Academic View

A Study on Export Effectiveness: A Case Study of Nepal

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Abstract

Historically, in many countries around the world exports have a significant role in contributing to employment generation and sustain economic growth. So, this research analyses the effectiveness of export in Nepal by using a regression analysis for the periods of 1975-2021 of 47 annual time series. According to empirical findings, Nepalese RGDP has an inverse impact on export while RGDP of India, exchange rate of US Dollar and trade liberalization are insignificant. So, there is a need for structural transformation to improve productivity, reduce cost of factor inputs and create the right business as well as business friendly policy, favorable exchange rate, legal and political atmosphere to attract efficient business activity along with good governance which ultimately increases GDP growth; employment, export and capital inflows respectively in national economy and that improve quality of life.

Keywords: *Exchange Rate, Export Effectiveness, Export, RGDP, Trade*

Introduction

There are many determinants of productivity and competitiveness. This process has interested economists for hundreds of years, from Adam Smith to the present day. They emphasized different economic principles. Above all, division of labor, investment in capital infrastructure, specialization, and more technological progress, macroeconomic stability, good governance, business capabilities, market efficiency and recently vocational education and training, are crucial for export competitiveness and economic growth. Similarly, more of them may be important at the same time.

Nepal is among South Asia's most open and trade-dependent economies because of a trade about 50% of Gross Domestic Product (GDP) ratio, a tariff rate of around 14%, and almost no quantitative restrictions. Nepal has comparative advantage in a number of labor-intensive industrial and agricultural products due to topographical constraints and policy along with institutional poorness. During the 1990s, Nepalese manufacturing exports raised (in U.S. dollar terms) at an average annual rate of 20 percent, compared to total export growth of 15 percent, though with unpredictability situation. In the share of certain goods in world markets greater than before by 2-10 times, reaching 7 percent in the carpets and 0.12 percent in the garments, while total share in international exports doubled. The potential capacity for further trade growth of any country remains high, if its portion of exports in world markets is less

than 0.02 percent. However, trade of Nepal to GDP ratio is high by South Asia. Similarly, the ratio and size of economies is about 80 percent in trade, indicating further potentiality in trade growth of Nepal. Closeness of Nepal to large economies such as China and India also offers prospects for trade. This study also explores challenges of export potential, productivity, competitiveness, border restrictions, labor markets, transport & logistics, environment of investment and case studies of our potential areas (*Nepal Trade & Competitiveness Study*, 2004).

However, the development is sustainable only if the different sectors promoting from trade and export. Exports have significant backward and forward linkages with other sectors of the economy. That's why, a continue initiatives are taken to improve the efficiency of these sectors to make them even more competitive in the global markets. Sectors such as tourism and hydro-electricity have significant impacts on the economy of country and growth along with capital investment, which ultimately positive impacts on the overall growth of the Nepal (Pyakuryal, 2007).

Trade is essential for capital accumulation within a country which is proved by trade policy of Europe and USA from the mercantile period (15^{th} to 18^{th} century) up to now. Due to civilization, large production scale, product specialization, globalization, and dynamic world along with good human attitude, the market is expanding along with export competitiveness. However, it is a paradox that the overall performance of Nepalese exports trade does not seem favorable for Nepal even after the adoption of economic liberalization policies after the 1990s. Export trend to India and other countries clearly justifies the fact that positive effects on GDP are still a faraway dream for Nepal if we look at the trade data (Khatri, 2014).

In most countries, trade represents a significant share of GDP. Historically, it's social, political and economic importance has been on the rise in recent periods after liberalization. Industrialization, highly advanced infrastructures, multinational companies, outsourcing and globalization are all having a major impact on trade. Increasing regional and global trade is basic to globalization and export led growth.

Objectives of the Study

The general objective of the study is to consider the significance of export trade in the economy of Nepal. The specific objective of the study is to identify the effectiveness of export of Nepal to real Gross Domestic Product (RGDP).

Review of Literature

This research examines the significance of government policies for export promotion (GPEP) on the export performance of SME Cocoa exporters in Cameroon using snowball sampling technique to 101 SME Cocoa exporters with structural equation modeling. The results suggest that GPEP of SME Cocoa exporters had significant effects on the export performance. Study advises the government need to disseminate marketing information using every possible medium best agreed by the SMEs for the effectiveness of GPEP. It also suggests an opportunity for preparation of both SMEs and government

authorities in examining the outcome of GPEP which will raise awareness, transparency and export performance (Njinyah, 2018).

Some countries trust on exports for economic competitiveness and in the current trends of economic globalization, promoting to increase economic growth. Exports of eco-friendly technologies represent a new space of prospect for economic growth and a contribution to overall sustainability. So, governments offer initiatives to stimulate external trade with their eco-friendly technology sector. This study assesses the participation, awareness, and perceived effectiveness of such governmental initiatives to promote exports among Swedish ecofriendly technology firms. For this study sample collected from 172 Swedish ecofriendly technology businesses. The results suggest there is a need to plan support tools based on the specific features of the ecofriendly technology sector rather than to offer common solutions for such export promotion (Kanda et al., 2013).

The speed of growth of export of India has not been clearly high during the post-reform period (1993-2005) in comparison to pre-reform period (1950-90); however it has accelerated since 2002. The gap between the actual and potential is defined by a development in the whole competitiveness of exports of India. The fast growth of merchandise exports of India since 2002 gives no room for satisfaction since it has been mainly determined by a tough economy of the world. In recent years, the competitiveness effect, however positive, has not been the main paying factor to the acceleration in the growth rate of merchandise exports. It appears that exports have been undesirably affected by the appreciation of the real effective exchange rate during the post-reform period. Artificial depreciation of the currency through central bank intervention increases costs and inflation. Export policy should instead focus on other measures that can increase the competitiveness of Indian exports on a continued basis (Veeramani, 2007).

The results suggest that the world economic activity and real effective exchange rate are the important factors of export of Pakistan. The significant and elastic coefficient of world economic activity shows huge dependence of export of Pakistan on trading pattern. Government should make it a priority in its policy agenda to expand exports by diversification of exports with better quality products and high value added works. On the supply side the wage rate is though insignificant in the short run on the other hand its cumulative effect is significant and less elastic. The coefficient of national production capacity is significant and elastic that shows greater role of internal production in determination of export. The study suggests need of policies for better utilization of productive capacity of the economy. The non-price elements such as product diversity, trade promotion, facilities at ports etc. may also produce greater influence on export performance and government should also consider non price factors in future policy formulation to stimulate export (Atique & Ahmad, 2003).

Exports of Pakistan are focused mostly in primary or semi-manufactured product. However, in more recent years, the emphasis has moved to relatively higher value-added products. This study examined the matter of export-growth relationship using Granger causality approach. First their results show that exports do not lead growth in any of the Granger-causality tests. On the contrary, growth lead exports in all tests. Structure of exports can play a vital role in the growing process of both exports and returns (Akbar et al., 2001).

This study reexamine the relationship between export growth and economic growth using annual data for the 1963-93 period of Malaysia and using co-integration and error-correction techniques. The results of this study found a strong empirical support for bi-directional growth between exports and output as well as a positive long-run relationship between exports and growth of Malaysia, which suggests exports have been the "Engine of Growth" (Doraisami, 1996).

This study has been the highlight of current US economic performance, give emphasis to the importance of exporting as a strategic choice in the globalization of the firm. However, firms usually face export barriers and seek for export support to overcome them. Public sector societies are an significant source of export assistance. It further examines factors associated with effective use of export support by utilizing the results of a mail survey of 89 Minnesota firms supported by a state organization. The results suggest that the commitment of management is a more significant factor in export advancement than either the export stage or the services used by the firm (Singer & Czinkota, 1994).

In this research they have employed time-series analysis of individual country to assess for the existing relationship between real export growth and real GDP growth along with causality between them within the context of LDCs. As a causality test, a very weak support for the argument that exports growth stimulates GDP growth. On the contrary, that GDP growth stimulates export growth is also weak although slightly stronger than the earlier. However, export promotion and neutrality of effective exchange rates (EERs) are the strategy for LDC (Dodaro, 1993).

Generally, competitiveness includes measures of prices, wages, costs and exchange rates with their impact on the capacity of the country to export enough goods and services to pay for its significant desires and keep up full employment. It also contributes to better business growth through innovation and productivity such as business situation, governance and physical along with human capital. These elements have a nexus relationship. Export is fundamental to developing and least developed countries (LDCs) for a range of reasons. It is often the prime mechanism for attaining the benefit of globalization (Durand & Giorno, 1990).

The estimation of this research provides proof on the benefits of export direction as compared to policies focused on import substitution. Results of this study point to the circumstance that trade direction have been a significant factor contributing to inter country dissimilarities in the growth of returns. It is further examined that income growths have been attained at a significantly lower cost in terms of investment in countries that have followed a regular policy of export orientation. In the study period 1960-73, incremental capital output ratios were 8.76 in Singapore, 5.72 in India, 5.49 in Chile, 2.44 in Taiwan and 2.10 in Korea (World Bank, 1976). During the same period, improvements in incremental capital-output ratios (ICOR) shown over time in countries with increased export orientation and the greatest progress was experienced in Brazil following its distinct policy change, ICOR declined from 3.84 in 1960-66 to 2.06 in 1966-73. It signifying that export growth favorably affects the rate of economic growth over and above the contributions of national and foreign capital and labor (Balassa, 1978).

Methods

The methodological approach (i.e. cointegration) for the study requires at least 30 years time series data so this study is also employed 47 years' time series data. But the data limitations associated with effectiveness analysis in many developing poor countries. As per growth of RGDP and per capita income, efficiency and productivity of a domestic country is measured which shows one aspect of effectiveness of that particular country. Regarding this, time series here consider are:

Δexp	= Second difference of total export trade.
Δgdp	= Second difference of RGDP of Nepal.
Δexpind	= Second difference of export trade to India.
Δgdpind	= Second difference of RGDP of India.
Δerate	= Second difference of exchange rate for the US dollar.
Δdummy	= before liberalization = 0 and after liberalization = 1
β	= Coefficients

Given data are in millions of 2015 Dollars and are for the periods of 1975-2021 taken from *data source*, World Bank, for a total of 47 annual observations (World Bank, 2022).

Time series analysis

Researchers take such data in practice because they cause numerous challenges to econometricians and practitioners (Gujarati, 1995). Generally, empirical work constructed on time series data assumes that the core time series is stationary. More specifically, this study tries to find out the stationary of collected data.

Graphical test of concerned variables

Time series data of concerned variables were converted into a stationary series by differenced two times to make it stationary, then it became I (2) and derived a graph of stationary data as well; it shows constant mean. It shows both an increasing & downward trend, signifying that the mean of these variables is constant. It suggests that these variables are stationary.

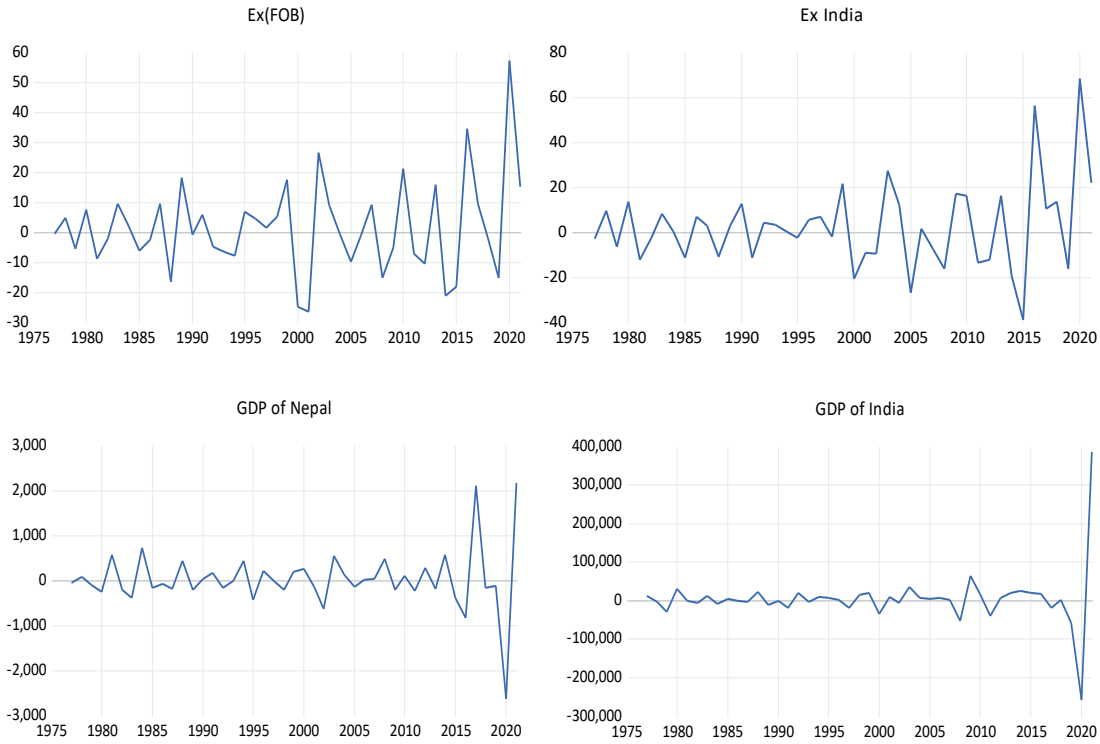

Figure 1: *Visual plot of second difference of concerned variables*

Above figures of the RGDP and export trade time series over the period of research have been fluctuating, that does not show a trend, and suggests that the mean of these variables are not varying. So it advises that these series are stationary. Similarly, graphical presentations of other variables such as RGDP of India (World Bank, 2022), export to India, and average exchange rate of US Dollar time series (NRB, 2022) over the period of study have been changing, that is not displaying a trend, signifying perhaps that the mean of these variables are not fluctuating. So it proposes that these series are stationary.

Unit Root Results

After a visual test of stationarity the Augmented Dickey-Fuller (ADF), DF-GLS and Phillips-Perron test (Gujarati, 1995) were used to test the unit root hypothesis or determine the number of unit roots or order of integration on each of the variables.

The Augmented Dickey-Fuller (ADF) Test

The first difference of Nepalese RGDP time series and ADF results, the absolute computed value of 'T' is more than the absolute value of T at 1%, 5% and 10%. Hence, the null hypothesis is rejected at 1%, 5% and 10%. It suggests that there is no unit root problem. Then, it is stationary. In other

words Mackinnon approximate P-value for Z (t) is equal to 0.0000 (Mackinnon, 1996). So, the Null hypothesis is rejected. Therefore there is no Unit Root (i.e. stationary).

Similarly, other variables such as RGDP of India, export trade, export to India and average exchange rate of US Dollar are also stationary at the second difference of collected data i.e. I(2).

Results

Here, cointegration of two or more time series recommends that there is a long-run relationship between them. So it was used to examine the dynamic relationship between macroeconomic variables and export trade. The following steps were taken in this regard:

Regression of a concerned time series

The causal relationship of given different variables determined and conclusion is derived as follows:

Model I

exp = -2.121802 -0.011153 gdp + 0.0000378 gdpind + 0.062959 erate
p value (0.0133) (0.3530) (0.3381)
R-squared (R^2) = 0.176112 Adj R-squared (R^2) = 0.115827
F - Statistic = 2.921340 P-value (Prob > F) = 0.045256
DW Statistics = 2.042887

Here, the overall model is significant even at less than 5% level of significance. On the other hand, 17.61 % of total variation is described by the model. The estimates suggest that immediate past changes in RGDP of Nepal significantly but inversely affect Nepalese export trade. The estimations also suggest that instant past changes in RGDP of India and exchange rate for US Dollar insignificant and positively affect Nepalese export trade. It suggests that the volume of export trade is negatively influenced by RGDP of Nepal.

Model II

exp = -3.365977 - 0.011088gdp + 0.0000371gdpind + 0.131602erate+ -5.429270dummy
p value (0.0146) (0.3652) (0.3006) (0.5252)
R-squared (R^2) = 0.184487 Adj R-squared (R^2) = 0.102936
F - Statistic = 2.262222 P-value (Prob > F) = 0.079390
DW Statistics = 2.080872

Here, the overall model is significant even at less than 10% level of significance. On the other hand, 18.5 % of total variation is described by the model. The estimates also suggest that instant past changes in RGDP of Nepal significantly and inversely affect Nepalese export trade. The estimates also advise that instant past changes in RGDP of India and exchange rate for US Dollar are insignificant and positively affect Nepalese export trade. Similarly dummy also has not significant and positive impact on Nepalese export. It implies that the volume of export trade is negatively influenced by RGDP of Nepal even after liberalization.

Model III

expind = -3.434816 - 0.011422gdp + 0.0000519gdpind + 0.096838erate
p value (0.0406) (0.3091) (0.2410)
R-squared (R^2) =0.132745 Adj R-squared (R^2) = 0.069287
F - Statistic = 2.091863 P-value (Prob > F) = 0.116125
DW Statistics = 2.126858

Here, the overall model is significant even at less than 11% level of significance. Though, 13.28 % of total variation is described by the model. The estimates also suggest that instant past changes in RGDP of Nepal significantly and inversely affect Nepalese export to India. The estimations also suggest that instant past changes in RGDP of India and exchange rate for US Dollar are insignificant and positively affect Nepalese export trade to India. It implies that volume of export trade to India is also negatively influenced by RGDP of Nepal.

Model IV

expind = -5.816802 - 0.011297gdp + 0.0000506gdpind + 0.228256 erate - 10.39439dummy
p value (0.0430) (0.3214) (0.1517) (0.3301)
R-squared (R^2) = 0.153321 Adj R-squared (R^2) = 0.068653
F - Statistic = 1.810852 P-value (Prob > F) = 0.145743
DW Statistics = 2.190160

Here, the overall model is not significant. However, 15.33 % of total variation is explained by the model. The estimations also suggest that instant past changes in RGDP of India and exchange rate for US Dollar are insignificant and positively affect Nepalese export trade to India while RGDP of Nepal is significant and inversely effects Nepalese export to India. It implies that volume of export trade to India is negatively influenced by RGDP of Nepal.

Discussion

This study uses regression analysis to examine relative changes in the competitive position of the Nepalese economy exporting to India and other countries from 1975 to 2021. This is a significant period of dynamic change for Nepal as trade liberalization and domestic economic reforms happen together with growing inter-dependence in the world economy through trade and capital flows. The main strength of effectiveness analysis here lies in its easiness in describing broad changes in an export competitiveness of country when compared to India and SAARC region.

This result shows the challenges of Nepalese export from her other trading partners regarding India. In this case the choice of data is based on the time series published at World Bank, Economic Survey, IFS, NRB and TEPC exports. Unfortunately, comparative data at a more disaggregated level, is not available.

On the basis of production of 7 products such as sugar, cigarettes, beer, matches, shoes, cement and jute, only 59.27 % capacity is utilized out of the total capacity of these industries. This data of study

period shows that full capacities of industry are not utilized due to different problems and challenges (MoF, 2014). Similarly, Nepal is moving in the direction of imports rather than exports of goods and services (Khatri, 2017).

According to export history, 6 major items exported to other countries are herbs, handicrafts, readymade garments, hides and skins, pulses and carpets. At the same time 5 major items, exports to India are herbs, ghee, dried ginger mustard and linseeds, and jute goods. Since, they have comparatively more advantages than others in the global market.

There is a insignificant and positive relationship between RGDP of India and exchange rate for US Dollar and dummy (before liberalization = 0 and after liberalization = 1) along with export to India and total export of Nepal while RGDP of Nepal is significant and inversely affects Nepalese export. It implies that the volume of export trade is negatively influenced by RGDP of Nepal even after liberalization.

However, a study of Khatri (2012) for Nepal, found a significant and direct relationship between RGDP of India and exchange rate for US Dollar along with export to India and total export of Nepal while RGDP of Nepal is significant and inversely affects Nepalese export.

Conclusions

It is a paradox that the overall performance of Nepalese exports trade does not seem favorable for Nepal even after the adoption of economic liberalization policies after the 1990s. Export trend to India and other countries clearly justifies the fact that positive effects on RGDP are still a faraway dream for Nepal if we get the trade data.

The conclusion of the study is that fluctuations in RGDP of India and exchange rate for US Dollar insignificant and positively affects Nepalese export trade while RGDP of Nepal is significant and inversely affects Nepalese export. It implies that the volume of export trade is inversely influenced by RGDP of Nepal even after liberalization.

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