



# INDUSTRIAL POLICY, TRADE OPENNESS AND ECONOMIC GROWTH NEXUS: AN EXPLORATORY REVIEW

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## Keywords:

*Industrial policy, trade openness,  
economic growth, technological  
transmission, knowledge spillovers.*



## ABSTRACT

*Trade openness is commonly viewed as one of the engines of economic growth. Hence, it is not surprising that several countries have taken measures to ensure that their industrial and trade policies permit some form of trade openness. This study analyses the relationship between trade openness and economic growth, highlighting some of the controversies on the effects of trade openness. From the existing literature, it is evident that the effects of trade openness are not always positive and significant, hence a closer investigation of the relationship between trade openness and economic growth is vital. Based on the findings, this paper recommends that policy makers must first address the enabling factors to ensure significant positive benefits from trade openness. This implies that countries must prioritise the aligning of their trade and industrial policies with trade facilitation, financial development, industrialisation, technological advancement and infrastructural development.*

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## 1. INTRODUCTION

The significance of international trade in economic has received considerable attention both in national policies and various international discourse. However, whether the act of opening economies to trade is beneficial or detrimental remains a contested issue in empirical research. Theoretically, if a country opens to international trade, it is more likely to realise the gains from trade than it would have under autarky. These gains from trade emanate from differences in comparative advantage and economy-wide increasing returns (Yanikkaya, 2003).

The general view surrounding the proponents of trade openness is that a more rapid economic growth tends to be experienced in an economy that can learn and implement better practices from the spillovers that come

through trading with other economies, especially the ones that are relatively more advanced in economic development. In this view, an open and less developed economy can realise more economic growth compared to a closed, underdeveloped economy (Romer, 1990).

Notwithstanding the hypothesised beneficial effects of international trade, a closer look at the literature on trade openness and economic growth reveals that there are some contradicting views regarding the role of trade openness on economic growth. For instance, some of the literature on the trade-led growth hypothesis identifies the different channels through which trade openness affects economic growth, which in a way also explains the endogenous nature of economic growth (see for example, Grossman and Helpman, 1991; Rivera-Batiz and Romer 1991b; Wacziarg, 2001). Yet other studies argue that neither the existing theoretical models nor

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previous empirical studies provide a definite and positive evidence supporting the view that open economies grow faster (López, 2005; Menyah et al., 2014).

As an example, an analysis of the openness-growth nexus in least developed countries (LDCs) suggests that with the LDCs, the underlying relationship between trade openness and economic growth may be negative, ruling-out the hypothesised positive relationship. This was proven by Young (1991), using the framework of the learning-by-doing model. The framework shows that although learning by doing generates endogenous growth with potential spillovers exhibited across goods, a comparison between a closed economy and free trade reveals the possibility of variations in gains from trade between the developed countries and the least developed countries. Consequently, the disparities in the gains from trade by the least developed countries and the developed countries result from the differences in the levels of knowledge between these countries.

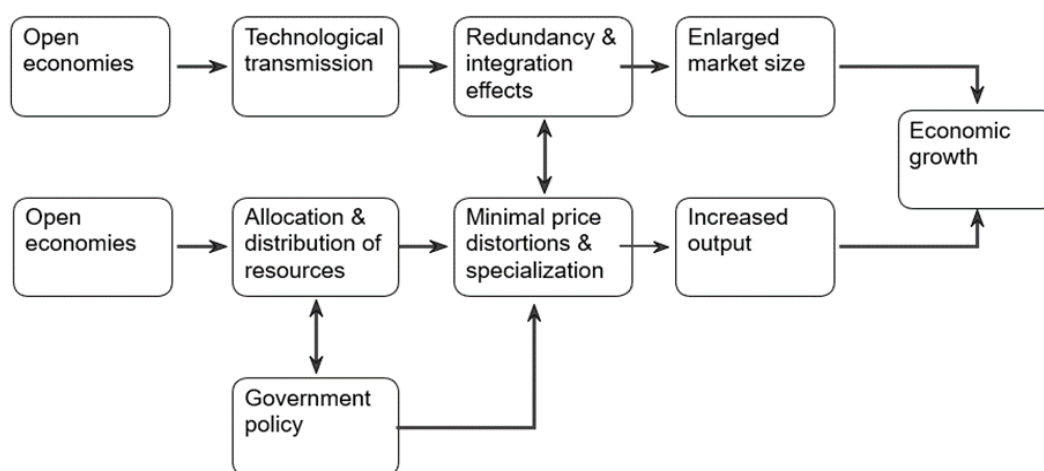
But then it could be that the lack of consensus within the openness-growth literature is mainly due to the inconsistencies in the measurement of trade openness, and differences in the level of development of the countries under investigation. Against the above background, therefore, the purpose of this study is to provide an analysis of the openness-growth nexus, highlighting the theoretical linkages between trade and growth, and controversies on the effects of trade openness. While there are previous studies that have reviewed trade openness and economic growth, this study differs from these studies to some extent. Basically, in addition to reviewing the link between trade openness and economic growth, the current study extends the debate by investigating the unwanted effects of trade openness. This in a way, offers a contrasting view to the role of trade openness in economic growth, which is one

of the contributions of this paper. In addressing the main aim of the study, this paper examines different channels through which trade openness is hypothesized to influence economic growth, based on the works of Rivera-Batiz and Romer (1991b), Grossman and Helpman (1991), and Wacziarg (2001). The findings from these studies provide an understanding of the how trade openness could be beneficial to the economy, which subsequently justifies the opening of economies to international trade.

This paper is organised into five sections: following the introduction, the second section discusses the theoretical linkages between trade openness and economic growth. Thereafter, a literature review of openness-growth literature is presented, followed by a discussion on of empirical evidence on the controversies on the effects of trade openness. The last section provides conclusions and policy recommendations.

## 2. THEORETICAL LINKAGES BETWEEN TRADE OPENNESS AND ECONOMIC GROWTH

Studies investigating the relationship between trade openness and economic growth identify various channels through which trade openness may affect economic growth. Based on Wacziarg (2001); Baldwin and Forslid (2000); Grossman and Helpman (1991); and Rivera-Batiz and Romer (1991b), this study reviews five main channels that link trade openness with economic growth. These channels include government policy, allocation and distribution/reallocation, technology transmission, redundancy effects, and integration effects, which are presented in Figure 1.



Source: Own compilation using information from Wacziarg (2001); Baldwin and Forslid (2000); Grossman and Helpman (1991); and Rivera-Batiz and Romer (1991b)

**Figure 1.** Openness-growth nexus: theoretical linkages

## 2.1 Government policy channel

Regarding the government policy channel, it is argued that the more open an economy is, the more likely it is to implement stable macroeconomic policies. This is because trade openness may induce domestic economies to adopt policies that improve the competitive environment for domestic firms that trade internationally (Wacziarg, 2001). This argument is consistent with Fischer (1993), who maintained that stable macroeconomic policies are associated with sustained economic growth. However, some studies argue that there is a negative association between trade openness and government size driven by the fact that a larger government size leads to lower trade openness (for example see Benarroch & Pandey, 2008).

## 2.2 Allocation and Distribution of resources

Trade openness may also affect economic growth through allocation and distribution of resources. Thus, for various reasons including specialisation minimal price distortions, economies that are more open to trade are more likely to be associated with efficiency in resource allocation. This is because open economies tend to set their prices of tradable goods in line with world market prices, resulting in a lower degree of price variation and a more efficient allocation of resources (Wacziarg, 2001). Moreover, by allowing the exchange of products in international markets, trade openness gives countries an opportunity to specialise in the production of products in which they possess a comparative advantage over other products.

In addition to allocation effects, the other link through which trade openness may affect economic growth is distribution effects, which allow importation of capital goods that would have been too costly or otherwise unavailable under autarky. This suggests that trade openness may lead to an increased supply of capital goods attained at relatively lower costs. Baldwin and Forslid (2000) extend the debate on trade openness and capital accumulation using Tobin's  $q$  theory, where  $q$  is the determinant of real investment. In their view of Tobin's  $q$  theory, they postulate that trade liberalisation represents an incremental policy reform in which changes in trade policy lead to the distribution of resources toward capital accumulation. Thus, changes in  $q$  predict changes in growth rates of capital accumulation and output.

## 2.3 Technological transmission

Based on the existing literature, the common view from some of the studies investigating trade and the transmission of technology is that trade openness helps to improve intra-industry productivity by allowing diffusion of knowledge and technological transmissions across countries (see Keller, 2002; Bitzer & Geishecker, 2000; Coe & Helpman, 1995). Thus, when one country

imports intermediate products from a more industrialised country with larger stocks of technology, there could be some knowledge spillovers and technological transmissions to the importing country. As argued by Rivera-Batiz and Romer (1991a) and Wacziarg (2001), over and above the flow of goods, the effects of international trade on the long-run rate of economic growth also come through the transmission of ideas and knowledge spillovers. Consequently, a country that is more open to trade will experience larger technological spillovers, thereby enjoying faster economic growth

## 2.4 Redundancy effects and integration effects

Redundancy effects are assumed to hold in the research and development (R&D) sector of an economy because of increasing returns (Rivera-Batiz & Romer, 1991, Vamvakidis, 1998; Walz, 1999). Evidence shows that due to opening of economies to international trade, the integration of product markets helps to eliminate the overlap that could arise in the creation of new goods (Walz, 1999). The elimination of product overlaps arises because the redundancy effect makes it possible for the participating countries to produce several different products through the influence of international competition. Therefore, the redundancy effects demonstrate how trade openness helps to reduce the possibility of duplicating some innovative activities. In this view, through increased trade openness, more innovations from foreign entities are encouraged, eliminating the replication of research and development in the trading countries (Vamvakidis, 1998).

Regarding integration effects, Baldwin and Forslid (2000) argue that due to being integrated with other economies, a country may realise increased labour productivity and economic growth resulting from an enlargement of its market size. Hence, when a country is integrated with other economies, international trade makes it possible for further gains from trade to arise from increased competition by allowing the enlargement of markets. However, some theorists argue that the integration effect is more relevant to developed economies than it is to the developing countries. This is because through the flows of ideas and of goods, increased integration between the developed economies can lead to an increase in the long-run rate of economic growth (Rivera-Batiz & Romer, 1991a)

## 3. TRADE OPENNESS AND ECONOMIC GROWTH: THEORETICAL AND EMPIRICAL EVIDENCE

In the spirit of the endogenous growth models, the relationship between trade openness and economic growth is expounded in the extended aggregate production function that allows for other determinants of economic growth in addition to the conventional inputs. Thus, the standard neoclassical production function

expressing the relationship between output ( $Y_t$ ), capital ( $K_t$ ), and labour ( $L_t$ ), namely

$$Y_t = F(K_t, L_t, A_t). \quad (1)$$

can be augmented further into:

$$Y_t = F(K_t, L_t, A_t, Z_t) \quad (2)$$

Where  $A_t$  is the technological advancement while  $Z_t$  represents other trade-related indicators such as measures of trade openness, trade policy, export orientation, and export diversification (Rao & Rao 2009).

Using a dynamic general equilibrium model of economic growth, Segerstrom (1990) analysed the effects of trade on economic growth focusing on the effects that arise from research and development (R&D). He showed that economic growth is endogenously driven by innovation and imitation. The argument is that, by engaging in international trade, a firm may decide to devote its resources to imitating new superior products or to discovering new products. Eventually, innovation and imitation become the outcomes of research and development (R&D) resources that the firms have devoted.

Extending the debate on technological transmissions with a focus on developing countries, Coe and Helpman (1995) identify two factors that matter in the link between trade openness and economic growth. First, the growth in factor productivity in developing countries is assumed to be positively and significantly related to R&D in their industrial country trade partners. Second, growth of total factor productivity in developing countries is assumed to be positively related to their openness to trade with industrial countries. In support of the R&D-driven growth hypothesis, Keller (2002) maintains that in open economies, trade in advanced intermediate products leads to international transmission of technology, which is beneficial to economic growth. Therefore, there are some expected positive knowledge spillovers arising from countries outsourcing their intermediate products (Bitzer & Geishecker, 2002). However, other studies argue that R&D spillovers are not strictly related to international trade. For example, Lumenga-Neso, Olarreaga and Schiff (2005), maintain that positive effects of R&D spillovers can be realised even when countries do not trade with each other.

Some empirical studies found that innovation and adoption of technologies through trade explain the endogenous growth process of the economies. Santacreu (2015) analysed the annual data for 30 OECD countries and found that the adoption of foreign technologies through trade as well as domestic innovation are important sources of embodied growth. Using a sample of 24 advanced countries during the period 1971- 2004, Fracasso and Marzetti find evidence supporting the redundancy effects of trade. Their study reveals that cross-border trade flows have a positive effect on the international transmission of knowledge.

### 3.1 Openness-growth nexus: further empirical evidence

Based on other previous empirical studies (table 1) there is an indication that the outcome of the relationship between trade openness and economic growth is mixed, although majority of studies found that trade openness is beneficial to economic growth. For instance, Karras (2002) uses cross-sectional data for 56 countries during the period 1950 to 1992 and obtained mixed results regarding the relationship between trade openness and economic growth. When the empirical analysis is carried out in the cross section, then the hypothesized relationship between trade openness and economic growth is statistically insignificant. However, when the complete panel is employed, and the time dimension of the data is employed, the results show a positive and statistically significant relationship between trade openness and economic growth emerges.

Using a group of 19 OECD countries, Dar and Amirkhalkhali (2003) investigate the impact of trade openness on economic growth in 19 OECD countries employing a generalized growth accounting model on the data covering the period 1971 to 1999. The results showed that the relative importance of trade openness on economic growth varies significantly across countries given the differences in capital and labour accumulation across space and time.

Skipton (2007) employs the trade openness index to measure the effect of trade openness on long-run economic growth using a cross-section of 20 countries. These countries comprised most open and least open economies. The findings of the study showed that there was a positive relationship between trade openness and long-run economic growth. The positive effect of trade openness was attributed to the ability of trade openness to create new opportunities through removing constraints to investment as well as by allowing transfers of knowledge and technology.

In another study, Yanikkaya (2003) uses different groups of measures of trade openness in cross-country regressions covering more than 100 developed and developing countries during the period 1970 to 1997. The measures of trade openness were categorised based on trade volumes, trade restrictions, bilateral payments arrangements among IMF members, and trade barriers. The results revealed that there is a positive relationship between trade openness and economic growth when trade intensity measures are used to measure trade openness. Moreover, the results showed that in some counties, trade barriers are positively and significantly associated with economic growth.

Wacziarg and Welch (2008) investigate the relationship between trade openness and economic growth using the 1995 Sachs and Warner openness indicators on 24 developing countries over the period 1950 to 1998. The

study found that countries that made use of open trade policies experienced higher economic growth than before they opened their economies. This evidence indicates the positive association between trade openness and economic growth in developing countries.

Using data from 17 developing countries to examine the link between trade openness and economic growth,

Okuyan et al. (2012) detected a positive long-run relationship between trade openness and economic growth in six different countries. Their results also showed that in four of the sample countries, the direction of causality runs from trade openness to economic growth. On the contrary, in four other countries, causality runs from economic growth to trade openness.

**Table 1.** Summary of selected studies on trade openness and economic growth

Author(s)	Countries/region	Measure(s) of trade openness	Effect of trade openness on economic growth
Karras (2002)	56 countries	exports plus imports to GDP	significant, positive
Dar and Amirkhalkhali (2010)	19 OECD countries	exports plus imports to GDP	significant, positive
Skipton (2007)	most open economies; least open economies	trade openness index	significant, positive
Yanikkaya (2003)	more than 100 developed and developing economies	exports plus imports to GDP; imports penetration ratio, exports ratio in GDP.	significant, positive
Chang and Mendy (2012)	36 African countries	exports plus imports to GDP	significant, positive
Wacziarg and Welch (2008)	24 developing countries	Sachs and Warner openness index	significant, positive
Babatunde (2011)	42 Sub-Saharan African countries	exports plus imports to GDP	significant, positive
Kandiero and Chitiga (2006)	50 African countries	exports plus imports to GDP	significant, positive
Brückner and Lederman (2012)	Sub-Saharan Africa	exports plus imports to GDP	significant, positive
Hoeffler (2002)	76 countries	Sachs and Warner openness index	significant, positive
Chen and Gupta (2006)	13 SADC countries	exports plus imports to GDP	significant, positive
Okuyan et al. (2012)	17 developing countries	exports plus imports to GDP	significant, positive in 6 countries.
Menyah et al. (2014)	21 African countries	exports plus imports to GDP	insignificant impact
Sakyi et al. (2014)	115 developing countries	composite trade shares	significant, positive
Zahonogo (2017)	42 Sub-Saharan African countries	Exports plus imports to GDP; exports to GDP; imports to GDP	positive up to a threshold, declines beyond the threshold

Sakyi et al. (2014) explore the linkage between trade openness and economic growth in 115 developing countries, which were grouped into low-income countries, upper-middle-income countries and lower-middle-income countries. They employ composite trade shares to proxy the degree of trade openness. The results confirm the existence of a long-run relationship between trade openness and economic growth in the entire sample of developing countries. Moreover, the study found that the link between trade openness and economic growth is much higher for the upper-middle-income countries than for lower-middle-income countries.

Chang and Mendy (2012) examine the effects of trade openness on economic growth in Africa focusing on 36 countries. The study specified three types of regression. In the first two specifications, total amount of exports and total amount of imports were used to measure the effect of trade on economic growth. The third specification used the ratio of the sum of exports and imports to GDP as a measure of trade openness. The results indicated that

there was a positive relationship between trade openness and economic growth. The exports and imports were also found to be positively related to economic growth.

Applying cross-sectional analysis to 42 Sub-Saharan African countries, Babatunde (2011) investigate the relationship between trade openness, foreign direct investment (FDI) and economic growth in these countries. The results indicated that trade openness played a significant role in encouraging FDI in Sub-Saharan Africa. It was further concluded that FDI together with infrastructural development, contributes positively to economic growth. In a similar study, Kandiero and Chitiga (2006) used cross-sectional data from 50 African countries to analyse the effect of openness to trade in these economies. The results revealed that foreign direct investment responds positively to increased trade openness, which led to the conclusion that greater openness to trade had a positive effect in the economy.

Re-examining the 1997 Sachs and Warner model of economic growth, Hoeffler (2002) investigate the relationship between trade openness, investment and economic growth in Sub-Saharan Africa over the period 1965 to 1990. The results revealed that increased trade openness leads to higher levels of per capita GDP in the steady state and with a faster convergence towards the steady state.

In another study, Brückner and Lederman (2012) use panel fixed effects approach to examine whether increased openness to international trade has led to higher economic growth in the Sub-Saharan Africa region. After taking within-country variations into account, the main finding of their study was that more trade openness leads to economic growth in Sub-Saharan Africa.

Chen and Gupta (2006) examine the effect of trade openness on economic growth in the Southern African Development Community (SADC) for the period 1990 to 2003. Their study used the ratio of exports plus imports to GDP as a measure of the level of trade openness. The results show that trade openness has a significant positive effect on economic growth in the SADC region. This finding led to trade openness being considered as one of the most critical factors contributing to economic growth in the SADC region.

Menyah et al. (2014) use 21 African countries to analyse the causal relationship between financial development, trade openness and economic growth over the period

1965 to 2008. From their findings, it emerges that there is hardly any causality between financial development, trade openness and economic growth. Thus, the results showed very weak evidence in support of the trade-led growth hypothesis, which led to the conclusion that trade openness does not have a significant influence on economic growth in the countries investigated.

In one of the recent studies conducted in Sub-Saharan Africa, Zahonogo (2017) uses the Pooled Mean Group estimation technique to examine the impact of trade openness on economic growth in 42 different countries during the period 1980 to 2012. The study found that although trade openness has a positive impact on long run economic growth, the growth effects of trade openness may vary across the countries depending on the level of trade openness.

#### 4. CONTROVERSIES ON THE EFFECTS OF TRADE OPENNESS

Different arguments have been advanced against the effects of trade openness. This study reviews some of the controversies on the effects of trade openness, which are linked to the innovation-driven growth, spatial effects, income distribution, regional inequality, and financial development. Table 2 provides a summary of the controversies discussed in this paper.

**Table 2.** Key controversies on the effects of trade openness

Controversy	Arguments	Sources
Innovation-driven growth	<ul style="list-style-type: none"> <li>- more applicable to highly industrialised countries;</li> <li>- less industrialised countries face intense competition</li> <li>- consumers made worse off in the long run</li> </ul>	Baldwin (1989); Grossman and Helpman, 1991; Gustafsson and Segerstrom (2010)
Spatial effects	<ul style="list-style-type: none"> <li>-high spatial concentration, leading to congestion costs</li> <li>-increased regional disparity</li> <li>- decreased national welfare</li> </ul>	Brühlhart (2011); Mansori, (2003);
Income distribution	<ul style="list-style-type: none"> <li>- higher inequality on the returns to the factors of production</li> <li>- differentials in gender wage gap</li> </ul>	Spilimbergo et al. (1999); Anderson (2005); Fontana, (2003).
Financial development	<ul style="list-style-type: none"> <li>- increased exposure to competition leading to higher uncertainty</li> <li>- failure of trade openness in economies with low capital mobility</li> </ul>	Kim et al. (2010); Rajan and Zingales, (2003); Gries et al. (2009)

Based on the information presented in Table 2, it can be argued that although the transmission of knowledge has been identified as one of the links between trade openness and economic growth, the significance of the innovation driven growth as an outcome of trade openness has been challenged. Some of the literature shows the innovation-driven growth is more applicable to highly industrial countries that it is to less advanced countries. For instance, Baldwin (1989) argues that the reason why innovation-driven growth is more applicable to highly industrialised countries is because for a country to

innovate and grow faster, it needs to have more investment in research and development (R&D). In comparison, the less advanced countries are less likely to put their resources towards more investment relative to the more advanced countries.

In addition, when a country opens to international trade, it also opens to intense competition to countries that are more superior to it in technological advancement. Thus, when a smaller country faces intense completion from more advanced countries, there could be some negative

effects on its productivity and output growth. This is because, in the face of intense foreign competition, a less advanced country could be forced to innovate at a rate slower rate than it ought to, leading to declines in productivity and output growth rates in the long run (Grossman & Helpman, 1991). Therefore, trade openness could make less advanced countries to suffer from strong competition from more advanced countries much worse than it would have been for more industrialised economies. Eventually, depending on the overall effects of R&D spillovers, openness to international trade could have adverse effects both in the short run and in the long run. As pointed out by Gustafsson and Segerstrom (2010), increased trade openness could retard productivity growth in the short-run, but also make consumers worse off in the long run.

Over and above these effects, trade openness can also result in spatial effects, which could pose challenges to the affected economies. Often, the spatial effects of trade openness are more pronounced in the areas that have more locational advantage, such as those close to the border (Nitsch, 2000). According to Brühlhart (2011), the spatial effects of trade openness often lead to concentration in certain regions. On welfare consideration, the partial effects of trade could be detrimental whereby spatial concentration itself gives rise to inequality within the regions. Such regional disparities could be in the form of wage differentials or in the terms of differentials in infrastructural development. Moreover, the disparity in regional inequality could manifest because as a country opens to trade, the distribution of economic activity becomes more concentrated in a single metropolitan area, often leading to increases in congestion costs (Mansori, 2003). This increase in congestion costs could reduce national welfare.

Apart from resulting in spatial effects, trade openness can also lead to personal income distribution effects. This is because, though governed by factor endowments, the personal distribution of income may also be affected the degree of trade openness to some extent. Hence in some open economies, trade openness tends to be positively correlated with higher income inequality, other things being equal (Spilimbergo et al., 1999). As argued by Anderson (2005), trade openness may affect income distribution through its effect on the relative demand and supply in the factor market that tends to have a direct impact on the relative shares of the factors in national income. Moreover, increased trade openness may promote inequality in the ownership of the factors of production, which in turn may affect the relative returns to these factors. In some instances, the differentials in gender wage gap are an outcome of trade openness (Fontana, 2003).

The other effect of trade openness relates to its impact on financial development. Trade openness is regarded as a sufficient condition for financial development (Balgati et

al., 2009). However, openness to trade can have a negative effect on financial development, though temporarily so. When a country opens to international trade, the increased exposure to competition could lead to higher uncertainty and lower levels investment, thereby reducing financial development (Kim et al, 2010). This result shows the opposite of the expected effect of trade openness in the economy.

Yet again, in analysing the effect of trade openness on financial development, the level of capital mobility becomes a crucial factor. This is because the effect of trade openness on financial development tends to be insignificant or even negative when capital mobility is low (Rajan and Zingales, 2003). Apart from effect of capital mobility, the failure of trade openness to improve financial development may arise because of other reasons. Among other things, the effectiveness of trade sector development in inducing financial development requires a robust causal relationship between the financial sector and the real sector (Gries et al., 2009). In the presence of deficiencies in the financial sector, the interaction between the financial sector and the real sector is weakened, which would then imply little support for the hypothesis that trade openness leads to financial development.

## **5. CONCLUSION**

This paper provides an exploratory review of the nexus between trade openness and economic growth, drawing conclusions from both the theoretical and empirical evidences. Arguably, trade openness stems from trade policy, which in turn is an outcome of industrial policy. Thus, in the quest to harness some degree of openness to international trade, different economies have adopted policies that liberalise restrictions on imports, but that also seek to promote exports. While there are previous studies that have analysed the nexus between trade openness and economic growth, this paper contributes to the literature on industrial policy, trade openness and economic growth to some extent. In essence, in addition to reviewing the link between trade openness and economic growth, the current study extends the debate by investigating the unwanted effects of trade openness. Also, in line with the main aim of the study, this paper examines different channels through which trade openness is hypothesized to influence economic growth. These channels are based on the works of Rivera-Batiz and Romer (1991b), Grossman and Helpman (1991), and Wacziarg (2001). The findings from these studies offer an understanding of the how trade openness could be beneficial to the economy, which subsequently justifies the need to gear the industrial and trade policies towards the opening of economies to international trade.

From the theoretical point of view, one of the main arguments on the openness-growth literature when countries adopt policies that enhance openness to international trade, this could result in technology

transmission and diffusion of knowledge, which in the longer term would bring about innovation-driven growth. Nevertheless, it has been argued that innovation-driven growth is more applicable to highly industrial countries and not to less advanced countries. Moreover, despite the conventional view that trade openness supports economic growth, evidence shows that the benefits reaped from trade openness are not always positive and significant. In fact, while trade openness is perceived to have an enhancing effect on economic growth in several economies, some insignificant effects have been experienced in other economies, some of which are least developed countries. This inconclusiveness of the empirical findings on the effects of trade openness, therefore, shows that trade openness alone cannot make significant contributions to economic growth, but also needs to be complimented by other factors such as sound macroeconomic policy, human capital and infrastructural development.

In addition to reviewing the linkages between trade openness and economic growth, this study also probes further, controversies on the effects of trade openness. At the core of the debate, there are concerns surrounding the arising spatial effects, income distribution effects, and regional inequalities. Thus, based on the reviewed literature, this paper recommends that for many economies including the least developed countries (LDCs), the adoption of policies that open their economies to trade needs to be strategically implemented to reduce the vulnerability to some of the possible unwanted effects arising from trade openness itself. In this view, instead of simply adopting policies to increase trade openness, policymakers must first address the enabling factors to ensure significant positive gains from trade, relative to the possible losses from trade. This means that, among other things, countries must align their national policies with trade facilitation, financial development, industrialisation, technological advancement and infrastructural development, if they are to gain significant benefits from trade openness.

## References:

- Babatunde, A. (2011). Trade openness, infrastructure, FDI and growth in Sub-Saharan African countries. *Journal of Management Policy and Practice*, 12(7), 27-36.
- Baldwin, R. (1989). The growth of effects 1992. *Economic Policy*, 4(9), 247-282.
- Baldwin, R. E., & Forslid, R. (2000). Trade liberalisation and endogenous growth: a q theory. *Journal of International Economics*, 50(2), 497-517.
- Balgati, B. H., Demetriades, P. O., & Law, S. H. (2009). Financial development and openness: evidence from panel data. *Journal of Development Economics*, 89(2), 285-296.
- Benarroch, M., & Pandey, M. (2008). Trade openness and government size. *Economics Letters*, 101(3), 157-159.
- Bitzer, J., & Geishecker, I. (2000). What drives trade-related R&D spillovers? decomposing knowledge-diffusing trade flows. *Economics Letters*, 93(1), 52-57.
- Brückner, M., & Lederman, D. (2012). *Trade causes growth in Sub-Saharan Africa. World Bank Policy Research Working Paper 6007*. Poverty Reduction and Economic Management Network, International Trade Department. The World Bank, Washington.
- Brühlhart, M. (2011). The spatial effects of trade openness: a survey. *Review of World Economy*, 147(1), 59-83.
- Chang, C-C. & Mendy, M. (2012). Economic growth and openness in Africa: what is the empirical relationship? *Applied Economics Letters*, 19(18), 1903-1907.
- Coe, D. T., & Helpman, E. (1995). International R&D spillovers. *European Economic Review*, 39(5), 859-887.
- Dar, A., & Amirhalkhali, S. (2010). On the impact of trade openness on growth: further evidence from OECD countries. *Applied Economics*, 35(16), 1761-1766.
- Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of Monetary Economics*, 32(3), 485-512.
- Fontana, M. (2003). The gender effects of trade liberalisation in developing countries: a review of the literature. *University of Sussex Discussion Papers in Economics DP101*.
- Fracasso, A., & Marzetti, G. V. (2015). International Trade and R&D spillovers. *Journal of International Economics*, 96, 138-149.
- Gries, T., Kraft, M., & Meierrieks, D. (2009). Linkages between financial deepening, trade openness, and economic development: causality evidence from Sub-Saharan Africa. *World Development*, 37(12), 1849-1860.
- Grossman, G. M., & Helpman, E. (1991). Trade, knowledge spillovers and growth. *European Economic Review*, 35(2-3), 517-526.
- Gustafsson, P., & Segerstrom, P. (2010). Trade Liberalisation and Productivity Growth. *Review of International Economics*, 18(2), 207-228.
- Hoeffler, A. (2001). Openness, investment and growth. *Journal of African Economies*, 10(4), 470-497.



- Kandiero, T., & Chitiga, M. (2006). Trade openness and foreign direct investment in Africa, *South African Journal of Economic and Management Sciences*, 9(3), 355-370.
- Karras, G. (2002). Openness and growth: cross-sectional and time-series evidence. *Review of Accounting and Finance*, 1(3), 3-14.
- Keller, W. (2002). Trade and the transmission of technology. *Journal of Economic Growth*, 7(1), 5-24.
- Kim, D-H., Lin, S-C., & Suen, Y-B. (2010). Dynamic effects of trade openness on financial development. *Economic Modelling*, 27(1), 254-261.
- López, R. A. (2005). Trade and growth: reconciling the macroeconomic and microeconomic evidence. *Journal of Economic Surveys*, 19(4), 623-648.
- Lumenga-Neso, O., Olarreaga, M., & Schiff, M. (2005). On indirect R&D spillovers. *European Economic Review*, 49, 1785-1798.
- Mansori, K. S. (2003). The regional effects of trade liberalisation with increasing returns in transportation. *Journal of Regional Sciences*, 43(2), 249-268.
- Menyah, K., Nazlioglu, S., & Wolde-Rufael, Y. (2014). Financial development, trade openness and economic growth on African countries: new insights from a panel causality approach. *Economic Modelling*, 37, 386-394.
- Nitsch, V. (2000). Trade openness and urban concentration: new evidence. *Journal of Economic Integration*, 21(2), 340-362.
- Okuyan, H. A., Ozun, A., & Erbaykal, E. (2012). Trade openness and economic growth: further evidence without relying on data stationarity. *International Journal of Commerce and Management*, 22(1), 26-35.
- Rajan, R. G., & Zingales, L. (2003). The great reversal: the politics of financial development in the twentieth century. *Journal of Financial Economics*, 69, 5-50.
- Rivera-Batiz, L. A., & P.M. Romer, P.M. (1991a). Economic integration and endogenous growth. *The Quarterly Journal of Economics*, 106(2), 531-555.
- Rivera-Batiz, L. A., & P. M. Romer. (1991b). International trade with endogenous technological change. *European Economic Review*, 35, 972-1004.
- Romer, P. M. (1990). Endogenous Technological Change. *The Journal of Political Economy*, 98(5), S71-S102.
- Sakya, D., Villarverde, J., & Maza, J. (2014). Trade openness, income levels and economic growth: the case of developing countries, 1970-2009. *The Journal of International Trade and Development*, 1-22.
- Santacreu, A. M. (2015). Innovation, diffusion and trade: theory and measurement. *Journal of Monetary Economics*, 75, 1-20.
- Segerstrom, P. S. (1990). Innovation, imitation, and economic growth. *Journal of Political Economy*, 99(4), 807-827.
- Skipton, C. (2007). *Trade Openness, Investment, and Long-Run Economic Growth*. Proceedings of the 2007-2008 Southern Economic Association (SEA) meetings, New Orleans, Louisiana. 18-21 November.
- Spilimbergo, A., Londono, J. L., & Szekely, M. (1999). Income distribution, factor endowments, and trade openness. *Journal of Development Economics*, 59, 77-101.
- Vamvakidis, A. (1998). How robust is the growth-openness connection: historical evidence. *Journal of Economic Growth*, 7, 57-80.
- Wacziarg, R., & Welch, K. H. (2008). Trade liberalization and growth: new evidence. *The World Bank Review*: 1-45.
- Wacziarg, R. (2001). Measuring the dynamic gains from trade. *The World Bank Economic Review*, 15, 393-429.
- Walz, U. (1999). *Dynamics of Regional Integration*. Heidelberg: Physica-Verlag.
- Yanikkaya, H. (2003). Trade openness and economic growth: a cross-country empirical investigation. *Journal of Development Economics*, 72, 57-89.
- Young, A. (1991). Learning by doing and the dynamic effects of international trade. *The Quarterly Journal of Economics*, 106, 369-405.
- Zahonogo, P. (2017). Trade and economic growth in developing countries: evidence from Sub-Saharan Africa. *Journal of African Trade*, 3, 41-56.

