The Impact of Trade Policies on Promoting Growth in Developing Countries

Wanlin Jiang 1,*, †, Zhining Zhang 1, †

1Keystone Academy, Beijing, China

*Corresponding author: wanlin.jiang@student.keystoneacademy.cn

†These authors contributed equally.

Abstract. This study analyzes the successfulness of four categories of policies, which are tariff reduction, infrastructure development, business investment, and educational advancement in the growth of developing countries, shown by GDP and employment as the indicators. By predicting the impact of the tariff reduction model on trade and analyzing the theory of the implication of import and export volumes on economic growth, it is concluded that there is no direct correlation between tariff reductions and GDP growth. Data suggest that the present relationship between educational development and economic growth is negative, but the literature also studies that the results of GDP growth need to be shown in the long term, and it is difficult to derive long-term effects from the example chosen in the study. As for the second indicator of growth, which is employment, the overall impact of tariff reduction and education enhancement policies tend to be positive, even though the literature suggests conflicting views on the causal relationship between all four policies and employment. While empirical results show that the stimulation of infrastructure investment and business investment shows a significant positive correlation with GDP growth in each country.

Keywords: Developing Countries, Tariff Reduction, Infrastructure Investment, Business Investment, Education.

1. Introduction

The economic growth of developing countries has become the focus of the globe, due to its massive immature markets, undeveloped resources, and cheap labor. These potentials are critical for boosting the productivity and trade of all nations, which contributes to further economic growth [1].

Moreover, there are mainly four categories of policies that targets to promote both short-run and long-run economic development of these nations. For tariff related policies, it commits to increase import and export volume by decreasing transaction cost with participant countries, which includes export tax rebate or/and exemption policies for goods. For infrastructure investment policies, it aims to construct and improve important project nodes, transportation layouts, large channels, transport facilitation, multi-platform cooperation, and bilateral relations between countries. For business investment policies, it plans to solve investment issues, eliminate investment and trade barriers, create sustainable business environment, construct free trade zone, and stimulate further cooperation potentials. For education cooperation policies, it intends to “promote people-to-people ties”, “cultivate supporting talent”, and “achieve common development” [2].

In the following chapter, this paper analyzes the relationship of the above four strategies separately with employment and GDP by using the "One Belt One Road" (OBOR) as an example. It is a multinational strategic route initiated by China that aims to promote economic engagement and investment in all countries along this trading route [3]. This essay can be divided into three parts, which are introduction, policy analysis, and conclusion. Section two focuses on the perspective of OBOR participant countries (excluding China) and explores the four policies, which are trade reduction, business investment, infrastructure investment, and education, from the aspects of employment and GDP growth. Finally, section three concludes the effectiveness of these approaches in bringing an economic upsurge to the developing countries, proposes possible policy recommendations based on the above analysis, evaluates the validity of this paper, and suggests future research topics.
2. Policy Analysis

2.1 Tariff Reduction

Tariff-related policies are an important portion of the China One Belt One Road Initiative. It commits to increasing import and export volume by decreasing transaction cost with participant countries in multiple ways, which includes export tax rebate or and exemption policies for export goods of production enterprises, foreign trade enterprises, foreign aid export goods, outsourced export goods, financial leasing goods, foreign-invested goods and other types of goods and enterprises [2]. These policies can successfully increase the import and export volume and promote international trade, which would impact the employment conditions in participant countries in the long run; however, their direct associations with countries' GDP growth are not yet been proven.

Overall, no evidence suggests that there is a clear association between tariff reduction and GDP growth. But when it comes to trade promotion, the OBOR tariff reduction policies promoted international trade in Asian participant countries and most non-EU countries, yet, European countries that have EU membership don't benefit from the free trade agreements of the OBOR initiative. Herrero and Xu [4] estimate that if the tariff of trade in the OBOR area is cut down to 0, Asian countries will have trade gain benefits from tariff reduction and free trade policies, especially countries in central, Middle Eastern, and East Asian. However, participant countries in Europe would have a trade loss in a range of 0.01%-0.05%, because most countries would not be able to have separate free trade agreements with China due to their European Union membership. Cai [5] demonstrates the export and import volume of OBOR countries using the GTAP model and shows that when the tariff is reduced to 50%, except for CIS 6 countries, the export volume of OBOR countries all increased. Pieces of evidence mentioned above suggest that the reduction in tariff would facilitate trade, reduce transaction cost, and increase profitability, which in turn would lead to trade development and increase the scale of trade, showing that the relationship between tariff reduction and the import and export volume is positive. However, the GTAP model of countries' GDP variation in the same simulation shows that except for China and Southeast Asia 11 countries, GDP in all other participant countries decreased. Additionally, Sampathkumar and Rajeshkumar [6] concluded that according to cointegration and Granger Causality tests, the result of the relationship between export volume and a country's GDP growth in SAARC countries is very controversial. Due to that, there is bidirectional causation found between economic growth and export in Afghanistan and Sri Lanka, but no causation was shown in Bhutan, Maldives, Nepal, and Pakistan. Another study by Subasat [7] also proposes that although export is very crucial in any country, it is not the leading factor that promotes economic growth. The study indicates that there is only a weak positive correlation between the export product price index and economic growth in middle-income countries, but for both low-income and high-income countries, is no empirical result that proves to promote export will directly benefit economic growth. Moreover, Panta et al. [8] find that using time series data from 1965 and 2020, in Nepal, a country that is geographically connected to China and a participant country in the OBOR initiative, demonstrates only the short-term benefit of increasing import to economic growth while no evidence proves that export can lead to economic growth. Therefore, the tariff reduction policy was only successful in facilitating trade and increasing import and export volume in Asian countries, and the implication of expanding export and import on GDP growth is not yet been proven directly associated.

The short-term relationship between tariff reduction of the OBOR initiative and the employment rate of the participant countries is positive, but since most policies were implemented after 2015, the long-term implication remained concerned. Cai [5] estimates that if the OBOR trade routes form a free trade area, except for CIS six countries, the import volume in all countries that participate in the OBOR initiative would increase from 0.3%-3.5%, and the export volume would increase from 0.1%-2.7%, which shows the benefit of trade facilitation policies on increasing the volume of international trade. It is estimated by Baniya et al. [9] that when infrastructure projects in the OBOR initiative are processed, deeper trade agreements on trade routes can act as a complement and magnify the trade
benefit of these projects. The trade time would decrease to 7.4% on the lower bound and 10.9% on the upper bound scenario, and the total export would be increased by 11.2% and 12.9% if policy reforms and trade facilitation are implemented. For countries in East Asia and the Pacific, when the preferential trade agreements between OBOR countries are increased to a regional level, the export volume would increase to up to 30%. Empirical study shows that the positive implication of trade for employment rate in the long run outweighs its short-term obstructions, but the increasing openness of trade also caused rising wage inequality. Felbermayr et al. [10] highlight that from panel data from a mix of OECD countries, the employment rate would rise by 1% when the trade openness increases by 10%. The World Bank et al. [11] suggest that due to the dislocation effect, the unemployment rate would decrease by 0.6% immediately after trade liberalization but then increase up to 3.5% after three years. But when it comes to wage distribution, empirical studies estimate that international influences have approximately 20% sector when contributing to rising wage inequality worldwide. B. [12] finds that export firms tend to be more productive and larger in scale, and there is a tendency that employees in export firms are more productive and receive higher wages. The "quality-upgrading mechanism" described by Verhoogen [13] also suggests that export firms in developing countries tend to pay higher wages to more productive workers to keep up their high workforce productivity. Thus, it is concluded that the reduction of tariffs can facilitate and promote international trade, it has a positive effect on increasing the employment rate in the long run after short-term dislocation, but it may also contribute to wage inequality between high and low skilled workers.

To summarize, there is strong evidence that offers a positive relationship between OBOR tariff reduction policies with the expansion of import and export volume, while its overall effect on GDP growth is not directly associated, it affects the employment of participant countries both positive and negatively by increasing the employment rate but also intensify wage inequality.

2.2 Infrastructure Investment

Moving on to infrastructure investments in "One Belt One Road", China provided financial support to the participant countries in building infrastructures, aiming to establish transportation nodes and integrate infrastructure services in countries along the OBOR trading routes. It is included in the article "The 'Belt and Road' Strategic Implementation Plan" issued by the Chinese government in 2015 that the infrastructure investment policies cover important project nodes, transportation layouts, development of large channels, transport facilitation, multi-platform cooperation, and bilateral relations between countries [2]. With the above main points mentioned in the policies, infrastructure investment from China to OBOR participant countries would lead to an increment in employment rate and GDP growth.

To begin with, infrastructure investment from China to participant countries, mostly developing countries, in OBOR creates positive effects in boosting employment in the aid receiving countries, but it is also challenged by hypotheses suggested in studies. Loc [14] finds that employment and infrastructure are positively correlated. The example of building energy pipelines in ASEAN countries is used to show that employment has been generated to help construct the Trans-ASEAN Gas Pipeline (TAGP), an energy infrastructure project that aims to increase energy security and new market opportunities. With the growing number of TAGP established in ASEAN oil-producing nations, more employees are required, which brings job opportunities to the locals, increasing the employment rate of nations that received infrastructure investment from China. Moreover, Geng and He [15] supported this claim by illustrating that digital financial inclusion increases sustainable employment through simulations. It is concluded that digital inclusive finance improves financial infrastructures, such as payment, credit bureaus, and remittance, which brings up the employment rate due to more employees are required to further develop financial infrastructures. However, this positive relationship is doubted by Jetin [16] that these large-sized infrastructure projects invested by China are accomplished by Chinese firms with mostly Chinese employees, which lowers job opportunities for the local workers in countries along the OBOR trading routes. Therefore, although concerned by one hypothesis, with examples of TAGP and digital financial inclusion, the positive
relationship between infrastructure investment in OBOR participant nations and employment is proved to be correct.

Additionally, the GDP of OBOR participant countries is shown to be positively influenced by China's overseas infrastructure investment. Yii et al. [17] estimate that a 1% transportation infrastructure increases GDP by 0.9131%, while Villafuerte et al. [18] estimates that improving infrastructures could increase GDP in OBOR participant countries by around 0.1 to 0.7 percent point. Although with different GDP increasing levels, these simulations still suggest the positive correlation between infrastructure investment and GDP, proving the effectiveness of infrastructure investment OBOR policies via noticeable GDP growth in aid receiving nations. Moreover, Zhang et al. [19] highlight that investment in roadways, railways, telecommunication, and technology infrastructure helps more road network to be built in OBOR participant countries and enhance transportation of manufactured goods to more markets, hence improving trade. Besides, Chen and Li [20] again prove this positive relationship that infrastructure investment improves productivity, facilitates the formation of new firms, and reduces transportation costs, which combines enhances industrial agglomeration. This then increases the total demand and output expansion of nations along the OBOR trading route, which simultaneously increases the demand factor of GDP, promoting the overall economic growth of these aid receiving nations. This raises the "net export" factor GDP, thus promoting economic growth. Lastly, forecasting models show that infrastructure demand will reach about 5.9 percent of GDP by 2030. If these demands are met, productivity and export capacity will be improved. Exports from the East Asia Pacific and South Asia regions will increase by 3.8 percent and 3.7 percent respectively, depicting the positive relationship between infrastructure investment and trade, which able to boost further economic growth [21]. As a result, the OBOR infrastructure investment policies are proven to be effective in bringing economic growth and employment to the participant countries.

2.3 Business Investment

For business investment in "One Belt One Road", China supplied participant countries with business investment, aiming to solve investment and trade facilitation issues, eliminate investment and trade barriers, create a sustainable business environment, jointly construct a free trade zone, and stimulate further cooperation potentials [2]. Overall, these policies in promoting business investment boost employment rate and GDP growth in nations along the OBOR trading routes.

First, China's business investment in aid receiving countries helps to create jobs in local areas, although may have the risk of unbalanced synchronization of workers. Geng and He [15] prove with simulations that financial support gives businesses sufficient funds to run the firm, which recruits more employees during its scale expanding process. Similarly, Loc [14] supported this claim via Table 1, reflecting that local employment in ASEAN countries increases along with the enhancement of Chinese FDI enterprises. It is shown that the number of Chinese FDI firms surged by 1700 from 2012 to 2016, and local employees raised 165,600 positions in the ASEAN, proving the effectiveness of business FDI by China, as it improves employment in the OBOR participant nations. However, it is challenged by Setiawan and Kamil [22] that business investment does not create job opportunities for OBOR participant nations, because instead of expanding jobs for the local employees, China might bring its own workers, which may further raise the unemployment level in these countries due to the huge gap in skill level. Thus, the simulation and table below display the overall correlation between employment and Chinese FDI to be positive, although this positive correlation is in doubt.

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Furthermore, Chinese overseas business investment in nations along the OBOR trading routes is shown to upsurge GDP in these countries. Zhang et al. [19] find that Chinese FDI offers cheaper raw
materials and opens more marketing and trading sectors in the aid receiving countries, which allows these nations to trade among themselves, enhancing economic growth and bringing further GDP growth. Additionally, Wang et al. [23] h that many Chinese industrial operations are being relocated to OBOR participant countries, which offers them a source of raw materials with lower cost and markets, promoting diversify production of firms and local business investment. This boosts further GDP growth, since the level of business investment increases in these nations. Moreover, this positive relationship is again supported by Villafuerte et al. [18] that Chinese overseas direct investment strengthens regional integration in OBOR participant countries, bringing a combined GDP of $13 trillion. This data shows the effectiveness of Chinese FDI policies in OBOR since it leads to higher economic growth in the aid receiving countries. Consequently, the positive relationship between Chinese overseas business investment OBOR policies and GDP growth in aid receiving nations is valid due to the above three angles proving it to be founded. Lastly, OBOR forecasting models show that GDP growth averages about 17% to 34% per decade, and the share of the urban location in each country ranges from 77.7% to 100% by the end of the 21st century. This again illustrates the positive effect of business investment in bringing long-run economic growth and improving citizens’ standard of living [24].

Therefore, since business investment boosts both employment and GDP in the OBOR participant countries, the OBOR policies of overseas business investment are shown to be effective by helping to upsurge economic growth in these nations.

2.4 Education

Education is also an important sector in the OBOR initiative. The Ministry of Education of the PRC mentions there are three key takeaways of education cooperation in the OBOR initiative. The first one is "promoting people-to-people ties", which includes boosting student exchanges, signing agreements on mutual recognition of academic qualifications, and increasing cultural and language education, especially through the Confucius Institute. The second is "cultivating supporting talent", which is carried out through international education, vocational training, and promoting entrepreneurship education by organizing forums, hosting competitions, and establishing entrepreneurship networks. The third takeaway is called "achieving common development", covering local staff training, school capacity building, female entrepreneurship promotion, and research collaboration [2]. These policies sectors have created an overall positive implication in the labor quality and enhanced employment for countries along the OBOR trade routes, but due to various factors in the implementation process, education development has shown a negative relationship with GDP growth.

Despite that the relationship between education and GDP growth is negative at present, several studies suggest that the long-term implication of education on countries’ economic growth should be beneficial. Yii et al. [17] conclude that along the OBOR trade routes, education would negatively affect the GDP of OBOR participant countries because an increase in the human development index results in a decrease in GDP of 14.5%. However, due to that most of these participant nations are developing countries, this situation could be the consequence of various problems in the education system in OBOR participant nations. Organization for Security and Co-operation in Europe [25] highlights that, after the break-up of the Soviet Union, the education system in central Asia countries deteriorated and now many serious challenges. Contemporary problems include ensuring universal access to education, low school attendance (particularly girls), low budgets, the inefficiency of certificated teachers, low-standard school facilities, and the increasing corruption in the system. A report from the British Chamber of Commerce in China [26] suggests that education development is lagging in many Southern Asia countries. Inefficient education access and high dropout rate are the main problems in Bangladesh, Nepal, and India, while there is a severe gender imbalance in education in most Southern Asia countries, especially in Afghanistan and rural areas of Nepal. However, evidence provided from other studies supports that ultimately, there is a positive relationship between education and GDP growth. Mallick [27] estimates that in long run, there is a granger causality
between expenditure on education to economic growth in 14 Asian countries, arguing that education is a significant factor in promoting economic growth in all major Asian countries. Empirical data shows that the current relationship between education development and economic growth is negative for OBOR participant countries, but literature also suggests that the result of GDP growth needs to be shown in the long run. Therefore, it's hard to conclude the long-term effect of education on GDP, since it's only eight years from when the OBOR initiative was first implemented.

As for employment, while pieces of literature hold contradictory views on the relationship between education and employment, empirical studies indicate that education policies and the overall effect of the OBOR initiative have a positive effect on participant countries' employment. Appiah [28] highlights that education development can benefit the labor market since education promotes the productivity of the graduate in their position of employment. Besides, higher education level may also contribute to better employment prospects for individuals, such as helping well-educated citizens to gain more salaries and have the ability to access better services. The empirical result shows that as the OBOR initiative increases the average education years of countries along the OBOR trade routes, direct improvement in the quality of the labor force and the enhancement of productivity are shown [29]. Zong and Li [30] analyzed that the base of foreign students from South Asian countries coming to China is growing year by year and increasing at a high rate, so the future development potential of foreign students is very promising. In addition, the growth potential of international students from Central Asia to China is also high, representing an increase in the scale of educational exchanges. On the other hand, Sun et al [31] propose that as the OBOR initiative promotes globalization, the mobility of education has increased, which inhibits the development of the education system and the labor market in certain OBOR participant countries. This could cause a loss in welfare for a part of the population and make the enlargement of education and labor not as significant. To summarize, works of literature hold a contradictory view about the implication of education development on a country's employment, but analysis shows that the progress made in education by the OBOR initiative indeed elevated the quality of labor and enhanced employment in participant countries.

Thus, with information at the present stage, education development is negatively related to GDP growth for the OBOR participants in the short run, but the situation might inverse as the education systems in local areas is more adequate. As for employment, theories in literature are inconsistent regarding the relationship between education-related policies and employment growth, but empirical research highlights that the implications and adjustments to countries' education systems enhance the labor quality.

3. Conclusion

This paper reviews the empirical studies and concludes the implication of four policies that are commonly implemented in developing countries to boost economic growth using the example of the OBOR initiative launched in China. It is concluded that the incensement of infrastructure investment and business investment has shown a clear positive relationship with countries' GDP growth, while education development creates no benefit on GDP growth, and there is no direct association between GDP growth and tariff reduction. As for the second growth indicator, employment, although literature shows contradictory views on the causation between all four policies and employment, the overall influence of these policies tends to be positive.

To further improve trade tariff relating policies, the OBOR initiative should improve the foreign trade tax preferential policies, increase the tax preferences for high-tech industries, enrich the tax preferences in the western region and expand the scope of preferences and reduce the tax rate. As for enhancing infrastructure investment, both inland and maritime transportation routes need to accelerate in construction, decreasing transport times, thereby reducing transaction costs and further expanding trade. To further accelerate business investment, more free trade agreements should be signed with more countries along the OBOR trade routes, embracing differences in the level of economic development between countries and seeking mutual benefits for all sides. As for the
education sector, the initiative needs to focus on further strengthening the fit between the education of international students and national strategies in participant countries, creating more favorable policies and regulatory environment for international students, and establishing a more high-quality assessment system for international student education. In future studies, researchers could investigate more long-term implications of the policies. Because of the time constraints of the cases, this study can only use data in the short run after the implementation of the policy as the basis for the study, so many long-term effects cannot be considered. Studying policies that were implemented earlier or examining the long-term effects of this case in more depth, would provide a more comprehensive understanding of the short- and long-term effects of policies on the economy.

References


