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The Effect of Export on Economic Growth in Cambodia: Policy Formulation

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ABSTRACT

The empirical result of this research has indicated that Cambodian export has a statistical significant relationship with the gross domestic product in both short-term and long-term, based on the result of Engle-Granger co-integration test and the estimated result of the Error Correction Model (ECM). The economy of Cambodia is proven to remain vulnerable, if the export of the country is negatively affected by the external shock. The evidence of the scenario analysis has demonstrated that if the export of Cambodia declines by 10% in only a quarter, the expected future of gross domestic output is expected to drop on average by approximately 1.38% per quarter which is equivalent to around 5.65% per year. Prominently, the speed of adjustment is seen to be significantly as slow as 3.33% per quarter. The synchronized policy formulation from the interviewing of the Cambodian Economists and Policymakers has advocated that the increasing of the government expenditure in developing the infrastructures, expanding and strengthening the SMEs, developing human capital, and supporting the agriculture, especially, pledging to reduce the BBC to the lowest level is the prioritized strategic plan which has to be implemented by the Royal Government of Cambodia in the short-term, medium-term and long-term to prevent the possible future economic recession and depression due to the external shock as well as to increase the level of the country competitiveness in the global market.

Keywords: Keywords: Co-integration test, ECM, Speed of adjustment, Scenario analysis.

1. INTRODUCTION

The sources of economic growth in Cambodia are mainly derived from three sectors which are agriculture, industry, and services. In the last few years, the contribution to the domestic output is agriculture, industry and services which on average is accounted for 24 percent, 34 percent and 42 percent respectively. The annual growth rate of each sector is estimated to be approximately 0.3 percent, 3.5 percent, and 2.7 percent for agriculture, industry, and services, respectively, (ADB, 2019). While industry experiences the fastest growth and the product manufacturing including footwear, electronic part, and bicycle, especially, the garment textile which embodies the core export products of the country.

The exporting volume of Cambodia to rest of the world increases from roughly US$6.88 billion in 2014 to US$12.96 in 2018. Additionally, the countries which Cambodia exports the products to most are the United States (US), United Kingdom (UK) and other European countries (Germany, Belgium, Spain, and France), Japan, Canada, and China. The amount of exported goods to the US, UK and other European countries, Japan, Canada, and China, on average are approximately US$2.28 billion, US$0.89 billion, US$2 billion, US$0.71 billion, US$0.65 billion, and US$0.62, respectively, over the period of the last five years, (DOT, 2019). By the end of 2018, Cambodian top-ten exported products which are exported and sold in the international market are knit or crochet clothing, accessories: US$8.4 billion (44.4% of total exports), clothing, accessories which are not included knit or crochet: $3.8 billion (20.1%), footwear: $2 billion (10.6%), leather/animal gut articles: $862.9 million (4.5%), electrical machinery, equipment: $514.1 million (2.7%), vehicles: $471.2 million (2.5%), cereals: $403.6 million (2.1%), fur-skins, artificial fur: $282.8 million (1.5%), plastics, plastic articles: $241.7 million (1.3%) and vegetables: $218.3 million (1.1%), (Workman, 2019). Comparing to the products of other countries in the region, the competitiveness of Cambodian products is evaluated to be superior due to the fact that most of those exported products are entitled to the preferential tax system, such as, Generalized System of Preferences (GSP) from the

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United States of America and Everything But Arms (EBA) from the European Union.

Cambodia economic growth is projected to be 7.5 percent in 2018 and expected to be 7 percent in 2019 (WB, 2019) thanks to the growth of agriculture, services, especially industrial sector which brings the opportunity for job creation of approximately nine-hundred thousand for factory workers. This research, therefore, will investigate the effect of the domestic output and the economic growth in Cambodia in both short-term and long-term as well as experimenting for the presenting of the external shock which leads to the decline in export. This study also aims to define policy options that are applicable to implement by the Royal Government of Cambodia to cope with the recession or depression of Cambodia economy due to the decline of export that caused by the external shock.

2. LITERATURE REVIEW

The export-led growth hypothesis (ELGH) is long been a controversial and most discussed topic in the economic study in which many researchers have publicized different views and findings. Various studies have attempted to study the nexus of the export and the GDP growth using either the cross-sectional or time series data, many researchers has tested and verify the validity of the export-led growth hypothesis with the mixture of outcomes and conclusions.

The former studies including, Balassa (1985), de Pineres & Farrantino (1997), Bakari (2017), Ekanayake (1999), Kumari & Malhotra (2014) and Saleem & Sial (2015) has investgated the causal relationship between the export and the economic growth. The empirical result of the following studies indicated different explanations. Combining the classical theory of trade, modern theory of trade, recent theory of growth Balassa (1985) and de Pineres & Farrantino (1997) argued that export expansion is vital for a country to obtain the foreign currency which then will be used to fuel the import of intermediate goods and enhance the capital formation which are the essential factors to promote the productivity and economic growth. A most recent study conducted by Bakari (2017) investigated the nexus between export and growth of Gabon from the period of 1980 to 2015 by employing the Error-Correction Model (ECM). The empirical result indicates that in the short-run, the investment and export cause economic growth in Gabon while in the long-run, the investment and the export appear to negatively affect the economic growth. Significantly, different studies conducted by Balassa (1985), Tyler (1981) and Kavoussi (1984), applying different data, all generated results support the ELGH. The studies also affirm that the counties which experience the higher economic growth usually associate with the countries that prioritize export. Wong (2010) attempted to determine the Granger causality among exports, domestic demand and economic growth in China applying the time-series data from 1978 to 2002. The result supports that exports and domestic demand are pivotal for China's economic growth. The study also suggests that the growth of both the exports and domestic demand are essential for China's sustainable economic growth. In some cases, however, the technology level and economic structure of each developing country in the model are not exactly the same which makes the result to become unable to reflect the characteristic of many developing countries. In dealing with this downside, some experts research using the time-series data to generate a more realistic result are presented in the researches of Erfani (1999) for Asia developing countries and Latin America in the period of 1965–1995, Mayer & Wood (2001) for Malaixia in the period of 1959–2000, Kaushik & Klein (2008) for India in the period of 1971–2005. Other existing literatures conducted by Ekanayake (1999) and Saleem & Sial (2015), employed the same technique of cointegration and causality analysis but applied on diffirent countries and time period. The empirical results of the studies confirm the validity of the ELG hypothesis. Considering some significant studies conducted by Erfani (1999) and Levin (1997) which involve more than 30 developing countries argued that the export-intensive countries always make more profit then those that export the raw and/or semi-processed merchandises. The studies established that growth is significantly influenced by the exporting of the processed-good while the exporting of the semi-processed-goods provides only minor effect to the short-term and negative impact on the long-term growth. Kumari & Malhotra (2014) attempted to study about Indian case which Granger Causality test was applied on the annual time series data from 1980 to 2012. The result supports the above claim which indicated that in the short-run, the Granger Causality test supports the ELG hypothesis and give evidence of bi-directional causal relationship between the export and economic growth. In contrast, in the long-run, the study shows no evidence to support ELG hypothesis.

Lim and Saborowski (2011), Taylor and Francis (2003) and Thirlwall (2000) suggests that export diversification is very significant to support growth in the long-run. The existing literatures, therefore, still provide a strong evidence to prove the validity of the ELG hypothesis. Saleem & Sial (2015) applied both cointegration and error-correction model on eight Asian developing countries using the annual time series data from 1960 to 1997. The study reveals that both test indicate a bi-directional causual relationship bewteen the export and economic growth in seven out of the eight countries considered. This study has provided another strong evidence to support the validity the ELG hypothesis. To exploit the essense of the ELGH, this paper will use error-correction model applied to study about the validy of the export on the economic growth of Cambodia using the quaterly time seires data from 1998 to 2016.

3. METHODOLOGY

3.1. Model Specification

Long-run equation which represents a long-run relationship between domestic output and export is written as below,

$$LogGDP_t = \alpha + \beta LogEXP_t + \varepsilon_t \qquad (1)$$

Where,

GDP : Gross Domestic Product, billions of KHR,

EXP : Export, millions of USD,

α : Intercept,

β : Slope,

ε : Residual or error term,

Log : Logarithm,

t : Time period

To get estimate parameters, intercept and slope, fully modified least squares (FMOLS) estimated method is employed. The sample size of this study is started from the first quarter of 1998 to the fourth quarter of 2016 which is denoted as 1998:Q1-2016:Q4. To determine the long-run relationship between domestic output and export, Engle-Granger (EG) approach to testing for co-integration is conducted. Using the estimated parameters in equation (1) and the EG result, the error correction model is run which has a general form as below,

$$DLogGDP_t = \theta + \gamma\left(LogGDP_{t-1} - \hat{\alpha}_{FMOLS} - \hat{\beta}_{FMOLS}LogEXP_{t-1}\right) + \sum_{i=1}^{n}\delta_i DLogEXP_{t-i} + \sum_{i=1}^{n}\eta_i DLogCPI_{t-i} + \sum_{i=1}^{n}\kappa_i DLogG_{t-i} + \sum_{i=1}^{n}\xi_i DLogM2_{t-i} + \epsilon_t \qquad (2)$$

Where,

θ : Intercept,

γ : Speed of adjustment parameter, γ<0,

D : First different operator,

CPI : Consumer Price Index, base year = 2010,

G : Government expenditure, billions of KHR,

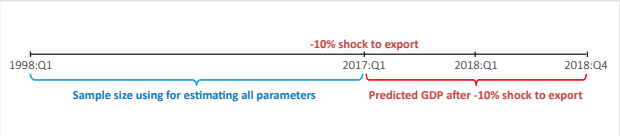
M2 : Broad money, billions of KHR,

ϵ : Residual or error term

To control for the movement of general price level as well as macroeconomic policies, fiscal and monetary policy, which might have been imposed by the Ministry of Economy and Finance as well as the National Bank of Cambodia in case of having adverse external shock from global economy, three control variables are also included in the error correction model which are consumer price index, government expenditure, and broad money. The optimal lag length of the model is determined by using information criterion which is Akaike information criterion. The model which generates the lowest criterion will be selected.

Upon derive the estimated parameter of equation (2), a scenario analysis is performed in order to see the sensitivity of GDP between 2017:Q1 and 2018:Q4 if there is a one quarter decline of export by 10 percent in 2017:Q1.

Figure 1. Sample Size and Predicted Time Trend



All time series data are collected from the Ministry of Economy and Finance (MEF), National Bank of Cambodia (NBC), Asian Development Bank (ADB), and International Monetary Fund (IMF). The Unit Root test by using Augmented Dickey-Fuller (ADF) test is applied to all data series since each data series is a time series data. Quarterly real GDP are derived by disaggregation of annually real GDP using Cubic Interpolation because quarterly data are not fully available in Cambodia regarding the period of the study of this research.

Table I. Data		
Classification	**Assets**	**Name**
Variable	Measurement	Source
Government Expenditure (G)	Billions of KHR	Ministry of Economy and Finance
Broad Money (M2)	Billions of KHR	National Bank of Cambodia
Consumer Price Index (CPI)	Base year = 2010	International Financial Statistics (IFS) of IMF
Export (EXP)	Millions of USD	Direction of Trade (DOT) of IMF
Gross Domestic Product (GDP)	Billions of KHR	Asian Development Bank

3.2. Research Design

In addition to the empirical study conducted to investigate the effect of export on the economic growth in Cambodia, the optimal policy which probably could work to cope with the decline of Cambodian export to the international markets due to the external shock is also determined. Fulfilling this objective, a questionnaire for the face-to-face interview (See Appendix 1) is developed to gather necessary information and opinion from the economists as well as the policy maker themselves who work at three different government institutions in Cambodia which consists of the National Bank of Cambodia (NBC), Ministry of Economy and Finance (MEF) and Ministry of Commerce (MoC). The information from the face-to-face interview depicts the personal prospects of the respondents only, and does not represent the view of the organization for which the respondents work. The identity of the respondents is not required in this interview and is ensured to be kept confidential. The sample size of this interview is twelve: five respondents from NBC, five respondents from MEF and two respondents from MoC. The face-to face interview is employed as key method to collect the information from the high-ranking government officers, pivotally, the policymaker with the authority to set the policies for his/her institution as well as to propose to the government to conduct the law amendment on any set of related laws. The questionnaire is sent to the respondents in advance, for them to be well-prepared prior to the face-to-face interview.

4. RESEARCH RESULT

This section is separated into two main parts. Firstly, the empirical result of both long-run model and short-run dynamic models are presented and analyzed. A brief summary of statistics of each data series is introduced and the estimated result of the unit root test is also provided. The result of survey on economists and policy maker who work at National Bank of Cambodia, Ministry of Economy and Finance, and Ministry of Commerce regarding policy options which might have been imposed in both short-run and long-run in the present of negative effect of export due to external shock is presented in the second part of this section.

Table II. Summary Statistics					
	DLOGG-DP	**DLOG-EXP**	**DLOGCPI**	**DLOGG**	**DLO GM2**
Mean	0.0193	0.0320	0.0111	0.0297	0.0537
Median	0.0205	-0.0049	0.0081	0.1058	0.0481
Maximum	0.0439	0.5339	0.1230	0.7211	0.2006
Minimum	-0.0262	-0.4021	-0.0501	-1.1516	-0.1119
Std. Dev.	0.0140	0.2198	0.0229	0.4340	0.0478
Skewness	-0.6777	0.2340	1.3147	-0.7812	-0.0191
Kurtosis	3.0836	2.2868	9.6435	2.8218	5.3587
Jarque-Bera	6.3766	2.5170	176.5459	8.5524	19.2454
Probability	0.0412	0.2841	0.0000	0.0139	0.0001
Sum	1.6042	2.6591	0.9213	2.4684	4.4569
Sum Sq. Dev.	0.0162	3.9621	0.0429	15.4451	0.1872
Observations	83	83	83	83	83

The average growth rate of the gross domestic product is about 1.93 percent per quarter and the series is not distributed as normal distribution since the Jarque-Bera value is 6.3766 with probability value of 0.0412 which is less than the significant level of 5 percent. The growth rate of export is approximately 3.20 percent per quarter, but the series is distributed as normal distributed as normal distribution since the null hypothesis is failed to reject at 5 percent significant level. The average inflation rate, average growth rate of government expenditure, and average growth rate of broad money per quarter is estimated to be 1.11 percent, 2.97 percent, and 5.37 percent, respectively, but each of this data series is not distributed as normal distribution because the null hypothesis is rejected with 5 percent significant level.

Table III. Augmented Dickey-Fuller (ADF) Test		
Variables	**Level**	**First difference**
	t-value	t-value
LOGGDP	-0.7277	-7.9976***
LOGEXP	-1.3227	-4.6763***
LOGCPI	0.2168	-7.7309***
LOGG	-1.4936	-5.2285***
LOGM2	-0.3996	-9.3265***

Note *** is significant at 1%.

All data series, gross domestic product, export, consumer price index, government expenditure, and broad money, each has a unit root in level because the null hypothesis of unit root is fail to reject at 5 percent significant level. But after each series is transformed to be first different, the null hypothesis of unit root is highly rejected at 1 percent significant level.

Table IV. Estimated Result of Long-Run Model			
LogGDPt =	4.939825	+	0.557500*LogEXPt
	(0.1260)		(0.0184)
	39.1831***		30.2531***
			R2 = 0.9486
Note: standard error in parenthesis and t-value *** is significant 1% level.			

As indicated by the estimated result of the long-run model, Cambodia's export has a positively effect on gross domestic product at 1 percent significant level and the goodness of fit of the model is rather high as measured by the value of R^2 which is 0.9486.

Table V. Engle-Granger Co-integration Test				
Dependent	**tau-statistic**	**Prob.***	**z-statistic**	**Prob.***
LOGGDP	-3.0348	0.1151	-39.4011	0.0002
LOGEXP	-3.2858	0.0682	-47.8561	0.0000
*MacKinnon (1996) p-values.				

Beside estimated the long-run model, the Engle-Granger Co-integration test is also conducted to determine the long-run relationship between export and gross domestic product. The null hypothesis of no co-integration is highly rejected at 1 percent level, thus, there is a co-integration between the two variables, export and gross domestic product. Furthermore, the estimated result of the short-run dynamic model is presented below.

Table VI. Estimated Result of Error Correction Model				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.0171	0.0030	5.7588	0.0000
LOGGDP (-1) -0.557500 * LOG-EXP (-1)-4.939825	-0.0333	0.0153	-2.1752	0.0337
D(LOGEXP(-1))	-0.0178	0.0110	-1.6206	0.1105
D(LOGEXP(-2))	-0.0251	0.0109	-2.2986	0.0251
D(LOGEXP(-3))	-0.0105	0.0093	-1.1252	0.2652
D(LOGCPI(-1))	0.1081	0.0664	1.6294	0.1087
D(LOGCPI(-2))	-0.0961	0.0879	-1.0925	0.2791
D(LOGCPI(-3))	-0.0460	0.1160	-0.3964	0.6933
D(LOGG(-1))	-0.0181	0.0045	-4.0636	0.0001
D(LOGG(-2))	-0.0189	0.0038	-5.0282	0.0000
D(LOGG(-3))	-0.0096	0.0032	-3.0476	0.0035
D(LOGM2(-1))	0.0064	0.0245	0.2592	0.7964
D(LOGM2(-2))	0.0689	0.0242	2.8445	0.0061
D(LOGM2(-3))	0.0164	0.0234	0.7002	0.4866
R-squared	0.6421	Akaike info criterion	-6.3336	
Adjusted R-squared	0.5619	Schwarz criterion	-5.8910	
F-statistic	8.0046	Wald F-statistic	14.2151	
Prob(F-statistic)	0.0000	Prob (Wald F-statistic)	0.0000	

As mention earlier, the short-run dynamic model is controlled by three macroeconomics variables which are consumer price index, government expenditures, and broad money. The optimal lag length of the model is three since it produced the lowest information criterion as compare to the other lag lengths. To get the estimated parameter, this study employs the ordinary least square method with White heteroscedasticity-consistent standard errors and covariance.

The estimated result of the model has indicated that the speed of adjustment parameter is -0.0333 which has a correct sign and statistical significant at 5 percent level, but the adjustment speed is low which is estimated to be 3.33 percent per quarter. This can be interpreted that it might take Cambodia economy at approximately thirty quarter or seven and a haft years to adjust to the equilibrium in the present of shock that could lead to disequilibrium of the long-run model. More interestingly, the growth rate of export is statistical significant (at lag two) explain economic growth at 5 percent level in the short-run. In addition, there are two control variables, the growth rate of both government expenditure and broad money, which are mainly statistical significant explain the growth rate of gross domestic product, while there is no significant effect of inflation rate on economic growth. In addition, the estimated result of the short-run dynamic model has also indicated that there is a significant simultaneous effect of export, consumer price index, government expenditure, and broad money on gross domestic product in Cambodia in the short-run due to the probability (0.0000) of the calculated F-statistics (8.0046) is lower than 1 percent significant level.

This research not only study about the relationship between export and gross domestic product in both short-run and long-run, but also tries to investigate the

sensitivity of gross domestic product in the present of negative shock on export caused by external shock. A decline of export by 10 percent is imposed one time in 2017:Q1 (See Figure #) and then the prediction of gross domestic product is performed between 2017:Q2 to 2018:Q4 (See Figure #). This scenario is denoted as LOGEXP_1 and the actual data series of export is still be defined as LOGEXP. At the same time, the expected gross domestic product before imposing the shock one time on export in 2017:Q1 is called Baseline LOGGDP or LOGGDP_0, while the expected gross domestic product which is predicted from the model after the imposed shock on export is known as Scenario 1 LOGGDP or LOGGDP_1 (See Table VII and Figure 3).

Figure 2. LOGEXP and LOGEXP_1

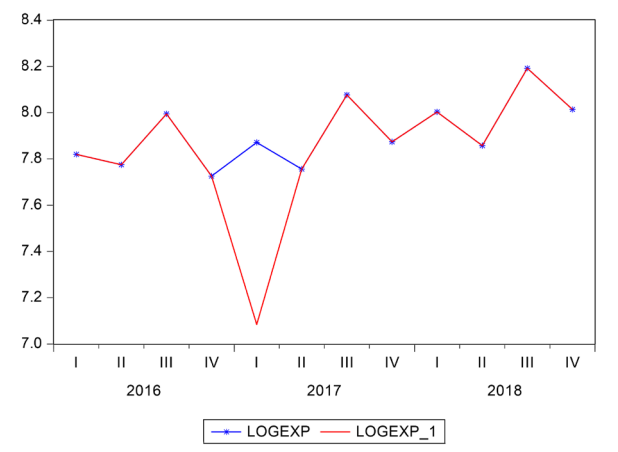
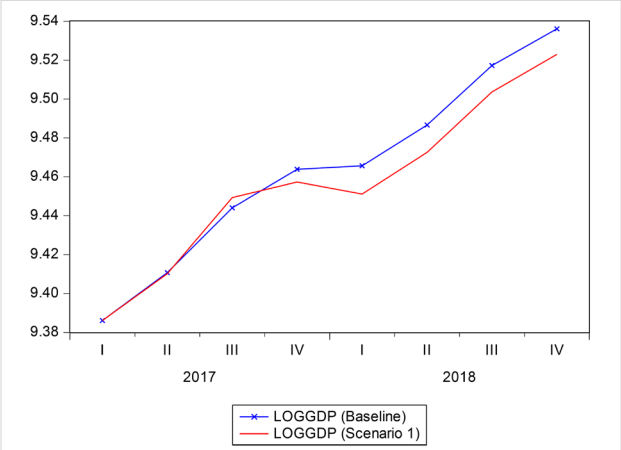


Table VII. GDP, Base Case and Scenario			
Time	**LOGGDP_0**	**LOGGDP_1**	**% Change**
2017Q1	9.3861	9.3861	0.00%
2017Q2	9.4107	9.4101	-0.06%
2017Q3	9.4441	9.4493	0.52%
2017Q4	9.4639	9.4573	-0.65%
2018Q1	9.4657	9.4511	-1.45%
2018Q2	9.4866	9.4726	-1.41%
2018Q3	9.5172	9.5036	-1.36%
2018Q4	9.5361	9.5230	-1.31%

Figure 3. LOGGDP (Baseline) and LOGGDP (Scenario 1)



A one-time negative shock to export by 10 percent in 2017:Q1 caused domestic output to decline by 0.06 percent in 2017:Q2 from the baseline, but it recovers back to positive by 0.52 percent in 2017:Q3 and then it starts to drop again in 2017:Q4 at about 0.65 percent. Between 2018:Q1 and 2018:Q4, on average the decline of domestic output is approximately 1.38 percent per quarter which is equivalent to 5.65 percent* per year (See Figure).

Figure 4. Sensitivity of Gross Domestic Product

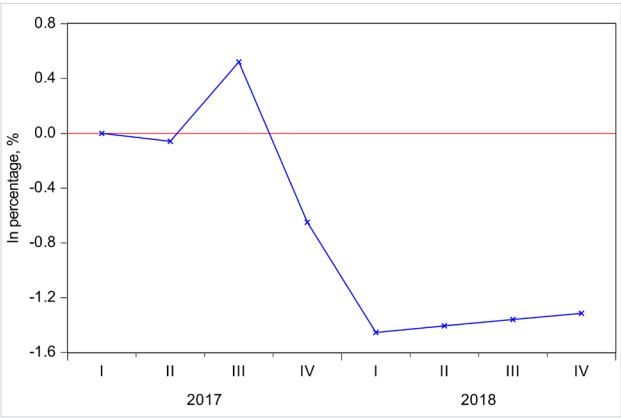


Table VIII. Pairwise Granger Causality Tests			
Null Hypothesis:	**Obs**	**F-Statistic**	**Probability**
LOGEXP does not Granger Cause LOGGDP	72	13.623	0.000
LOGGDP does not Granger Cause LOGEXP	72	5.301	0.001

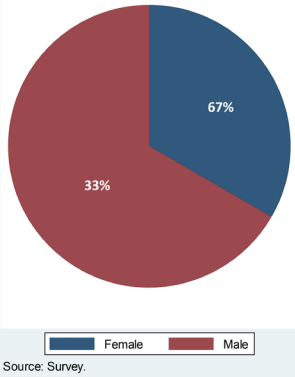
The Pairwise Granger Causality Tests in Table 8 has indicated that export Granger Cause gross domestic product and vice versa at high significant of 1 percent level.

* [(1 + 0.0138)4- 1]*100 = 5.65%

As indicated above through the estimated result of ECM and sensitivity analysis, Cambodia's economy is in a vulnerable position to the negative impacts on exports to international markets especially western countries such as the European Union and the US. In order to identify the policies that are undertaken by the Cambodian government to tackle the negative impacts from external shocks for both short and long terms, this research is done through interviews with economists and high-ranking officials at the National Bank of Cambodia (NBC), the Ministry of Economy and Finance (MEF), and the Ministry of Commerce (MoC) to obtain their practical insights in preparing policy recommendations to the Cambodian government. Among twelve interviewees selected in this study, five of them are from NBC, another five interviewees are from MEF and the other two are from MoC.

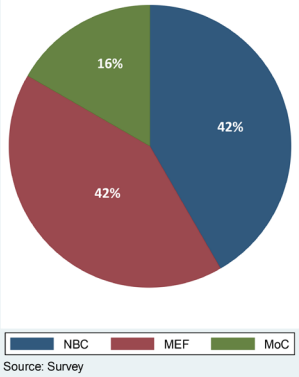
The participants of this study are represented by a combination of 67% male interviewees and 33% female interviewees. Four of them are policymakers, and the other eight interviewees are economists, with circa 67% of them having more than five years of experience. Only 33% of them take up the role as a member of the committee at the institution for which they are working. According to the interviews, 59% of them believe that the Cambodian economy is likely to slump as a result of the significant decline in exports.

Figure 5. Gender of Respondent



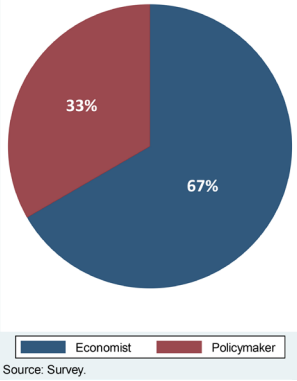
Source: Survey.

Figure 6. Participation by Institution



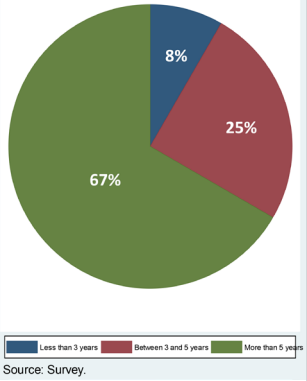
Source: Survey

Figure 7. Participation by Position



Source: Survey.

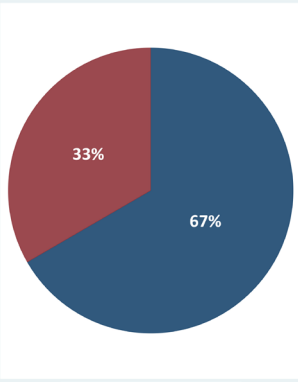
Figure 8. Working Experience of the Participant



Source: Survey.

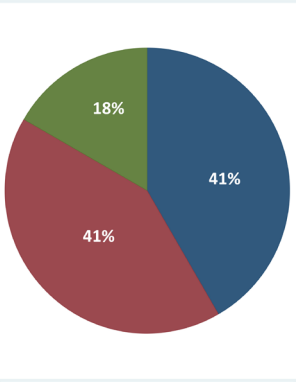
In addition, 75% of them agreed that Cambodia's competitiveness in exporting products to international markets without tax preferential treatment is relatively low compared to its neighboring countries in ASEAN. If Cambodia's economy is negatively affected by the external shock, the interviewees reckon that in the short term, the government should boost expenditure on every sector in order to create jobs, such as the infrastructure construction in rural areas as a means to generate employment opportunities by hiring the residents in the areas or offering voucher for cash that the government has employed previously. Besides, expenditure on vocational training through offering scholarships to unemployed Cambodians that are lack of adequate professional expertise required by the contemporary market. The increase in public expenditure by the government to foster the growth of SMEs is a key driver to improve the Cambodian economy by producing more job opportunities that are accessible by low-skilled workers. Simultaneously, this sector is likely to make up for the manufacturing industry that is likely to struggle if external shocks happen.

Figure 9. Member of Policy Formulation Committee



Source: Survey

Figure 10. Negative Shock on Export and Economic Growth

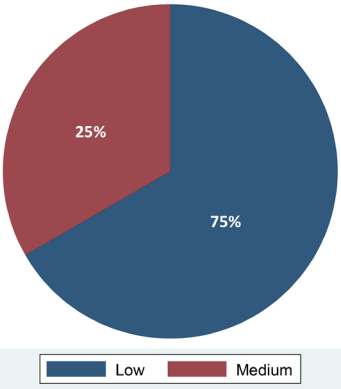


Source: Survey.

Easing the difficulty for exporting the products abroad through the adoption of online platform for business registration as well as the request for documentation to export products to sell abroad are assisting the merchants and playing a part to reduce the cost of doing business as well as increasing the competitiveness of Cambodia in comparison to other countries in the region. Concurrently, those experts emphasized on the BBC (Bribe, Bureaucracy, and Corruption) problem. Speeding up the business registration process and approving other documentations for the merchants to export their products to sell abroad are not yet regarded as the main procedure to increase the competitiveness, if

the level of BBC in Cambodia remains relatively high. Hence, the reduction or elimination of the authority of some offices or institutions which are related to the process for exporting the products to sell abroad should be enforced by the government. Related to this matter, the Ministry of Commerce has already reduced the function of the Camcontrol which previously, is responsible for inspecting the quality of each and every product in Cambodia including the exporting products. However, right now, they have the authority to inspect the quality of domestic food products only. Other offices and institutions are also considering by the ministry that is planning to eliminate or reduce its affairs and role responsibility with the purpose to decrease the bureaucracy.

Figure 11. Level of Competitiveness



Source: Survey.

The strengthening of other sectors besides the garment and textile sector which includes the agricultural sector — which is considered as one of the core sector for Cambodia, as it's all know that approximate 80% of Cambodian are famers. Some economists stated that most of the exported agricultural products which are selling in the foreign markets are in the form of raw materials which are purchased by the foreign buyers at a relatively low price. Hence, developing Cambodia from being an agricultural country to an agro-industrial country is a key strategy to boast the long-term economic growth, especially, to reduce the poverty in country as whole. The economist also specified that in order to accomplish this purpose the royal government has to focus mainly on human capital development. Because the lack of the human capital is the major obstacle which hinders the growth of Cambodia due to fact that the cost of doing business remains high because the domestic producers have to hire foreign experts to give consultation and manage the production chain. Those are the reasons which make the price of the products or services to remain high and become difficult to compete with other countries in the region when those products were exported to sell in the international markets, and it is also an obstacle for transforming the agricultural products to the manufacturing products. The experts believe that Cambodia is still lacking of human capital in the STEM (Science, Technology, Engineer and Mathematic) education. Therefore, the human capital development strategy should mainly focus on this area.

Besides the human capital development, for the short-term, medium-term and long-term goal, the development of the infrastructures, such as, roads and bridges, is another significant strategy to encourage the economic growth in Cambodia and reduce the poverty through the creation of job opportunity for Cambodian, especially, facilitating to the reduction of the cost of transporting the products and the cost of travelling of the merchants as well as the people in general. To sum up, this will play a part to reduce the cost of doing business and increase the competitiveness of Cambodia with other countries in the region at the international markets.

5. CONCLUSION

The economy of Cambodia is still vulnerable, if there is any negative effect on the export of this country due to the external shock. This study has indicated that the export of Cambodia has a statistical significance relationship with the gross domestic product both short-run and long-run based on the result of Engle-Granger co-integration test and the estimated result of short-run dynamic model. Meanwhile, out of the three control variables which are included in the ECM such as general price level, government expenditure or purchase, and broad money, only two variables are statistical significance explain the gross domestic product. Those variables are government expenditure and broad money. The scenario analysis of this research indicated that if the export of Cambodia declines by 10% in only a quarter, the expected future of gross domestic output is expected to drop on average by approximately 1.38% per quarter which is equivalent to around 5.65% per year. The most important point is that the speed of adjustment is significantly slow which around 3.33% per quarter which can be interpreted that Cambodia's economy takes around thirty quarter or seven and a haft years to adjust to the equilibrium if the economy diverges from the equilibrium due to the external shock, in the

absence of government intervention or in the case that invisible-hand concept of Adam Smith is applied.

The result of this research has also found that there are two ways causal relationship between gross domestic product and export in Cambodia as refer to the estimated result of the Granger causality test. In deep, it's not only that Cambodia export is statistical significance effect domestic output, but vice versa. More interestingly, export-led growth hypothesis (ELGH) is also found in the case of Cambodia and the result of this study also consistence with some other countries such as Gibon, India, and eight Asian developing countries.

The empirical result of both the short-run and long-run of this study is consistence with the perception of the Cambodian economists and policymakers. Cambodia's economy will decline dramatically if the export of Cambodia decrease significantly due to the effect of the external shock. At the same time, most of those experts agree that the competitiveness of Cambodia in comparison with other countries in the region in term of exporting products to sell in international markets is still relatively low. As the matter of fact, the increasing of the government expense in development of the infrastructures, such as, road and bridge, expanding and strengthening the SMEs, human capital, and supporting the agriculture, especially, putting effort the reduce the BBC at a lowest level is the prioritized strategic plan which has to be implemented by the Royal Government of Cambodia in the short-term, medium-term and long-term in order to cope with the economic recession or depression that might have happened in the future due to external shock. To ensure the sustainability and the sustainable economic development, two major works which the Royal Government of Cambodia must necessarily pay the attention on are the strengthening the development of the electrical power sector and especially the management of the public debt with the purpose to prevent Cambodia from falling into the debt trap.

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7. APPENDIX

Questionnaire

I am currently conducting a research related to export and economic growth in Cambodia. The main purpose of this research is to determine the policy that might work to cope with a significant decline in export due to adverse external shock. This questionnaire for the face-to-face interview has been developed to seek your opinion regarding policies which might have been used by the government to deal with the negative effect on export as a result of the adverse external shock from international markets. The information gathering from the face-to-face interview depicts the personal prospects of the respondents only, and does not represent the view of the organization for which the respondents work. The identity of the respondents is not required in this interview and is ensured to be kept confidential.

1. Gender

   □ Female □ Male

2. Which government institution do you work for?

   □ National Bank of Cambodia (NBC)

   □ Ministry of Economy and Finance (MEF)

   □ Ministry of Commerce (MoC)

3. What is your position?

   _____

4. How long have you been working for your institution?

   □ Less than 3 years

   □ Between 3 and 5 years

   □ More than 5 years

5. Have you ever worked in any policy formulation committee at your institution? (If No, please skip question 6)

   □ Yes

   □ No

6. Which policy formulation committee did you work or are currently working for?

   _____

7. If there is an external shock that might cause Cambodia's export to decline in a significant manner, how strong would you think that it effects Cambodian economy. (1 represents weak effect and 5 represents strong effect)

   □ 1 □ 2 □ 3 □ 4 □ 5

8. What would you recommend the government to do in both short-run and long-run in case there is an external shock which cause a huge decline in Cambodian export to the international markets?

_____

_____

9. If there is no tax relief on Cambodian products exported to sell in the international market, what do you think about the level of competitiveness of Cambodia in exporting products to sell in the international markets as compared to the countries in the region such as ASEAN? (1 represents lowest and 5 represents Highest)

   □ 1 □ 2 □ 3 □ 4 □ 5

10. To increase the level of Cambodia's competitiveness in exporting products to sell in the international markets, what would you recommend the government to do?

Thank you very much.