CHAPTER 2

Theoretical Foundation and Literature Review

2.1 Theory

There is positive effects of International Trade on Economic growth were founded by Adam Smith (1776). His idea prevailed until World War II. The theory of economic growth and the theory of international trade are inseparable branches of economics. There are three main major streams of international trade; the first major is the classical and neoclassical theories of international trade, the second major stream is the modern trade theories and the third major stream is the trade implication of growth theories. The most prominent model of the traditional trade theories is the neoclassical Heckscher – Ohlin model. This model was developed primarily in the late 1970s and early 1980s, and draw on developments in industrial organisation and game theory (Krugman 1995). Some researcher Baldwin (1963), Keesing (1974), Krueger (1998), found that the more trade stimulates economic growth. Adam Smith concluded that the trade theories in the Adan Smith's The Wealth of Nation (1779), and showed that trade is possible when there was a cost difference between countries. Ricardo also showed that trade is possible for beneficial to both countries when one country produces all goods more efficiently than another country, as long as the relatives cost of production of goods differs between countries. This 'principle of comparatives advantages' is one of the most important concepts in trade theories.

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Many studies have concluded that export growth has made substantial contributions to export-oriented economies (Balassa, 1978; or Stancheva-Gigov and Poposka, 2014; Bilan, 2009; Balitskiy et al., 2014). There are many arguments in favour of an export-oriented strategy. Trade expansion may increase long-run growth by allowing the economy to specialise in sectors with economies of scale that arise from research, development, and human capital accumulation. Increased exports enable import of goods, especially intermediate and capital goods. Exports have a positive impact on

productivity due to better allocation of resources through specialisation based on comparative advantage (Alhahoj, 2007). Some anti-trade economists also emphasise some negative aspects of trade, but the positive view is prevailing among the scholars. Three basic relationships between exports and GDP can occurred export-led growth, growth-driven exports and a two-way causal relationship (feedback hypothesis). Most recent studies use the VAR approach to identify this relationship, e.g**. Alhahoj (2007), Baharumshah (1999), and Ahmet Ugur (2008).**

2.2.1 External openness and economic growth theory

The relationship between external openness and economic growth has long been one of the most controversial issues in development economics. Some economists believe that when a nation opens to foreign direct investment (FDI), international trade leads to faster growth and contributes to income convergence. In fact that many international development organisations agree that external openness leads to an increased rate of economic growth. Both theoretical and empirical economists studied the relationship between external openness and economic development through a variety of different analytical and statistical methods. According to Solow (1956) and Swan (1956), the external openness affects the output growth is limited. With diminishing returns to capital, opening to international trade brings about changes in the level of income but not in its steady-state rate of growth. The potential role of external openness in the international diffusion of different knowledge and also supported by cross country growth regressions. The empirical findings on the contribution of trade to economic growth appear more robust. For example, Ben-David (1993, 1996), Harrison (1996), Ben-David and Loewy (1998), Frankel and Romer (1999), and Dollar and Kraay (2003) documented an active link between openness to international trade and economic growth. This evidence allowed Rodriguez and Rodrik (2001, p. 264) to conclude that "the main operational implication is that governments should dismantle their barriers to trade."

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2.2.2 Inflation and economic growth theory

There is a relationship between the rate of inflation, and real business has a large occupied a central position in microeconomics. The literature recognises that the

potential existence of adverse effects as well as the possibility of reserves causation. Some authors Felix (1961), Sears (1962), Bear (1967), Georgescu – Roegen (1970) and Taylor (1979, 1983), has been put the argument that inflation promotes real economic growth. This argument derives from Keynesian economics with the real wage, thus inflation can promote real growth by redistributing income from workers. Moreover, economies with flexible prices, the holders of money balance to the monetary authorities who may use the proceeds of this inflationary tax to expand their investment programmes which will promote economic growth (Johson, 1969, Ch.IX). The alternative distortionary inflation, the view of Campos (1971), Logue and Willet (1976), Bhagwati (1978) and some literature argued that inflation promote real economic growth. Initially, increasing inflation rates have the potential to raise the cost and risks of productive investment. Moreover, high inflation in open economies with managed exchanges rate leads to trade imbalances and speculative capital outflows in anticipation of exchange rate devaluations. If the government strives to introduce, the resulting inefficiencies many reduce output and growth (Bhagwati, 1978). Some researchers, Kormendi and Meguire (1985), Grier and Tullock (1989), Alexander (1990) and Grimes (1991) support the distortionary view of inflation. Other researchers have advanced the argument that economic growth may cause a rise in the general price level. Dorrance (1964) and Lewis (1964) pointed out that some rise in general price level may be slow the economic growth. In the above discussion, an alternative possibility is that there may be any causal relationship between inflation and economic growth. Friedman and Schwartz (1963) report that the United States has grown at relatively high or low rates in periods of both deflation and inflation. In this vein, some low inflation countries have experienced a rapid rate of growth.

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2.2.3 Exchange rate and economic growth

The recent empirical studies have found that the correlation between competitive exchange rates and economic growth in developing economies that were investigated by Hausmann (2005) in the latter half of the 20th century. He found that real exchange depreciations tend to precede sustained growth spurts. The growth enhancing effects of competitive exchange rates in developing countries that country

have large amounts of the level of unemployment. The actual real exchange rate reflects changing fundamentals or deviations from equilibrium levels. Thus, economies with floating exchange rates, raising domestic inflation can increase production. However, increasing inflation level will reduce domestic output, but in economies with fixed exchange rates, increases in the foreign and national rate of inflation will always benefit from real activity.

2.2 Methodology Review

Many researchers in their study selected the different methods of estimations depends on the data, time raging, and any circumstance. In this study, the author applied the panel ARDL approach with using PMG, MG and DFE estimators to estimate the observed variables in this study. Therefore, the following literature helped identify an appropriate methodology.

Paresh Kumar Narayan and Russell Smyth (2005) studied the Trade liberalisation and economic growth in Fiji and investigated the effect of trade liberalisation and economic growth in Fiji by using Cobb-Douglas production function. The authors used data from 1962 to 2000. They used three models for their investigation. The empirical results showed that exports have a positive effect on economic growth in the long run. Moreover, there is a high correlation between exports and economic growth in the short term. An increase in exports is positively and significantly related to GDP.

Miloud Lacheheb, Peter Adamu and Seth Akuston (2013) studied the relationship between openness, financial development and economic growth in Algeria by using ARDL cointegration approach. They examined the period from 1980 to 2010 and obtained the data from the World Bank Development Indicators. From this paper, they found that openness is significant in economic growth. However, financial development is not significant in economic growth. Therefore this study suggests that Algeria needs a financial system to improve their economy.

The authors **Chinwuba Okafor and Ibrahim Shaibu (2016)** studied the modelling economic growth function in Nigeria. Moreover, they investigated the stability of economic model in Nigeria over the period between 1986 and 2013 with

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using quarterly data. They examine the model by applying a linear dynamic model based on Pesaran et al. and use multivariate Autoregressive Distributed lag (ARDL) model to analyse the short-run and long-run dynamics of economic growth in Nigeria. The Central bank of Nigeria and the National Bureau of Statistics (NBS) provide the observed data. After the estimation of the ARDL model, the authors indicated that the main determining variables of the economic growth in Nigeria are population and trade openness in the long run and short run.

Another paper, Egbal Eltahir studied Does Trade Openness Promote Long-run growth in Egypt, to investigate the relationship between trade openness and economic growth in Egypt. In this study, openness is the measure of the sum of exports and imports. They applied the ARDL bounds to test the long run relationship between trade openness and economic growth for the period of 1970 to 2012. The results suggest that there is a bi-directional causal relationship between imports and GDP growth as well as trade and economic growth. However, there was an unidirectional causal relationship between exports and economic growth in Egypt.

2.3 Literature Review

This section briefly explains the author's previous research studies. By the analysis of this empirical result of the literature' researchers give that the different aspects of the relationship between economic growth and international trade. In 1776, Adam Smith pointed out that the interaction between International Trade and Economic Growth were concerned. There is no controversy about a trade including international trade is beneficial for economic growth. However, different results in the literature' approach behind the trade. Before the 1960s, research on trade effect was limited to specific countries. With the development of econometrics, many complicated methods based on a mathematical model were introduced to analyse the interactive impact of trade and economic growth.

Xiaming Liu, Haiyan and Peter Romilly (1997) studied the causal relationship between openness and economic growth in China. In this study, they tested the integration and co integration of data by using the Granger (1969), Sims (1972) and Geweke and Hsiao. Moreover, they estimated the Granger causality test with OLS

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method. The authors used the data for this study is quarter data from the third quarter of 1983 to the first quarter of 1995 and the variables used are the Gross National Product (GNP), openness (exports plus imports). The variable GNP is estimated by the total gross output value of the industry. The empirical result showed that there is a relationship between openness and economic growth in China. A high level of openness is associated with the economic performance of China.

Andrzej Cieslik and Monika Tarsalewska (2001) studied the external openness and economic growth in the developing countries. The authors test the 97 developing countries as a group of the country from 1974 to 2006 with using static and dynamic panel data estimation methods. The estimates equations come from the Barro and Sala-i-Martin (1997, 2004) model. In this paper, the main variables are GDP per capita, foreign direct investment inflows (FDI) and the value of international trade (TRADE), its measure the degree of openness. From the estimate results, there have two kinds of estimates results by using the static and dynamic panel data techniques. The estimated parameters of external openness have positive and statistically significant at 1% level, and the GDP per capita has a negative and statistically significant at the 1% level in the fixed effects. After tested, the empirical results showed that trade and FDI are positively related to economic growth in developing countries. Finally, this paper suggests that openness to FDI is more important for economic growth than openness to international trade.

The ancient economists claim that the global economic integration is beneficial for economic performances, while the country's trade specialisation pattern has no impact on its economic performance. **Thomas Piper and Michael Graff** introduced the simple growth model that shows economic growth by using very traditional approaches; we can see on page no. 26 with detail. In this paper, they used the gross domestic products of dependent variables and the independent variables, the physical capital, labour and human capital. In this paper, they estimated a sample of 90 fewer population countries for and all the necessary data could be collected. The period of investigation between 1980 and 1980. They first run a regression to check the production function work and the level observations of Y, K, L and H into the panel data points. They follow the Temple's recommendation and pool our observations into a panel of two 5-year growth

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period 1980-1985 and 1985-1990, and estimate the less restricted LSDV model. After estimates, this paper support that the hypotheses of new trade theory as well as neo-Schumpeterian approaches to international competitiveness. So the contrary to neoclassical economics, trade specialisation does indeed have an impact on economic performance.

There is a great deal of economic literature which studies the relationship between foreign trade and economic growth. **Mustafa (1980- 2009)** analyses the relationship between foreign trade and economic growth in Turkey during the last three decades while observing distinctive features of the past ten years. The methodology of these studies included two different approaches. The first part is needed the data of GDP, export and import for doing VAR and VEC models estimation and causality analysis among these variables. Set the period for 30 years for 1980 to 2009 and used quarterly data of GDP, export and import from 1987 to 2007. Because there is no data for GDP, export and import before 1987. In the end, they get time series data in better comparison to yearly 20-time series data of the period 1987 – 2007. Moreover, used logged value in VAR and VEC model estimation and causality analysis. The method of time series econometrics such as ADF unit root test, Johansen co integration test and Granger causality test under the broader framework of VAR and VEC models are used to examine the dynamic relationship between GDP, export and import in both short term and long term. In the second case, the composition change in export and import of the country is analysed by using same descriptive statistics to observe how foreign trade patterns of the country changed in 30 years of time and how would affect its economic growth. After testing, they have to adopt the results that they analysis among point out that imports were one of the significant determinants of the economic growth in Turkey and export did not have a substantial impact on the economic growth. See page 27.

The author **Wong Hock tan (2010)** investigates there is a Granger Causality among exports, domestic demand and economic growth in China, using the time series data for the year of 1978 to 2002. In this study, the variables used are GDP per capita, exports (X) domestic demand, it is measured by household consumption (H) and government consumption (G), and investment (I). The observed variables are acquired from the Penn World Tables. In this study, the estimation begins with the unit-root test included

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ERS and PP unit root test statistics. After testing all the variables, the results of ERS and PP unit-root test showed that all the variables are non-stationary in levels. On the other hand, the Granger Causality test showed that exports and economic growth, domestic demand and economic growth, exports and domestic demand have a bi-directional Granger Causality. Therefore, there is a dynamic relationship among exports, domestic demand and economic growth. So, exports and domestic demand are crucial to the economic growth of China.

Ebenezer Adesoji Olubiyi (2014) examined the causal relationships among GDP, export, imports and remittances. In the fact that exports, imports, remittances and other controlled variables are extracted from secondary sources. The Augmented Dickey–Fuller (ADF) and Phillips–Peron (PP) tests were conducted to check the stationary property of the dataset (Peron, 1990). In this paper, the author used in the subsequent vector error correction model (VECM). Y is the log of real GDP; X is the log of actual export; M is the log of real imports, and R is the log of real remittances. Workers' remittances are part of immigrant income sent home for purposes best understood by the sender. The GDP deflator deflated this variable. All the variables, between 1980 and 2012 were sourced from the World Development Indicators (WDI) 2012. The IMF Balance of Payments Yearbook (2012) provided the workers' remittances. All the variables were expressed in the logarithmic transformation to reduce the problem of heteroscedasticity. The result from the VECM Granger causality test shows that Nigeria still maintains the export-led growth hypothesis even though oil products still dominate exports. The results from estimation are the causal relationship between GDP and exports was bi-directional, likewise the causal relationship between real GDP and imports. The bidirectional causation of real GDP and import implies that imports matter for economic growth in Nigeria, likewise growth is significant for import. We have shown that on page 26.

The author **Bo TANG (2015)** investigates the relationship between the real exchange rate (RER) and economic growth in China applying the co integrated VAR (CVAR) model. It will also show on page 26 with the table summary. The author found that the Chinese economy has not benefited from the lower exchanged rate of the RMB and no direct linkages exist between the RER and growth in the long run. The extant

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literature pays attention to the impact of exchange rate regimes on growth and the connections between the exchange rate and growth. The study on the Chinese economy and its currency issue are also growing in the past two decades. The data used in the survey range from January 1994 to December 2012. The selected variables are nominal exchange rate of USD against RMB, nominal GDP, US and China CPI, foreign exchange reserves, imports, exports and foreign direct investments. The dummy variables are set as 1 when the date was later than July 2005, otherwise D = 0. Used the Augmented Dickey – Fuller (ADF) unit root test and the Johansen co-integration approach or co-integrated VAR (CVAR) approach to test the models. As the results, there is no direct connection between the RER and RGDP in the long run. In the RER equation, export has a positive impact on the RER and imports has an adverse impact on RER. The foreign direct investment also has a positive influence on the Chinese currency. The co integration test results suggested that China's growth not benefit from the depreciation of RMB. However, no direct connection can be found between the RER and RGDP in the long run. From opposite side, the lower RMB exchange rates help to boost the growth of Chinese economy. In the short term, RMB did not show the impact on the RER but contributed to the steady Economic Growth. After 2008, the test represents that the RER was largely depended on foreign capital rather than an increase in foreign trade.

Jacob W. Musila and Zelealem Yiheyis (2015) investigated the effect of trade openness on the level of investment and the rate of economic growth in Kenya using the annual time series data. The late 1960s and the early 1970s were a period of remarkable an economic growth and structural transformation in Kenya. Trade openness is also argued to possibly improve technology because a large international market can provide 1) technology spill over, 2) economies of scale in research and development and 3) higher profits to innovators. The new growth theory provides theoretical support for the role of international trade in economic growth. Their theoretical model is based on aggregate production function. Including Y is the level of real GDP per capita, K is the level of physical capital per capita, and h is the standard of human capital per capita, OPEN is the level of trade openness, and Θ represents other factors influence the state of technology. The relationship between trade openness and investment is examined

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using the flexible – accelerator model of investment, which emphasises the variables that are I ratio for the rate of investment to GDP and RGDP growth rate, w for a factor that influence the investment ratio. Annual data for the period 1982 – 2009 are used to estimate both the growth and investment equation. Obtained the data, the initial step in the data analysis was to test for integration of the variables in the model to determine the estimation procedure. Applying ADF and Phillips – Peron unit root test for all variables was found stationary at the five percent level of significance. In conclusion, they conclude that a negative lagged relationship between policy – induced openness and the level of investment between policy – induced transparency and the rate of economic growth. The Granger causality test leads us to conclude trade openness negatively influenced in the long term rate of economic growth in Kenya.

Lonor Zidek (2015) and Hana Fitzova examines that the relationship between trade and economic growth in the Czech and Slovak Republic. They used the VAR approach to test a long – term relationship between GDP and export, using the theory of co integration. The data for the Czech Republic are quarterly data from 1996 Q1 to 2014 Q4 and included 76 observations. The data for the Slovak Republic are quarterly data from 1997 Q1 to 2014 Q4 and included 72 observations that can learn in the table of page 24. Data used for the econometric analysis are from the Czech National Bank and the National Bank of Slovakia. The other variables are real gross domestic products, real exports and imports, and used ADF test for the unit root test on the model. The results indicate there is a significant relationship between economic growth and trade in both the Czech Republic and the Slovak Republic. Moreover, then they found out that export-led growth was identified in the Czech Republic and trade stimulates economic growth and growing income is an incentive for increasing level of commerce in the Slovak republic.

Sergey A. Mitsek (2015) analyse an econometric model of the Russian economy which explain the current trends in the Russian economy and to forecast its dynamic for the next two or three years. The parameters of the model were estimated by Ordinary Least Square and by Maximum Likelihood – Autoregressive Conditional Heteroskedasticity (ML – ARCH) methods. The model was estimated on quarterly time series for the period Q1 1999 – Q4 2014. The model consists of 23 equations and 24

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identities that describe the relationship between 53 variables (6 exogenous and 47 endogenous variables). The results that the average annual growth rate of Russian GDP for the next two years (2015 -1016) will be negative (-1.5%) while the inflation remains as strong as about 9 percent annually. The rapid increase in the export prices the GDP growth also increased. The rapid import prices increase the GDP growth declines. Moreover, the active monetary policy has a positive impact on the GDP, the aggressive fiscal policy and transportation tariffs' increase has a negative impact on GDP as well showed the table on page 24.

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Table 2.1: Summary of literature review

Author	**Title**	**Variables use**	**Time frame**	**Method**	**Results**
Xiaoming Liu, Haiyan and Peter	An empirical investigation of the causal relationship between openness and economic growth in China	GDP Export Import Openness	III 1983 – I 1995	OLS method	There is a relationship between openness and economic growth in China.
Andrzej Cieslik and Monika	The external openness and economic growth in developing countries.	GDP per capita FDI Openness	1974 - 2006	Static and dynamic panel data estimation methods	Trade and FDI are positively related to economic growth.
Thomas Pliimper and Michael Graff	Export Specialization and Economic Growth	Physical capital Labour Human capital	1980 - 1990	LSDV	Trade specialization have an impact on economic performance

Sources: Author's illustration

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Table 2.1: Summary of literature review (continued)

Author	**Title**	**Variables use**	**Time frame**	**Method**	**Results**
Mustafa Kahya	Relationship between economic growth and foreign trade	Export Import GDP	1980-2009	ADF unit root test, Johansen co integration test, Granger Causality test VEC and VAR models	1)Import was significant determinant of economic growth 2) export was not significant of economic growth
Wong Hock tan (2010)	Exports, domestic demand and economic growth in China: Granger Causality Analysis	Exports GDP per capita Household consumption Government consumption Investment	1978 - 2002	Granger Causality test ERS and PP unit-root test	There is a dynamic relationship among exports, domestic demand and economic growth in China.

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Table 2.1: Summary of literature review (continued)

Author	**Title**	**Variables use**	**Time frame**	**Method**	**Results**
Ebenezer Adesoji Olubiyi	Trade, Remittances and Economic Growth in Nigeria	GDP Export Imports R(remittance)	1980 – 2012	VECM Granger causality model Time-series method	1)unidirectional from remittance to real GDP 2)bi-directional from GDP to Imports and Exports
Bo TANG	The relationship between the real exchange rate and economic growth	Nominal exchange rate NGDP CPI Exports Imports FDI Dummy variables	January 1994 – December 2012	ADF unit root test Johansen co-integration approach	1)No direct relationship between RER and economic growth 2) RMB exchange rate help to boost the economic growth

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Table 2.1: Summary of literature review (continued)

Author	**Title**	**Variables use**	**Time frame**	**Method**	**Results**
Jacob W. Musila & Zelealam Yiheyis	The effect of trade openness on the level of investment and the rate of economic growth in Kenya.	Real GDP Physical capital Human capital Openness	1982 – 2009	ADF and Phillips – Peron unit root test Granger Causality test	Trade openness is negatively influenced in the long run of economic growth.
Hana Fitzová and Libor Žídek	Impact of trade on economic growth in the Czech and Slovak Republics	GDP Real exports Real imports T for deterministic trends White noise	1996-2014 for the Czech Republic 1997-2014 for the Slovak Republic	VAR ADF unit root test Granger causality	1)Exports – led growth for the Czech Republic 2)Trade stimulates economic growth for Slovak economy

Sources**:** Author's illustration

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Table 2.1: Summary of literature review (continued)

Author	**Title**	**Variables use**	**Time frame**	**Method**	**Results**
Sergey A. Mitsek	Model of economic growth, inflation and international trade in Russian Federation	K, L, Q, P, NQ, GDP, elasticity of GDP on capital and labour, investment, tax, exchange rate, exports, imports, interest rate, NS, K	1999 – 2014	OLS (ML-ARCH)	Import – Export +

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