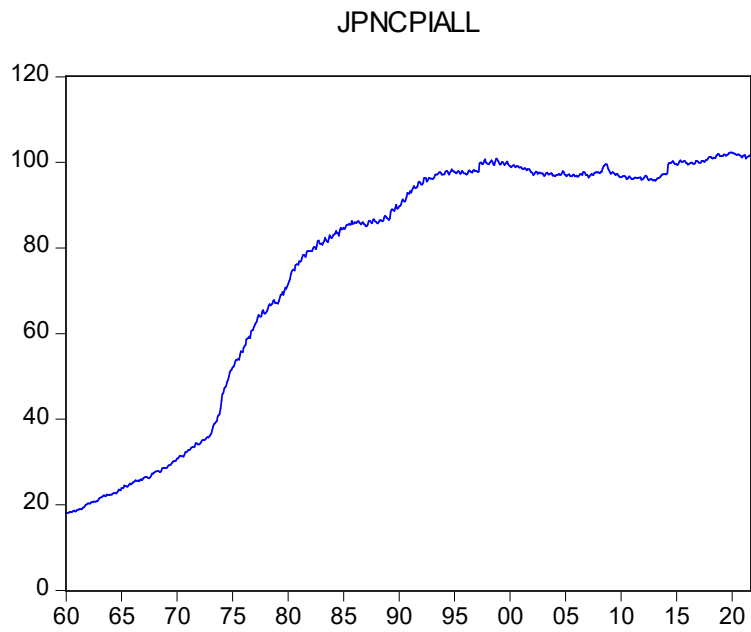
China monthly CPI



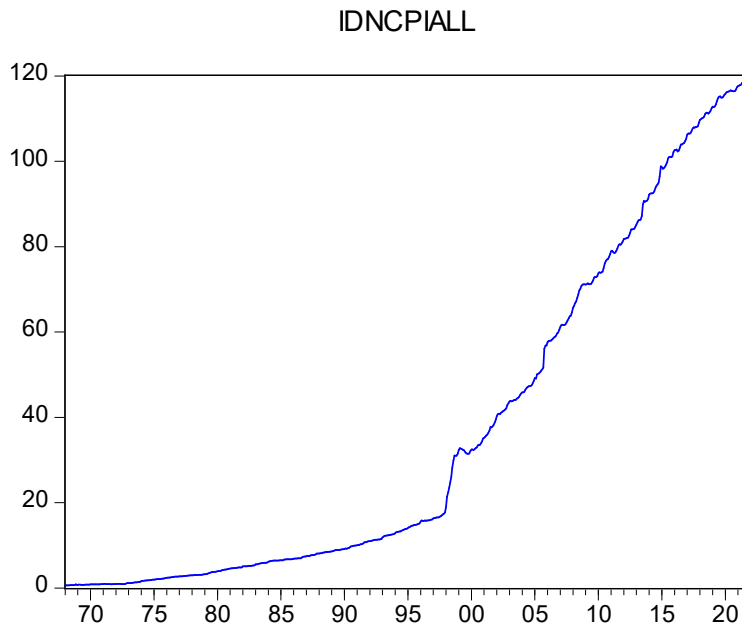
Korea monthly CPI



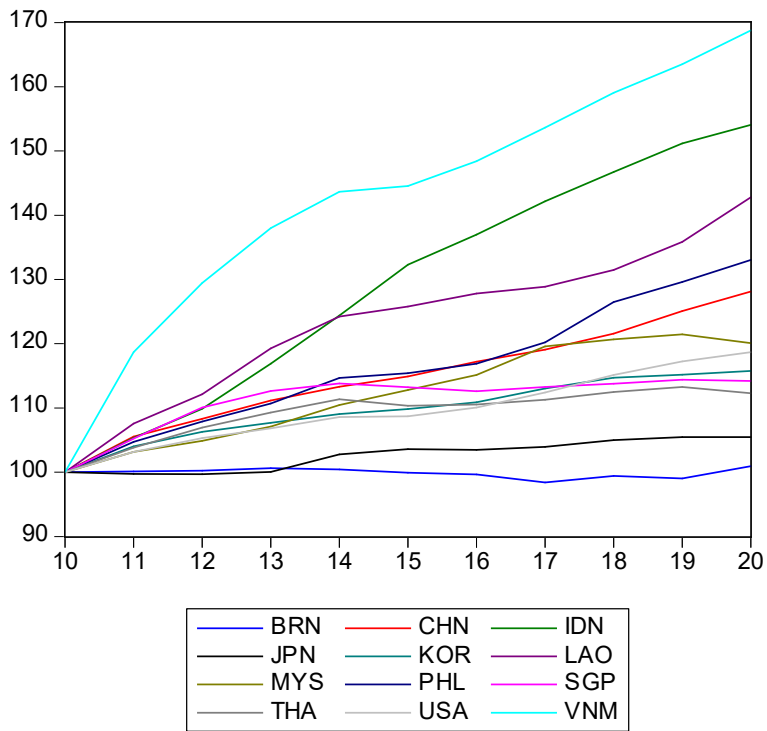
Japan monthly CPI



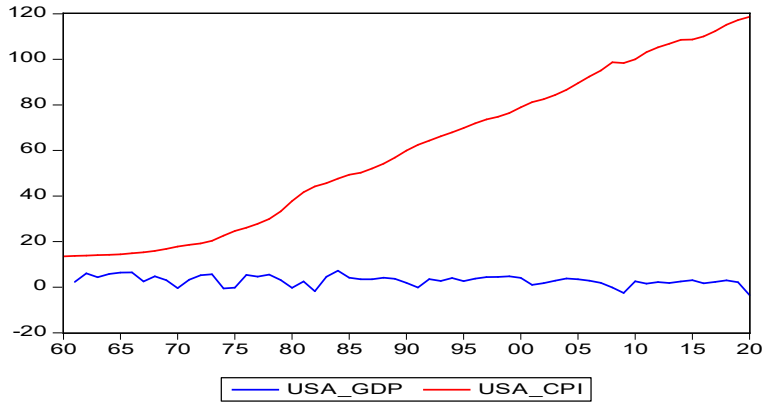
Indonesia monthly CPI



Index 2010=100, source: World Bank indicators



US

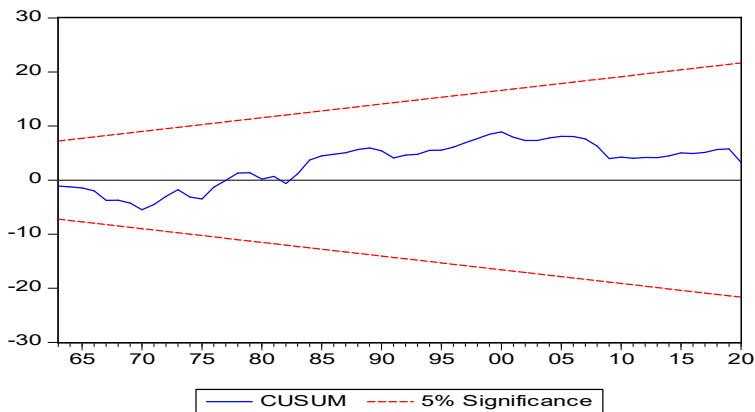


US LEAST SQUARES

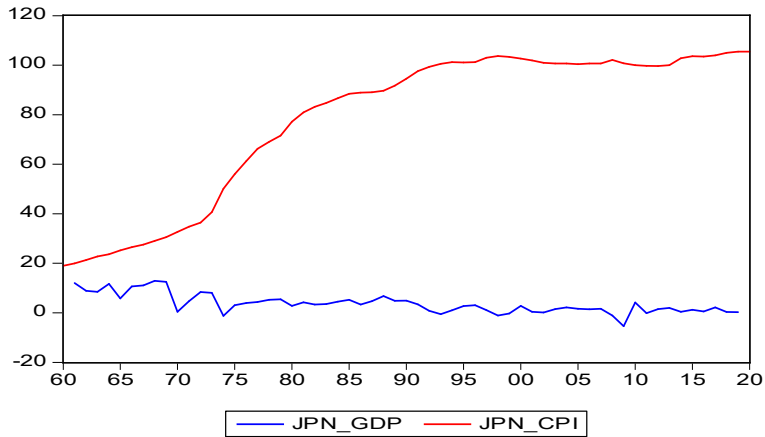
Dependent Variable: USA_GDP
 Method: Least Squares
 Sample (adjusted): 1961 2020
 Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
USA_CPI	-0.023944	0.007739	-3.093748	0.0030
C	4.379510	0.538757	8.128909	0.0000
R-squared	0.141647	Mean dependent var	2.928965	
Adjusted R-squared	0.126848	S.D. dependent var	2.199881	
S.E. of regression	2.055626	Akaike info criterion	4.311803	
Sum squared resid	245.0847	Schwarz criterion	4.381615	
Log likelihood	-127.3541	Hannan-Quinn criter.	4.339110	
F-statistic	9.571278	Durbin-Watson stat	1.468010	
Prob(F-statistic)	0.003039			

US CUSUM



JPN CPI-GDP

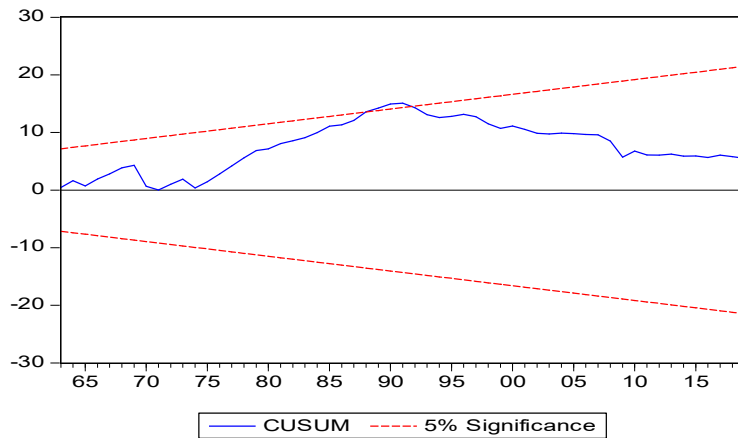


JPN- LEAST SQUARES

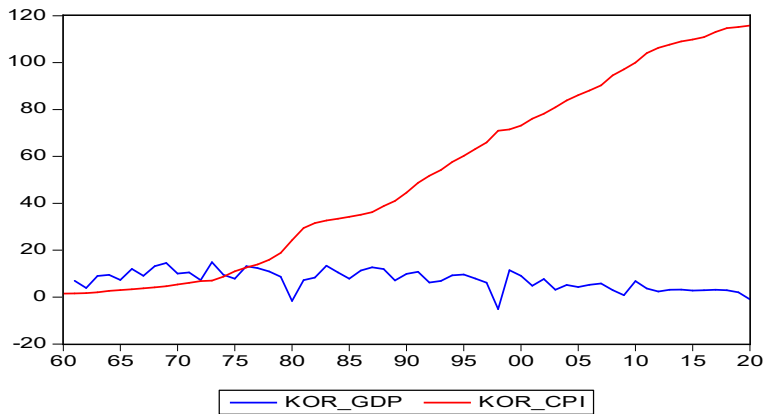
Dependent Variable: JPN_GDP
 Method: Least Squares
 Sample (adjusted): 1961 2019
 Included observations: 59 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
JPN_CPI	-0.099485	0.010948	-9.086636	0.0000
C	11.44091	0.920838	12.42446	0.0000
R-squared	0.591594	Mean dependent var	3.605451	
Adjusted R-squared	0.584429	S.D. dependent var	3.849391	
S.E. of regression	2.481503	Akaike info criterion	4.688916	
Sum squared resid	350.9978	Schwarz criterion	4.759341	
Log likelihood	-136.3230	Hannan-Quinn criter.	4.716407	
F-statistic	82.56695	Durbin-Watson stat	1.616311	
Prob(F-statistic)	0.000000			

JPN CUSUM CPI-GDP



KOREA CPI-GDP

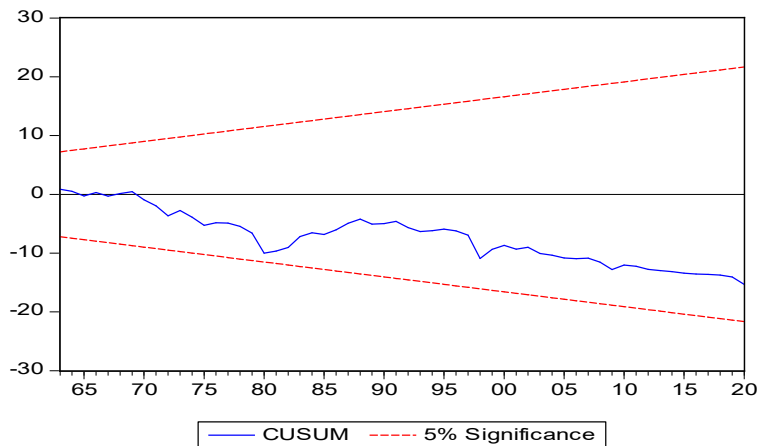


KOREA LEAST SQUARES

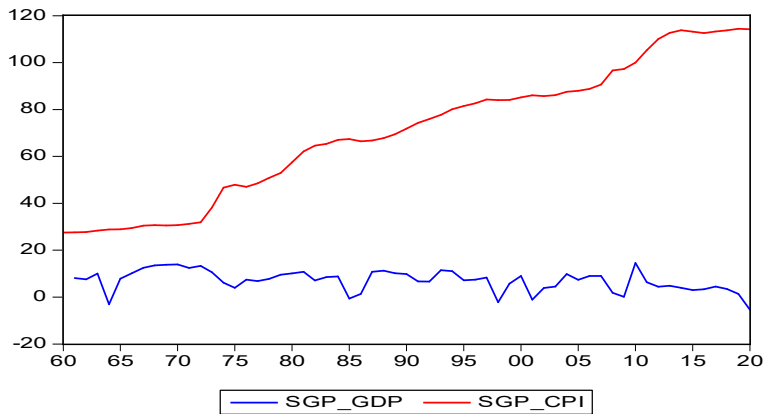
Dependent Variable: KOR_GDP
 Method: Least Squares
 Sample (adjusted): 1961 2020
 Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KOR_CPI	-0.069287	0.010574	-6.552344	0.0000
C	10.82638	0.687307	15.75190	0.0000
R-squared	0.425363	Mean dependent var	7.230760	
Adjusted R-squared	0.415455	S.D. dependent var	4.192708	
S.E. of regression	3.205557	Akaike info criterion	5.200414	
Sum squared resid	595.9847	Schwarz criterion	5.270226	
Log likelihood	-154.0124	Hannan-Quinn criter.	5.227721	
F-statistic	42.93322	Durbin-Watson stat	1.805994	
Prob(F-statistic)	0.000000			

KOREA CUSUM TEST



SINGAPORE CPI-GDP

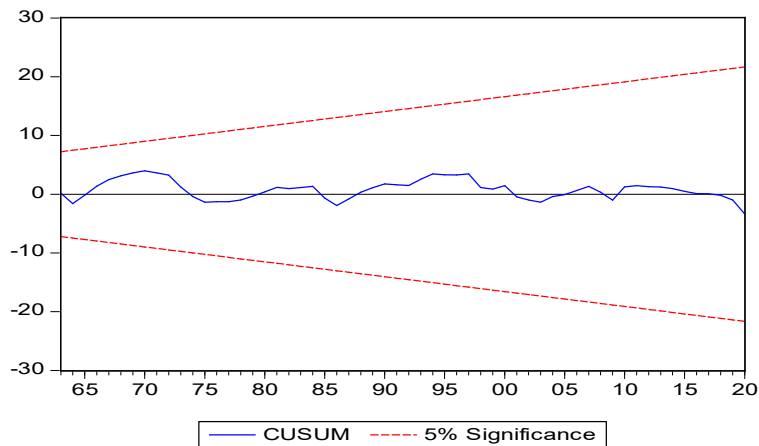


SINGAPORE LEAST SQUARES

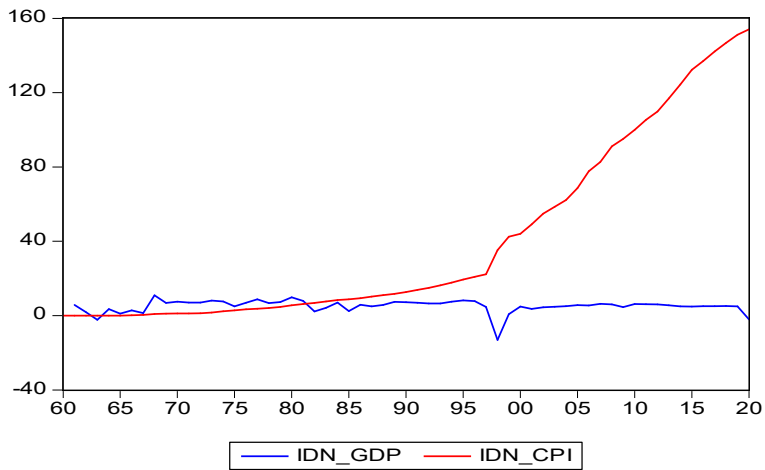
Dependent Variable: SGP_GDP
 Method: Least Squares
 Sample (adjusted): 1961 2020
 Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SGP_CPI	-0.074084	0.018240	-4.061676	0.0001
C	12.27127	1.391153	8.820933	0.0000
R-squared	0.221447	Mean dependent var	7.017688	
Adjusted R-squared	0.208024	S.D. dependent var	4.457693	
S.E. of regression	3.967036	Akaike info criterion	5.626681	
Sum squared resid	912.7677	Schwarz criterion	5.696492	
Log likelihood	-166.8004	Hannan-Quinn criter.	5.653988	
F-statistic	16.49722	Durbin-Watson stat	1.458602	
Prob(F-statistic)	0.000148			

SINGAPORE CUSUM TEST



IDN CPI-GDP

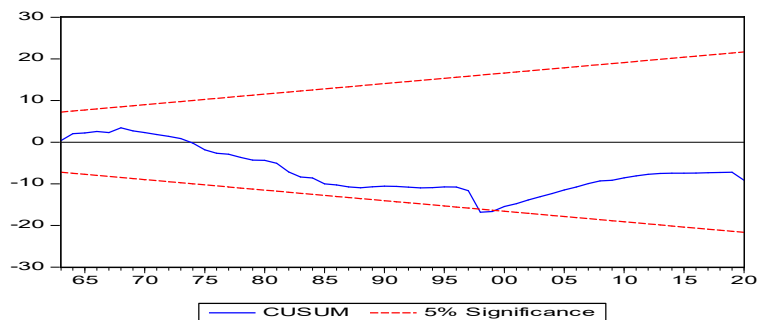


IDN- LEAST SQUARES

Dependent Variable: IDN_GDP
 Method: Least Squares
 Sample (adjusted): 1961 2020
 Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IDN_CPI	-0.008644	0.009055	-0.954597	0.3437
C	5.482294	0.576099	9.516235	0.0000
R-squared	0.015468	Mean dependent var	5.131592	
Adjusted R-squared	-0.001506	S.D. dependent var	3.434743	
S.E. of regression	3.437329	Akaike info criterion	5.340032	
Sum squared resid	685.2836	Schwarz criterion	5.409843	
Log likelihood	-158.2010	Hannan-Quinn criter.	5.367339	
F-statistic	0.911255	Durbin-Watson stat	1.301613	
Prob(F-statistic)	0.343744			

IDN CUSUM CPI-GDP



Conclusion

The results are varied in each country. On this study we learn that the GDP is influenced by the final consumption and the pattern of consumption are varied in each country.

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