

Effect of Foreign Trade on the Economic Growth of Nepal

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ABSTRACT

Foreign trade plays a crucial role in fostering economic growth through increasing innovation, efficiency, market expansion, and optimum use of resources. This paper attempts to deal with the effect of foreign trade on the economic growth of Nepal. This study is based on secondary data for the period of FY 1974/75 to 2021/22. The Augmented Dickey-Fuller (ADF) test is used to check the stationarity of variables. The Auto Regressive Distributed Lag (ARDL) bound testing approach has been applied to establish the long-run relationship between dependent variables: GDP and independent variables, i.e. export and imports. Similarly, an Error Correction Model (ECM) has been conducted to check the speed of correction of short-term fluctuations to the long-run equilibrium. This study found a positive relationship between exports and the GDP of Nepal. However, there is a negative relationship between GDP and imports in Nepal. The negative and significant value of the ECM coefficient explains the equilibrium in the long run, even though there are some fluctuations in the short run. For high economic growth, Nepal should make a proper balance between an export growth strategy and an import substitution policy in foreign trade.

Keywords: Foreign trade, export, import, economic growth, ADF, ARDL

Introduction

Foreign trade is an essential factor in fostering economic growth. Foreign trade increases economic growth by increasing a country's access to scarce resources, specialization in production, and increased productivity. This specialization increases economies of scale, reducing the cost of production, and making goods and services cheaper. It enhances competition, driving innovation, efficiency, and improvements in quality. Foreign trade also attracts foreign direct investment which in turn enhances infrastructure and creates employment opportunities. Most countries are involved in international trade to create employment opportunities, increase foreign exchange reserves, raise the propensity to save, and raise the productivity of capital (Hussain, 1996).

Nepal adopted economic liberalization in the 1990s and became a member of the World Trade Organization (WTO) in 2004 and consequently, the trade pattern has changed (Magar, 2021). Nepal adopted various export promotion policies and programs like export duty drawback and bonded warehouse facilities (Dangol, Aung, & Zhang, 2022). More than 60 percent of the foreign trade in Nepal is concentrated in India. It exports low-value labor-intensive products and imports high-value capital-intensive finished goods. It has a comparative advantage in handmade woolen, carpets, pashmina, garments, tourism, and hydroelectricity. However, sandwiched between two Asian powerhouses India and China, Nepal experiences huge disadvantages related to economies of scale (Prasai, 2014). Exports and imports play an important role in determining the balance of payment of any economy. Exports of any country are taken as an engine of social and economic development. They influence economic growth and poverty reduction and hence minimize social disparities (Tandon & Kafle, 2021).

The trade imbalance created in Nepal during the study period of FY 1974/75 to 2021/22. Both exports and imports are on an increasing trend but the growth rate of imports is higher than that of exports. The foreign trade in Nepal is highly concentrated in India. It is unable to diversify both its exports and imports in terms of commodities and countries. Low-quality goods, improper trade policy, landlocked, high cost of production, slow industrial development, lack of publicity, etc. are the major causes of the Nepalese trade deficit. The empirical analysis shows a stable long-run integration between economic growth, and export and import. Exports have a positive impact on economic growth and a reverse effect is found in the case of imports.

Mogoe and Mongale (2014), Berasaluce & Romero (2016), Farag et al. (2021), and so on analyzed the effect of foreign trade on economic growth at the international level. All of them used secondary time series data and different econometric models for their analysis. However, they differ in the use of control variables in the model. Acharya (2019) and Magar (2021) studied the trend and direction of foreign trade in Nepal. Sharma & Bhandari (2005) and Parajuli (2021) analyzed the effect of foreign trade on the economic development of Nepal. There is a need for a detailed study which includes both the trend and direction of foreign trade and its effect on the economic growth of Nepal which is going to be fulfilled by this study using more years of time series data. The main objective of this study is to analyze the effect of foreign trade on the economic growth of Nepal. This study is more beneficial to students and researchers who are interested in international trade. It is equally helpful to the Eurocrats and policymakers to review the foreign trade policy of Nepal.

Literature Review

Foreign trade originates from the fact that no country can produce all the goods and services that are necessary for their consumption. Different schools of

thought have different perceptions about international trade. Physiocrats considered trade a necessary evil because both foreign as well as domestic trade produce no wealth (Roll, 1973). Both classical and neo-classical economists supported foreign trade as an engine of growth (Sharma & Bhandari, 2005). For classists, comparative advantages are the determining factor of trade which increases the market, injects innovations, and increases the productivity of an economy (Richardo, 1817). Modern economists are also in favor of international trade. Foreign trade changes resource allocation which has a continuous impact on the economic growth of a nation. Both Staple's demand motor and Cordon's supply motor model highlight the positive relationship between trade and economic growth because direct gain comes from trade specialization (Sharma & Bhandari, 2005).

Sharma and Bhandari (2005) examined the role of export and import in the economic development of Nepal. Along with foreign trade, they considered capital stock, labor, the average propensity to save, the relative price index, and the ratio of government development expenditure to GDP as the determinants of economic growth in Nepal. They used different linear and log-linear models to analyze the secondary time series data for the period of FY 1974/75 to FY 2002/03. They found that export growth leads to economic development and recommended the policy of sufficient investment in export-oriented industries and a proper mix of export promotion and import substitution strategies.

Mogoe and Mongale (2014) evaluated the impact of international trade on the economic growth of South Africa. Using the Johansen cointegration test and the vector error correction model, they found a long-run relationship between economic growth and international trade. Empirical analysis revealed that inflation rates, exports and exchange rates positively impacted GDP, while imports were negatively related to GDP. They suggested they were strengthening and strengthening the competitiveness of domestic products to reduce strengthening in the long run.

Berasaluce and Romero (2016) analyzed the relationship between economic growth and the external sector of Korea from 1980 to 2015. They applied four variable vector autoregressive models to estimate the potential association between Gross Domestic Product (GDP), export, import and foreign direct investment. They concluded that foreign direct investment and export were not driving forces of economic growth in Korea. They suggest the implementation of new policies that boost such investment and export to boost economic growth in Korea.

Shah and Fazal (2016) investigated the impact of the external sector on economic growth in Pakistan covering the period from 1990Q1 to 2010Q4. The cointegration test found a positive relationship between financial integration and the negative effect of trade integration on the economic growth of Pakistan in the

long run. The ECM model showed the model was stable and convergent in the long run.

Lawal and Ezeuchenne (2017) determined the impact of international trade on economic growth in Nigeria from the years 1985-2015. Imports, exports, balance of trade and trade openness were the independent variables and real gross domestic product (GDP) as dependent variables, the measure of economic growth. Using the Johansen cointegration and the VECM model, they found a long-run relationship between international trade and economic growth. Exports and balance of trade were significant in both the short run and the long run, while imports and trade openness were insignificant in the short run but significant in the long run.

Acharya (2019) analyzed the growth, composition, and direction of foreign trade in Nepal. Using secondary data and simple statistical tools, they found very low performance of exports in Nepal and reasons for the rapidly widening gap between export and import. Low imports, high imports, low-quality products, higher cost of production, lack of industrial development, improper trade policy, and no trade diversification are the major reasons for the increasing trade deficit in Nepal.

Kong, et al. (2020) studied the relationship between trade openness and the quality of economic growth of China from 1994 to 2018. Using the ARDL and ECM models, they found long-term stable cointegration between trade openness and economic growth both in the short run and the long run.

Farag et al. (2021) investigated the causal relationship between foreign trade and economic growth in Libya. Using secondary time series data from 1990 to 2017 and Johansen cointegration, VECM model and Granzer causality, they found long-run and short-run causality running from international trade, i.e. export and import, to economic growth. Exports had a positive impact on economic growth in Libya.

Islam, Faruque, and Ahmed (2021) examined the relationship between financial development, international trade and economic growth using secondary time series data from 1971-2016. The Johansen cointegration, VECM and causality tests found a long-run equilibrium relationship between international trade, financial development and economic growth. Unidirectional causality is found from international trade and financial development to economic growth and in the short run bidirectional causality runs over between economic growth and international trade.

Magar (2021) investigated the trend and composition of foreign trade in Nepal using annual data from FY 1975/76 to 2017/18. Using descriptive research design, they concluded, an increase in both exports and impact are the main causes of economic growth in Nepal. They found that both export and import are on an

increasing trend, but the trend of export is less than import. They suggested that the government should focus on export-led economic growth rather than imports.

Parajuli (2021) identified the relationship between economic growth with exports and imports. They used secondary time series data from FY 1974/75 to FY 2018/19 and the ARDL model to examine the relationship between economic growth and foreign trade in Nepal. They found a stable long-run relationship between foreign trade and the economic growth of Nepal.

Pokhrel (2022) investigated the impact of foreign trade on the economic growth of Nepal. They used secondary time series data from 1978 to 2020. The secondary data was collected from various publications of the Ministry of Finance and Nepal Rastra Bank. They considered GDP as the dependent variable and export and import as independent variables. Furthermore, remittance and foreign financing as control variables. Using multiple regression analysis this study found international trade had a significant impact on the economic growth of Nepal. They suggested that the government of Nepal should adopt policy measures that could increase domestic production and exports.

Methods and Materials

This study was based on a quantitative research design. The data has been collected from secondary sources. This study used the annual time series data of real GDP, exports and imports from FY 1994/75 to 2021/22. A unit root test was performed to check the stamina of variables. The Auto Regressive Distributed Lag (ARDL) bounds test has been conducted to measure the long-run relationship between dependent and independent variables. Similarly, an error correction model has been employed to check the speed of convergence or divergence of short-run disturbances to the long-run equilibrium. Lastly, a Cumulative Sum (CUSUM) test was conducted to verify the stability of the model using E-views 10 software.

The relationship between export, import, and real GDP can be written as:

Economic growth (GDP) = f (Export, import)

In linear form: $GDP = \beta_0 + \beta_1 \text{ export} + \beta_2 \text{ import} + \epsilon_1$

Where,

GDP = GDP at a constant price, a proxy for economic growth

β_i = coefficients

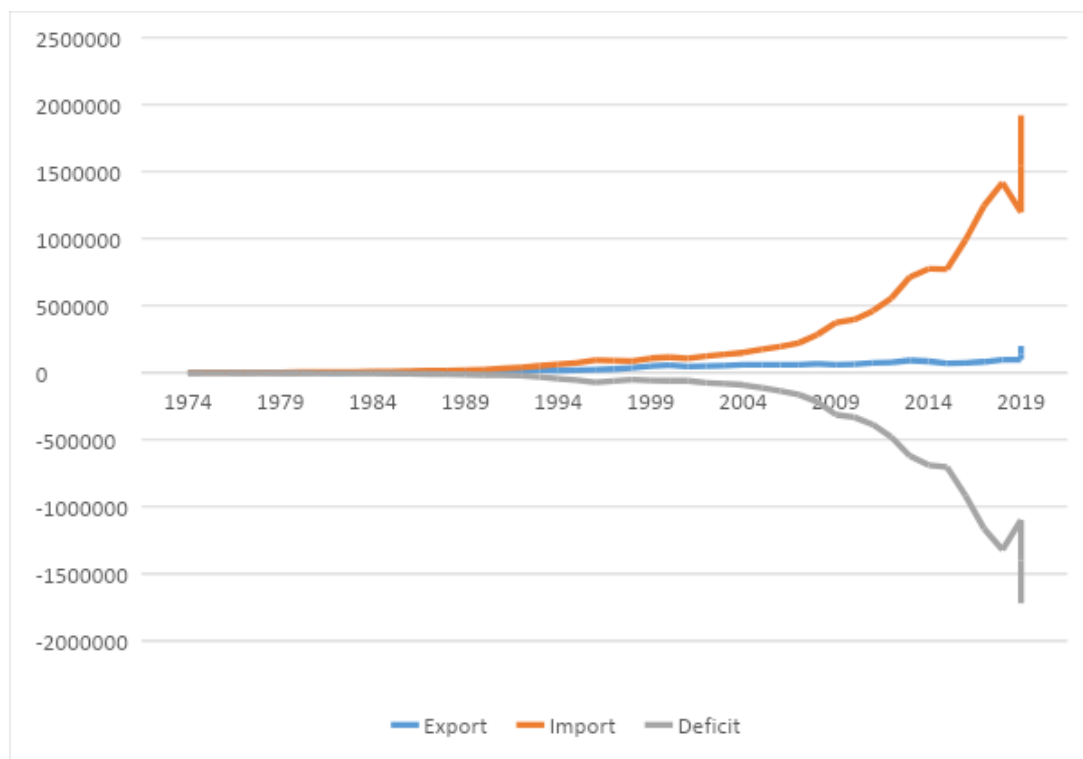
Result and Discussion

Trend of Foreign Trade in Nepal

The value of exports is smaller than imports in Nepal. The export of Nepal is concentrated only on agricultural goods, carpets, Pashmina, garments, pulse handicrafts, jute and palm oil. Nepal's export is limited to India, China, and USA and European countries. However, the volume of imports is higher than that of exports and consequently most of the time Nepal suffers from a trade deficit. The trend of foreign trade can be further discussed with the help of the given figure.

Figure 1

Trend of Foreign Trade in Nepal



Source: Ministry of Finance

Figure 1 describes the trend of foreign trade in Nepal. In FY 2017/75 the export, import and trade deficits were 889.60, 1819.60, and 925.00 million respectively. In FY 1991/92 the volume of export become 13706.5. Million, import 31940.00 million and trade deficit of 18233.50 million. In FY 2021/22 the volume of export, import and trade deficit reached in 200031.00, 1920448.00 and 1720420.00 million respectively. This figure shows that Nepal's export, import and trade deficit are

increasing continuously. However, the rate of increase in imports is higher than that of exports. The Nepalese trade deficit is very high and increasing every year.

Directions for Foreign Trade in Nepal

Nepalese foreign trade was limited only with India and China and trade with other countries was almost nil before 1951 AD. Nowadays, Nepal has trade relations with other countries besides China and India. However, India is the major trading partner of Nepal even now.

Table 1

Direction of Foreign Trade in Nepal

(Figures are in percentage)

FY	Export			Import			Total Trade		
	India	China	Others	India	China	Others	India	China	others
2012/13	66.30	2.71	30.98	65.93	11.22	22.86	65.93	11.22	22.86
2013/14	64.80	3.09	32.11	66.91	10.26	22.83	66.91	10.26	22.83
2014/15	65.48	2.61	31.91	63.47	12.93	23.60	63.47	12.93	23.60
2015/16	56.33	2.40	41.28	61.69	14.96	23.36	61.69	14.96	23.36
2016/17	56.74	2.33	40.93	64.00	12.85	23.15	64.00	12.85	23.15
2017/18	57.42	3.00	39.58	65.38	12.85	21.77	65.38	12.85	21.77
2018/19	64.60	2.17	33.23	64.71	14.49	20.80	64.71	14.49	20.80
2019/20	71.75	1.22	27.03	61.44	15.20	23.36	61.44	15.20	23.36
2020/21	75.37	0.72	23.91	63.10	15.19	21.71	63.10	15.19	21.71
2021/22	77.60	0.40	22.00	62.49	13.79	23.72	62.49	13.79	23.72

Source: Ministry of Finance

Table 1 depicts the direction of foreign trade in Nepal from FY 2012/13 to 2021/22. Still, India is the major trading partner of Nepal which has more than 60 percent share in all three headings viz. export, import and total trade. China and other overseas countries have more than 10 percent and 20 percent share in total. Foreign trade of Nepal. Nepal exports goods and services to India, China, the USA, Germany, Japan, the UK, France, and Italy and so on. Similarly, Nepal imports from Singapore, UAE, Malaysia, Kuwait and so on besides India and China.

Unit Root Tests

Unit root test is conducted to confirm the presence of the stationary variables and avoid the spurious result of regression analysis. This study used the Augmented Dickey-Fuller (ADF) test to confirm the stationary of the variables using their natural log form.

Table 2*Augmented Dickey-Fuller (ADF) Test*

Variable	At level		At first difference		Order of integration
	t-statistics	P-value	t-statistics	P-value	
GDP	0.2932	0.9755	-6.7707	0.0000	I(1)
Export	-0.9861	0.7503	-5.5369	0.0000	I(1)
Import	-1.8209	0.3650	-6.2885	0.0000	I(1)

Source: Author's calculation using E-views 10

Table 2 shows that all the variables i.e. real GDP, export and import are stationary at first difference i.e. I (1) at a 1% level of significance. Since all the variables are stationary at the first difference, this study can use either Johansen Cointegration or ARDL bound testing approach to cointegration (Shrestha & Bhatta, 2018). The ARDL test is superior to Johansen cointegration because it can be applied in case of I(0) or I(1) and in mixed order of I(0) and I(1) but not I(2) (Pesaran et al., 2001). In this study, the effect of foreign trade on GDP has been analyzed using the ARDL model.

Log Selection Criteria

Optimum lag selection is a process of examining the presence of the long-run association between and among the variables under consideration. Akaike information criteria (AIC) has been considered to select the optimum length for the analysis.

Table 3*Lag length criteria*

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-104.1157	NA	0.026129	4.868897	4.990546	4.914011
1	83.40721	340.9508*	7.83e-06*	-3.245782*	-2.759185*	-3.065328*
2	88.25330	8.150252	9.52e-06	-3.056968	-2.205423	-2.741174
3	92.42609	6.448859	1.20e-05	-2.837550	-1.621057	-2.386415
4	97.51488	7.170566	1.48e-05	-2.659767	-1.078327	-2.073293
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

Source: Author's calculation using Eviews 10

Table 3 shows the result of the standard VAR model. All the criteria show the optimum lag of 1. This study followed AIC for uniformity in the analysis even though the value of test statistics 0.7591 in SC is smaller than 3.2457 in AIC.

Long Run Result

All the variables of our interest are stationary at first difference. We can use either the Johansen cointegration or the Autoregressive Distributed Lag (ARDL) model for the long-run relationship between variables. In this study, the long-run association between dependent and independent variables was analyzed using the ARDL model. According to optimum lag length criteria, the optimum lags of the variables under analysis for the ARDL model are (1, 0, and 0).

Table 4

Long run coefficients using ARDL model (GDP is the dependent variable)

Variable	Coefficient	Standard error	t-statistics	Prob.
Export	-0.1302	0.0669	-1.9460	0.0583*
Import	0.2126	0.08479	2.5081	0.060***
R2=0.9807	AdjR2=0.9793	F=729.6473	P(F)= 0.0000	D-W= 1.9742

Source: Author's calculation using Eviews 10

$$GDP = 0.1302 \text{ export} - 0.2126 \text{ import}$$

The long-run coefficient of the model is presented in Table 4. The result indicates that export is significant at 10 percent and has a positive relationship with GDP. Similarly, import is significant at a 5 percent level of significant and negative relationship with GDP. One percent increase in exports leads to a 0.13 percent increase in GDP and one percent increase in imports causes a 0.08 percent decrease in GDP. The values of R2 and adjusted R2 are 0.98 and 0.97 indicating the model is a good fit. Similarly, f-statistics is 729.69 with probability 0.0000 indicating the overall model is a good fit and the value of the D-W test is 1.97 implying no autocorrelation of the error term.

Table 5

ARDL Bound Test

		Null Hypothesis: No levels of relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	4.38	10%	2.63	3.35
k	2	5%	3.1	3.87
		2.5%	3.55	4.38
		1%	4.13	5

Source: Author's calculation using Eviews 10

In Table 5 calculated F-statistics is 4.38, which is greater than the value of the upper bound of 3.87 at a 5 percent level of significance. This implies that GDP is cointegrated with exports and imports. Thus, the null hypothesis is rejected which indicates the cointegration between dependent and independent variables.

Error Correction Model (ECM) Regression

ECM links the short-run dynamics with the long-run equilibrium without losing the long-run information. Similarly, the error correction term shows the speed of adjustment in the dynamic model. The negative and statistically significant value of error correction term refers to the correction in the model in the long run even if there exists disturbances in the short run. The result of the ECM model is shown in the given table.

Table 6

Error Correction Model (ECM)

Variable	Coefficient	Standard error	t-statistics	P-value
ECM	-0.2350	0.0542	-4.3309	0.0001

Source: Author's calculation using [Eviews 10](#)

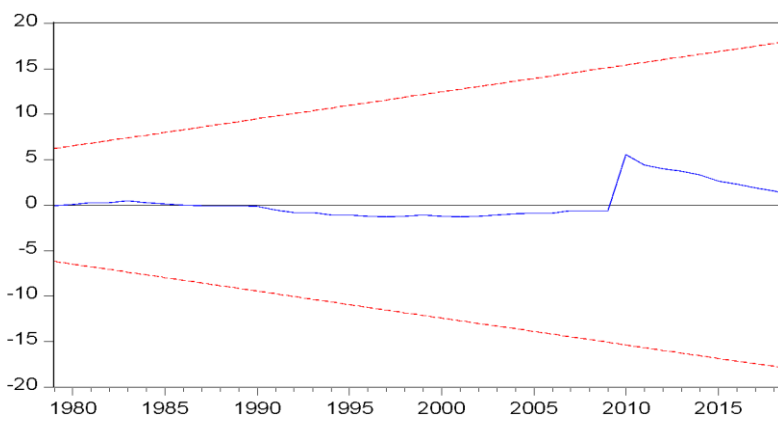
In the above table, the error correction term i.e. -0.2350 is negative and statistically significant at a one percent level of significance. This implies that the equilibrium is convergent even though there exists deviation in the short run.

Stability Test

A cumulative sum (CUSUM) test is conducted to test. The stability of the parameters (Pesaron & Pesaran, 1997). It detects the systematic changes in the regression coefficients. The result of the CUSUM test is shown in the given figure.

Figure 2

CUSUM Test



Source: Author's calculation using [Eviews 10](#)

In the above figure, the plot of the CUSUM test lies within the critical bound of a 5 percent level of significance. This implies the absence of instability in the model. That means there is stability in the coefficients of variables in the model used in this analysis.

Discussion

This study found that there is a long-run relationship between the export, import, and GDP of Nepal. This means foreign trade is an important factor in the economic growth of Nepal. This conclusion is similar to the theme of the classical, neo-classical and modern theories of international trade. Similarly, the result of the present study is also consistent with the findings of Sharma & Bhandari (2005), Moge & Mogale (2014), Farag et al.(2021) and so on.

Conclusion

Foreign trade is an engine of economic growth for every nation, whether it is developed or developing. It is useful to create employment opportunities, increase the propensity to save, increase foreign reserves and raise the productivity of investment. Nepal is facing the problem of a trade deficit because of low export performance as compared to imports. Nepal is unable to diversify its foreign trade in terms of both countries and commodities. Unless and until, Nepal diversifies its trade structure through adopting different policies, it cannot narrow its ever-increasing trade gap. The result justifies that Nepal should adopt an export growth leading and import substitution policy for economic growth. The present import substitution policy asks for an overall reevaluation. The government should focus on investment in export-oriented industries so that there will be a proper mix of export promotion and import substitutions.

References

- Acharya, K. R. (2019). Nepalese foreign trade: growth, composition, and direction. *NCC Journal*, 4(1), 91-96. <https://doi.org/10.3126/nccj.v4i1.24741>.
- Berasaluce, J., & Romero, J. (2017). Economic growth and the external sector: evidence from Korea, lessons for Mexico. *Estudios Económicos (México, DF)*, 32(1), 95-131.
- Dangol, P., Aung, Z. Z., & Zhang, Y. Z. (2022). Impact of ICT and e-commerce on Nepal's Foreign Trade. *Kindai Management Review*, 10(1), 30-42.
- Farag, F. S., Ab-Rahim, R., & Mohd-Kamal, K. A. (2021). Foreign trade and economic growth relationship: empirical evidence from Libya. *International Journal of Academic Research in Business and Social Sciences*, 11(4), 181-190. <https://doi.org/10.6007/IJARBS/v11-i4/9659>
- Hussain, A. (1996). *Macroeconomic issues and policies: The case of Bangladesh*. Sage Publication.
- Islam, M. S., Faruque, O., & Ahmed, Z. (2021). Financial development, international trade, and economic growth nexus (1971-2016): examining Bangladesh perspective. *Bangladesh Journal of Integrated Thoughts*, 17(2). <https://doi.org/10.52805/bjit.v17i2.242>

- Kong, Q., Peng, D., Ni, Y., Jiang, X., & Wang, Z. (2021). Trade openness and economic growth quality of China: Empirical analysis using ARDL model. *Finance Research Letters*, 38, 101488. <https://doi.org/10.1016/j.frl.2020.101488>
- Lawal, E. O., & Ezeuchenne, K. (2017). International trade and economic growth in Nigeria. *Journal of Humanities and Social Science*, 22(6), 35-43. <https://doi.org/10.9790/0837-2206083543>
- Magar, U. B. R. (2021). The trend analysis of foreign trade and economic growth of Nepal. *The Journal of Economic Concerns*, 12(1), 112-122.
- Mogoe, S., & Mongale, I. P. (2014). The impact of international trade on economic growth in South Africa: An econometrics analysis. *Mediterranean Journal of Social Sciences*, 5(14), 60-66. <http://dx.doi.org/10.5901/mjss.2014.v5n14p60>.
- Parajuli, R. (2021). A study on the impact of foreign trade on the GDP of Nepal. *Interdisciplinary Journal of Management and Social Sciences*, 2(1), 165-171.
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289-326. <https://doi.org/10.1002/jae.616>.
- Pokhrel, Y. (2022). Effect of international trade on the economic growth of Nepal. *SSRG International Journal of Economics and Management Studies*, 9(9), 1-7.
- Prasai, L. P. (2014). Foreign trade pattern of Nepal: Gravity model approach. *NRB Economic Review*, 26(1), 24-43.
- Ricardo, D. (1817). *Principles of political economy and taxation*. Everyman.
- Roll, E. (1973). *History of economic thought* (4th edition), Faber and Faber Ltd.
- Shah, M., & Fazal, R. (2016). External sector and its impact on economic growth in Pakistan. *Journal of Applied Environmental and Biological Sciences*, 6(5), 10-17.
- Sharma, O., & Bhand, R. (2005). Foreign trade and its effects on Nepalese economic development. *Journal of Nepalese Business Studies*, 2(1), 13-32. <https://doi.org/10.3126/jnbs.v2i1.51>.
- Shrestha, M. B., & Bhatta, G. R. (2018). Selecting appropriate methodological framework for time series data analysis. *The Journal of Finance and Data Science*, 4(2), 71-89. <https://doi.org/10.1016/j.jfds.2017.11.001>.
- Tandan, L., & Kafle, A. R. (2021). Relationship among export, import, investment and economic growth: Experience from Nepal. *Int J Account Res*, 9, 230. <https://doi:10.35248/2472-114X.21.9.230>.

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