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Country Exposure Limit Modelling: Country Risk Approach

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Abstract: ***As global competition is increasing, international banking plays an important role of the banking business. While maximizing profit, the financial institution is trying to minimize and mitigate the risk by formulating risk mitigation framework. This paper attempts to focus on Country Exposure Limit modelling by identifying important factors using country risk framework. This study was conducted at XYZ Bank one of the biggest bank in Indonesia which has a huge country exposure risk. The research tries to evaluate the model and suggest a new formula to calculate Country Exposure Limit. We examine the important macroeconomic factors used in predicting Country Exposure Limit across 47 countries. The finding of the empirical analysis indicates that GDP and Gross Capital Formation are positively significant in predicting Country Exposure Limit. This study result can also be used as a reference for financial institution in considering their model in predicting Country Exposure Limit.***

Keywords: Country Exposure Limit, Country Risk, International Banking

1. Introduction

Country risk is one of the most important risks which caused by changes in political, social, financial and economic conditions which occurred in a country (Muwando and Gumbo 2013). This risk is considered as a combined risk which has an impact on market participants such as banking industry in conducting its business with customers, suppliers and creditors in third party countries. The associated risk is a risk inherent in country regardless of the quality of the debtor or the project (Elleuch, Jaouadi, and Jaouadi 2015).

Calhoun (2003) stated that beside focus on creditworthiness or the ability of a company in fulfilling its credit obligations, it is also important for financial institutions to analyze the home countries when lending to foreign companies.. An analysis on Home-country is important things to do since the loan provided by financial institutions to creditors has a varying period. Financial institutions are advised not only to look at current economic and political conditions but also for what might happen in the future in order to mitigate the risk. This is in line with one of the country risk measurement objective i.e to predict economic and political events in a country that can affect the business's profit (Oetzel, Bettis, and Zenner 2015).

Country risk is defined as the possibility of financial loss in international business due to the changes in social, political, and macroeconomic events in each country. In general, the country risk assessment consists of assessing the socio-political, economic, and financial factors of the borrowing country (Muwando and Gumbo 2013). Al Khatab, Aldehayyat and Stein (2010) argued that credit agencies with significant international exposure must have an appropriate system for monitoring economic, social and political developments in the countries which involved with the institutions. Formal treatment is needed in facing the risks and uncertainty in various aspects of management, including strategy, investment decisions, projects, asset use, business sustainability, corporate security, health and safety, legal obligations and financing risks (EIU 2007).

Country risk is an important consideration in evaluating level of credit risks associated with the institution (FRS 2009). The financial institution determines the Country Exposure Limit (CEL) to observe and control the country risk. Country exposure limit (CEL) is the limit set by the financial institution for the amount of money willing to lend to the borrower for both public and private in accordance with the provisions of a bank in the country (NA, 2007). Asiri and Hubail (2014) stated that Country risk rating is an important component in country risk management since it provides a framework for establishing country exposure limits that reflect the risk tolerance limit for an institution.

Madura (2011) stated that there is no clear agreement on how country risk is assessed but there are two types of country risk analysis. First is a comprehensive risk assessment of a country without considering a creditor's assessment (macro assessment) and the second is a country risk assessment related to the assessment of the creditor's business (micro assessment). This research belong to the first research category i.e country risk assessment by considering macroeconomic conditions of a country.

The methodology of the country's risk analysis is vary over the institution and has no standard (Al Khatab, Aldehayyat, and Stein 2010). Emerging market experts and researchers face the tough task of criteria selection and system evaluation to represent and interpret the various factors affecting the country's risk, not to mention the calculation and interpretation of the statistical properties of various parameters sometimes misinterpret which negatively impacting the reliability and relevance of the data (Muwando and Gumbo 2013). Each financial institution has a different methods and ways in determining the amount of country exposure limit. They are free to determine the method and the amount of limits on risk exposure faced considering that there is no policy or reference method used for the determination of the limit from the Financial Service Authority. The previous research addressed the country risk assessment in general without any detail for Country exposure Limit setting for financial institution. This research tries to answer the gap for addressing Country exposure

Limit setting for financial institution using country risk framework.

2. Literature/Theoretical Underpinning

Country Exposure Limit and Country Risk

Country exposure limit (CEL) is defined as the limit set by the bank for the amount of money that is willing to lend to the borrower both public and private in accordance with the provisions of banks in one country (BN 2007). The financial institution adopts various methods in determining the Country Exposure Limit (CEL) in conducting country risk observations and controls. Country risk rating or country risk ratings are an important component of country risk management since the country's risk rating provides a framework for establishing country exposure limits that reflect the risk tolerance limit for an institution (Asiri and Hubail 2014).

Country risk is a risk of non-market events (economic, social, political) in a foreign country that may affect the interests of financial institutions (Vij 2005), while Toma, Chirita, and Sarpe (2010) define the country's risk analysis as an effort to identify the imbalance that increases risk of lack of forecasts of cross-border investment profit. Besides Basuet. al (2011) defines as risk associated with factors that determine or affect the feasibility and willingness of a country or borrower from a particular country to fulfil its obligations to one or more foreign and / or investor creditors. These factors include political, economic and socio-cultural factors supported by the arguments of Oetzel et. al (2001) which stated from his research that the country risk is the result of political, economic, and social factors in which this shows the business associated with inter-state lending affected on social, economic, and social conditions in the borrowing country.

The above definition shows that the definition of state risk has a broader meaning compared to sovereign risk. Country risk encompasses all forms of intergovernmental lending to government, bank, private company or individual while sovereign risk is limited to the risk of borrowing against the government against a sovereign state. Sovereign risk can be defined as the risk that a country refuses to pay its obligations (Koo et al. 2011).

Assessment of country risk is not only limited to the country willingness to pay its obligation but there are other factors which influence and in practice the state and sovereign risk are highly related and influential (Claessens and Embrechts 2002). In addition to risk and sovereign risk transfer, BN (2007) mentioned four other major types of country risk: contagion risk, currency risk, macroeconomic risk, and indirect country risk. BN (2007) defined the four risks as follows: Contagion risk represents a risk that occurs due to a loss in a country resulting in a rating downgrade or withholding credit facilities of another country in the region even if the country is more creditworthy and the loss does not occur in the country; Currency risk or risk currency is a risk of currency ownership and domestic cash flow that allows the borrower to be unable to meet obligations in foreign currency due to devaluation; Macro-economy risk is a risk that may occur in certain countries because the government conducts macro-economic policy or changes in one of the macro-economic factors such as an increase in interest rates by the government to maintain its currency; Indirect country risk represents a risk to the ability of paying domestic borrowers to be compromised by the deterioration of the social, economic, and political conditions of foreign countries where the borrower has significant business interests under which the government can also take over foreign assets.

Factors Determining Country Exposure Limit

Country risk rating is an important component of country risk management as it provides a framework for establishing country exposure limits that reflect the risk tolerance limit for an institution (Asiri and Hubail 2014). Research conducted in determining country risk in general using various macroeconomic factors, this research adopted several factors determining CEL.

Practitioners in the business world examine the determination of CEL by analyzing the various macroeconomic factors that influence the country risk. There are various studies and theories that discuss the use of economic factors in conducting country risk analysis. The following is the example of the research

Muwando and Gumbo (2013) map the country risk model for Zimbabwe using six economic factors i.e. political risk, GDP deflator, FDI flow, current account, external debt, and GPD per capita. The research used multiple logistic regression methods. R^2 equal to 0.648069 shows the economic factors are able to explain 64.81% of the variation of country risk. In this research, political factor is the most influential factor in country risk, while FDI flow, current account, GDP per capita negatively significant to country risk, while foreign debt and GDP deflator positively significant to country risk.

Asiri and Hubail (2014) conducted a study to identify important factors that could predict the country's risk rating. Political factors and selected economic factors were tested to determine the effect on the country risk rating for a sample of seven countries over the period 2006-2011 on two rating agencies: Euromoney and Economic Intelligence Unit (EIU). The results showed that the country risk level can be predicted significantly to some degree with the selected political and economic indicators using the step wise regression method. His research results showed that economic factors explain the variation of Euromoney rating for 75% and 63.1% against EIU rating. The results of the EIU showed that the political stability indicator (POL) has the most positive significant relationship with the EIU rating, which means that the greater the POL the greater the country's risk faced. In contrary, GDP per capita has the most significant negative relationship. The larger GPD per capita the smaller country risk. Gross capital formation and Growth export rate showed no significant relationship. Not much different from Eurom political indicators and GDP has the most significant positive relationship which means the better the political statistics and the greater the GPD the better the risks and the ranking of the country while reserve to import ratio has a negative significant relationship to country risk.

Tampubolon and Hidayat (2013) conducted a study to examine the effect of macroeconomic indicators as explanatory variable on sovereign risk premium to credit default swap in ASEAN countries. The variables used in that research are economic growth, inflation, government debt, foreign exchange reserves, fiscal deficit, current account deficit as an independent variable and credit default swap as dependent variable. This research used panel data method to five ASEAN countries from 2007-2011 period. The results showed the value of $R^2$0.759435 which means that the overall independent variable is only able to explain the dependent variable of 75.95%. The research shows that inflation and current account deficit are statistically significant to credit default swap. The variable of government debt has positive but not statistically significant effect.

Basu's research results (2011) shows that country risk in India is strongly correlated with changes in Foreign Direct Investment flow, interest rate (monetary policy), exchange rate, and unemployment rate. This research use ordinary least square regression method.

Al Khattab, Al-Rawad and Al-Khattab (2015) examined the country risk assessment process in multinational corporations. This study discusses the barriers faced by multinational corporations in conducting country risk assessment. Interviews were conducted on several experiments associated with the Jordanian Enterprise involved in risk management. The results show that the majority of interviewees were dissatisfied with the existing country risk assessment approach.

Oetzel (2001) examines the extent to which country risk can be used to predict periods of instability intensity. The study used eleven widely used measures to analyze country risk in seventeen countries over a period of nineteen years. Currency fluctuations are used to represent country risk overall. The result of empirical analysis shows that the measurement of commercial risk is bad in predicting actual risk realization.

3. Methodology

This research was conducted in one the biggest banks in Indonesia. Researchers use Ordinary Least Squared method using CEL data as the dependent variable and macroeconomic data as the independent variable. The data used are secondary data obtained from one of the biggest banks in Indonesia and macroeconomic variable from 2015 World Bank report. Political risk index is obtained from the Political Risk Services International Country Risk Guide (PRS).

Country exposure limit variables
The CEL value is obtained from the bank calculations by considering several variables such as bank capital, GDP, import, and country risk rating. Calculations are made only for moderate, low risk, and very low risk country risk rating. The explanatory variable in this research are:

GDP per capita
GDP is a basic measurement of a country's economic performance and is the total market value of all final value of goods and services produced by a country within a certain period of time (Rahman 2013). GDP percapita is the value of GDP divided by the number of population. This value is often considered to describe the initial value of income per person in a country.

Gross capital formation
Gross capital formation is the accumulation of additional physical capital stock in a certain period of time in a country in social and economic infrastructure where the increase can improve the production of tangible goods such as machinery, transportation, electricity, building and intangible assets such as health, education and research (Shuaib and Ndidi 2015).

Total Reserves to Imports Ratio
Total Reserves to Imports Ratio (TRIM) consists of monetary gold holdings, special drawing rights, IMF member reserves held by the IMF, and foreign exchange holdings under the control of the monetary authority. Total Reserves are controlled by the central bank of each country, where the asset reserves are a real asset which means owned by the country and exclude potential assets such as monetary gold, special drawing rights, reserved positions in the IMF, financial derivates and other asset reserves such as currency and deposits, claims on monetary authorities etc. These funds can be transferred between central banks of various countries.

Current Account Balance on Gross Domestic Product
The current account balance is the sum of net exports of goods and services, net primary income, and secondary net income compared to the gross value generated by producers in the economy plus taxes minus subsidies.

Political risk (POL)
Political Stability and the Absence of Violence / Terrorism measure the perceptions of the possibility of political instability and / or violence motivated by politics, including terrorism. This factor also indicates the political conditions in a country where it can indirectly accelerate the problem of debt repayment through the decrease of long-term capital flows and the unwillingness of borrowers to pay its matured debts. The political risk data in this research is taken from the *World Governance Indicator* (WIG).

This study used multiple linear regression method with cross section in 47 countries. CEL regression modelling using country risk framework. This model was first developed by Burton and Inoue (1985) which is then used by Asiri and Hubail (2014) to analyze country risk rating with the following equation:

$$CR_t = GDP_{t-1} + GKFORM_{t-1} + FDEXP_{t-1} + RESIMP_{t-1} + CURGNP_{t-1} + EXPGRTH_{t-1} + POL_{t-1}$$

Legend :
CR_t : Country risk for t periodor creditworthiness rating
GDP_{t-1} : Gross domestic product per capita on t-1
$GKFORM_{t-1}$: Gross capital formation on t-1

$FDEXP_{t-1}$: Net foreign debt/exports ratio on t-1
$RESIMP_{t-1}$: Reserves to imports ratio on t-1
$CURGNP_{t-1}$: Current account balance on gross national income on t-1
$EXPGRTH_{t-1}$: Exports growth rate on t-1
$POLRSK_{t-1}$: Political Instability Indicator on t-1
Researchers also used factors from other studies. Research conducted by Basu (2011) on country risk analysis on emerging market using GDP factors, GDP deflator, public debt, current account balance, interest rates, forex reserves, exchange rate (against USD), FDI inflows, unemployment, and political risk index. On the basis of that research the researchers modelled the initial CEL formula as follows:

$$CEL_1 = \beta_{0i} + \beta_1 GDPC_i + \beta_2 CABGDP_i + \beta_3 TRMI_i + \beta_4 Unem_i + \beta_5 Pol_i + \beta_6 GCF_i + \beta_7 GDP_i + e_i$$

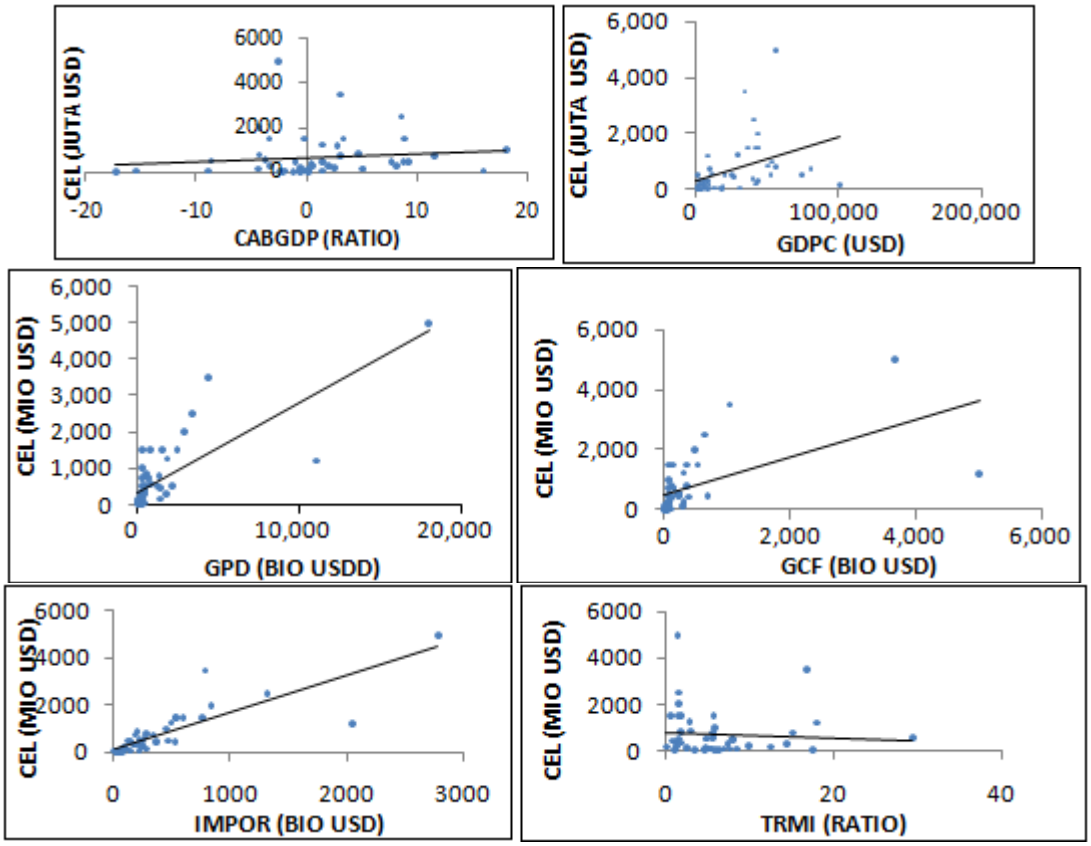
GDPC : Gross Domestic Product per capita in country – i (USD)
GDP_i : Gross Domestic Product in country – i (USD)
$CABGDP_i$: Current Account Balance on Gross Domestic Product in country – i (USD)
GCF_i : Gross Capital Formation in country – i (USD)
$TRMI_i$: Total Reserved Amount to Import Ratio in country – i
Pol_i : Country political condition rating – i
$Unem_i$: Percentage of unemployement in country – i
e : error component.

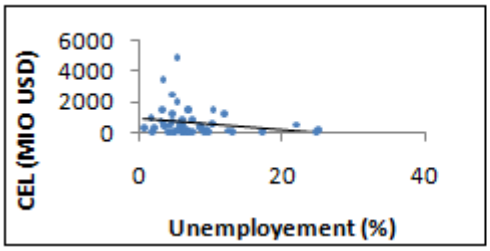
4. Results/Findings

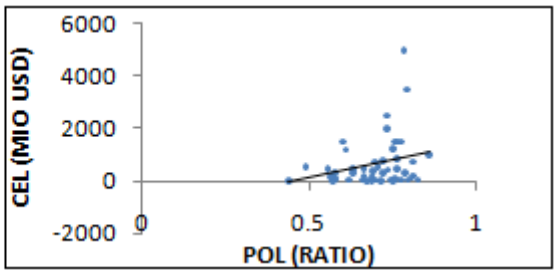
Relationships test between independent and dependent variables

The amount of loans given by a bank in a country is affected by various considerations such as the regulations of the borrowing country, macroeconomic and microeconomic conditions. The determination of Country Exposure Limit is influenced by various macroeconomic factors. Figure 1 shows the relationship between CEL with each independent variable. The trend pattern of CABGDP, GDPC, GDP, GCF, IMPOR, and POL has a positive relationship to CEL, which means that the larger the variable, the greater the CEL value which is in line with previous theories and research.

In contrast with other independent variables TRMI and Unemployment have a negative relationship to CEL. Unemployment is a condition where the country has many unemployed people. In accordance with the theory of unemployment, a country with a high unemployment rate will lead to difficulties in obtaining labor with the appropriate qualifications and wages. Basu (2016) found that unemployment is a factor that has a great influence on changing country risk. TRMI in theory has a positive effect on CEL because the larger the value of this reserve the less likely the bankruptcy of a country, the better the creditworthiness of a country.







Testing the Relationships between Independent and dependent Variables

Multicolinearity test is a test to find out the relationship between independent variables. Juanda (2009) said that the presence of multicollinearity caused interpretation on the model difficult. Multicollinearity is a situation where the one or more independent variables correlate perfectly or near perfectly with other variables. Due to the existence of perfect multicollinearity, the estimated coefficient cannot be determined and the standard error of the coefficient becomes huge. Multicolinearity test is done by measuring the value of the correlation between variables. Table 1 shows the results of multicollinearity test.

Table 1: Multicollinearity test result

	CABGDP	GCF	GDP	GDPC	IMPOR	POL	TRMI	UNEM
CABGDP	1.00							
GCF	0.21	1.00						
GDP	0.24	**0.98**	1.00					
GDPC	0.22	0.22	0.25	1.00				
POL	0.22	(0.08)	(0.07)	0.61	0.12	1.00		
TRMI	(0.27)	0.15	0.07	(0.22)	(0.01)	(0.25)	1.00	
UNEM	(0.26)	(0.18)	(0.11)	(0.03)	(0.19)	(0.04)	(0.22)	1.00

The correlation coefficient between GCF, and GDP is greater than 0.8 which means there is multicollinearity between the variables. On the basis of the existence of multicollinearity between the two variables the Researchers modelled the formulation of CEL as follows:

Equation 1

$$CEL_1 = \beta_{0i} + \beta_1 GDPC_i + \beta_2 CABGDP_i + \beta_3 TRMI_i + \beta_4 Unem_i + \beta_5 Pol_i + \beta_6 GDP_i + e_i$$

Equation 2

$$CEL_1 = \beta_{0i} + \beta_1 GDPC_i + \beta_2 CABGDP_i + \beta_3 TRMI_i + \beta_4 Unem_i + \beta_5 Pol_i + \beta_6 GCF_i + e_i$$

Statistic test

The econometric test is part of the empirical model validity test which aims to investigate whether the resulting empirical model violates classical assumptions such as normality, heteroscedasticity, and multicollinearity.

Normality tests performed for statistical inference purposes using the normal distributed residuals assumptions of Effendi and Setiawan (2014). The test results show that the GDP and GCF models show probability value> α (5%) which means the residual is normally distributed.

Table 2: Comparison of residual normality error test

	Kolmogorov Smirnov test	Information
Model GDP	Probability 0.078	Residual normally distributed
Model GCF	Probability 0.122	Residual normally distributed

Heteroscedasticity is interpreted as a variant inequality of residuals on various observations which one of them can be caused by error-learning model which is the smaller error over the experience gained. Some methods for detecting heteroscedasti city are Park and Glesjer and Bruesh-Pagan-Godfrey (BPG) test or white test.

Table 3: Comparison Heteroscedasticity error test

	UjiBreusch-Pagan-Godfrey	Keterangan
Model GDP	Prob. Chi-Square(6) 0.3910	Residual Homogen
Model GCF	Prob. Chi-Square(6) 0.4735	Residual Homogen

The results of the econometrics test show only two equations meet the classical assumption. The Researchers will analyze the statistical test for both models since it has fulfilled the requirement to be a good model which is no violation of the assumption. Statistical test is a test performed to show the validity of the actual parameters consisting of t Test and f Test. The t test is an individual test of coefficient whereas F test is the coefficient test as a whole. If the value of t arithmetic and F arithmetic value are greater than the critical t and critical F then it can be concluded that the independent variables affect the dependent variable or statistically significant. Besides, the correlation coefficient indicating the level of closeness of the independent variable with the dependent variable symbolized by r2 with the value between 0-1 where the greater the value the greater the closeness of the relationship between the two variables. The following is the regression result of the two models described in Table 4 and Table 5

Table 4: Regression model of equation 1

Variable	Coefficient	*t-value*	R^2	p-value	RMSE
GDPC	0.360233	**0.0240**	0.749859	0.000000	0.824918
CABGDP	0.389282	0.1204			
TRMI	0.000598	0.9817			
UNEM	-0.025476	0.3457			
POL	2.978404	0.1275			
GDP	0.728829	**0.0000**			

Equation 1 showed that GDPC and GDP had a significant positive effect on CEL. The coefficient of determination is 0.749859, which means the level of CEL variation that can be explained by the GDP model is 74.98%, while the rest is explained by other factors outside the model.

Table 5: Regression model of equation 2

Variable	Coefficient	t-*value*	R^2	p-value	RMSE
GDPC	0.381002	**0.0134**	0.765499	0.000000	0.798712
CABGDP	0.443883	0.0667			
TRMI	-0.009538	0.7079			
UNEM	-0.011276	0.6660			
POL	2.740566	0.1443			
GCF	0.741456	**0.0000**			

Equation 2 regression results showed that GDPC and GDP had a significant positive effect on CEL. The coefficient of determination is 0.749859, which means the level of CEL variation that can be explained by the GDP model is 74.98%, while the rest is explained by other factors outside the model.

Model Specifications

The test is performed to determine the best model research of the various forms of empirical function. Root Mean Square Error (RMSE) is one of the indicator used to determine the better model. RMSE has been used as a standard measurement of statistical metrics to measure good models (Chai and Draxeler, 2014). Many studies support the use of RMSE as a standard metric measure to measure the good of a model. The better (smaller) RMSE value of a model the better the model. Table 6 shows the comparison of the two models seen from the number of variables that have a significant relationship, the value of R2, fulfilment of classical assumption test, and RMSE value.

Table 6: Comparison of Equation 1 and 2

	Equation 1	Equation 2
Variable Sig	2variabelsignifikan	2variabelsignifikan
R^2	0.749859	0.765499
UjiAsumsiKlasik	Meet all assumptions	Meet all assumptions
RMSE	0.824918	0.798712

The comparison results of both models show that the Equation 1 is a better model whichis supported by higher R^2 values and smaller RMSE values. Equation 1 describes a better variation of CEL model with smaller error prediction values compared to the GDP model, thus representing the accuracy of better model predictions.

5. Discussion

Analysis of Macroeconomic Variables on CEL

Referring to the values of RMSE, R2, and some other criteria mentioned in Table 6 it can be concluded that the GCF model is the best model. The results of research in GCF model show that GDP percapita and Gross Capital Formation have a significant positive relation to Country Exposure Limit while other variables such as Current Account Balance on Gross Domestic Product, Total Reserved Amount on Import, Unemployment and Political Stability have no significant effect on Country Exposure Limit.

The value of GDP percapita is often considered to reflect the inclusion of the initial value per person in a country (Barro 2004). GDP percapita is an important component in the assessment of the performance of a country that plays an important role in determining the country's risk, the greater the GDP, the better its credit worthiness which is in line with Asiriand Hubail (2014) and Muwando and Gumbo (2013).Their research showed that the greater the GDP per capita the smaller the country risk and the better the country creditworthiness. GDP per capita is used by the World Bank to classify countries to determine the feasibility of loans (Asiri and Hubail 2014) which is also in accordance with the theory of literature which stated that GDP percapita measure the level of development of a country.

The Gross Capital Formation relationship with CEL is positively correlated which is in line with Asiri and Hubail (2014) research results. The value of gross capital formation represents the accumulation of additional physical capital stock in a given period of time in a country in the social and economic infrastructure of the total value of the country's production. The greater this value indicates that the country has a large increase in investment. This increment can improve the production of tangible goods such as machinery, transportation, electricity, buildings and intangible assets such as health, education and research (Shuaib and Ndidi 2015). The increase in the production of tangible and intangible goods can improve the productivity of a country which can increase the country's income therefore the better the condition of a country, the greater the CEL that can be allocated. The concept is in accordance with the theory in the literature which stated that the value of Gross Capital Formation describes the future prospects of a country.

The results of the Political Risk Index relationship with CEL are different from Asiri and Hubail (2014) research which suggest that this variable has the most significant relationship to country risk. This is allegedly because the country analysed by the Bank is a country with a good enough risk value therefore the political conditions in the country does not have an effect on the value of CEL given. Basu (2011) produces the same thing that the Political Risk Index has no significant effect on Country Risk in India who suspect this happens because this variable has been represented by other variables namely the interest rate and the flow of Foreign Direct Investment.

Current Account Balance as a percentage of GDP has no significant effect on CEL. This is in line with the research conducted by Asiri and Hubail (2014) but different from the economic theory in which CABGDP is the ratio that indicates that the country with a deficit cash flow value has a lower credit worthiness value and quotes from research by Cline (1984) this has a negative relationship with the possible default of a Country (Asiri and Hubail 2014). The research conducted by Muwando and Gumbo (2013) indicates that this variable is negatively correlated to country risk because the country with large current deficit indicates a lack of credit worthiness. Researchers suspect this difference is due to the presence of GDP components in calculating CEL so that the amount of GDP as a divisor in the value of this variable does not affect the amount of CEL.

Total Reserved Amount per import in the results of this study does not have a significant relationship to CEL which is in accordance with the results of research byAsiri and Hubail (2014). CEL is also not affected by unemployment which is different from the economic theory which states that the higher the unemployment rate of a country, the lower the wage rate in that country. Employment risks represent risks arising from the difficulty in obtaining labour with appropriate qualifications and wages. Basu (2016) found that unemployment is a factor that has a great influence on changing country risk. Researchers suspect because the data used in this study is a data in countries with low risk so that the value of unemployment is relatively low and has no effect.

The absence of rules or policies of financial service authority on the CEL determination guidelines makes every financial institution free to determine its method. Risk that may arise as a matter of inaccuracy of determining the amount of limit which may cause the risk of default on the international transaction. This research can be used as reference for financial service authority or other financial institution for determining CEL policy.

6. Implication to Research and Practice

GDP and gross capital formation showed significant relationship to CEL and both of these variables are not used on the Bank's calculation. Bank may consider adopting variables which have significant relationship to CEL such as GDP per capita and Gross Capital Formation.

The absence of rules or policies of Financial Service Authority on the CEL determination guidelines made every financial institution free to determine its method. Inaccuracy in determining the limit may cause risk default in the international transaction. This research can be used as reference Financial Service Authority or other financial institution for determination of CEL determination policy.

7. Conclusion

This research tries to estimate Country Exposure Limit by using Country Risk framework. Researchers used multiple linear regression method in 47 countries in 2015. The result of analysing two models showed that the best model is GCF model where GDP per capita, Gross Capital Formation has a significant influence to Country Exposure Limit while other variables such as Total Reserved on Amount on Import, Current Account Balance as a percentage of GDP, Political Stability, and Unemployment have no significant effect on Country Exposure Limit. The results show that Gross Capital Formation is the most influential factor in the determination of Country Exposure Limit.

8. Future Research

This study is limited only for countries which have good country risk rating i.e. moderate, low risk, and very low risk rating. In order to get more relevant variable other country with higher risk need to also be assessed such as high risk, and very high risk rating. Research in other financial institution is also needed to get a better result.

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