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Impact of Financial Development on Economic Growth and Export Promotion in Nepal

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Abstract

This paper explores the effect of financial development on economic growth and export promotion of Nepal using the time-series data from 1965 to 2018. The autoregressive distributed lag (ARDL) cointegration approach is used to analyze the data. In this study, financial development is measured using the credit by a bank (BNK), broad money (BMG), domestic credit to the private sector (DCP) expressed all as a percent of GDP. The control variables are final consumption expenditure (FCE), the annual increase in consumer prices (IFL), and trade to GDP (TRD). Exports of goods and services to GDP (EXP), and GDP per capita growth (ECG) are dependent variables. The effect of financial development on economic growth is statistically significant with the positive sign in both in short and long -run, but FCE is negatively significant. The impact of financial development on export performance including control variables IFL is statistically significant with a negative sign except for BRM only in the short-run; though, the TRD is positively significant. Indeed, the estimated results of the econometric estimation suggest appropriate policy corrections so that financial development can promote economic growth and export promotion.

Keywords: Economic growth, Financial development, Export promotion, Inflation, Econometrics. JEL Codes: O40, G20, F11, E31, C01

Introduction

Some countries are most developed and some others are not; the quest on this issue leads to debates among development economists. However, economic activities are the consequences of the interaction of the financial sector with the real sector. This idea occupied the central role only after the empirical study of Gurley and Shaw (1955); the concept further flourished by Goldsmith (1969), which highlights the role and channels of financial development to contribute to national prosperity. Levine and King (1993) explored the financial sector's influence on economic growth. They concluded that developed financial intermediaries collect funds, select the best project for potential entrepreneurs, and supply the fund. This process diversifies the risk thereby stimulating the innovation for higher profit. Rousseau and Paul (1998) found a strong influence of the financial sector on the industrial shift for five developed countries using the data

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from the United States of America, Canada, the United Kingdom, Sweden, and Norway for the period from 1870 to 1929.

Another string of literature has focused on the role of developed financial intermediaries to stimulate the invention that promotes exports globally as discussed in Funk (2001). Also, the export market feedbacks the information for technological invention and product optimization (Bojanic, 2012). Only an efficient financial system can promote exports in the global network and facilitate export trade (Ricciz & Trionfetti, 2014).

Nepal aims be a middle-income country by 2030. On the other hand, the global COVID-19 epidemic economic activities have been slowed and economic growth has dropped to negative 2.1 percent (MoF, 2021). Nepal has met two of the three major criteria set by United Nations to be graduated from least developed countries (LDCs). Out of those three criteria (economic and environmental vulnerability index-EVI, human assets index-HAI, and gross national income threshold-GNI), only the GNI criteria has not been met for which a sustainable economic growth is crucial. For achieving such growth, the fact-based financial development policy can contribute meaningfully (IMF, 2019). At this juncture, the association of financial development with both economic growth and export promotion is of vital importance. This association has not been investigated yet simultaneously in the similar setting in the context of Nepal. This paper attempts to contribute to this literature gap.

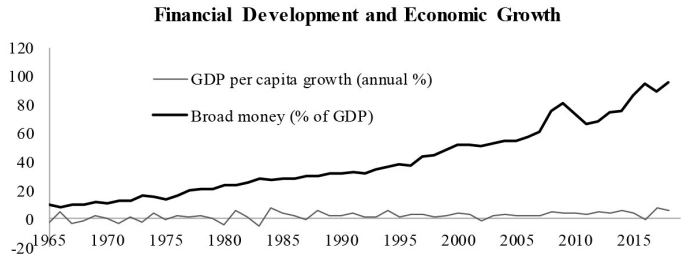
The study employed ARDL approach of cointegration as suggested by the time series properties of annual data in two different models e.i. one for testing the impact of financial development in economic growth, and another for testing the impact of financial development in export performance. The findings from the results suggest as given below.

Trend of Financial Development and Economic Growth of Nepal

The *Tejarath Adda* was established in 1880 AD and was marked a formal financial institution in Nepal. However, its role was limited to mobilizing government funds between its close allies. Financial transactions were institutionalized only after the establishment of Nepal Bank Limited in 1937 (Maskay & Subedi, 2009). Nepal Rastra Bank was established in 1956 as a central bank of Nepal. Bank got the right and responsibilities to monitor, regulate, and systematize the domestic financial sector and collaborate with global financial communities.

Figure 1 shows the financial development and its impact on economic growth from 1965 to 2018. Broad money is used to measure financial development while GDP per capita growth measures economic growth. The slopes financial indicators have risen each year indicating that the financial industry is expanding and reforming. At the same time, the slope of GDP per capita reflects weak economic development.

Figure 1: Financial Development and Economic Growth of Nepal

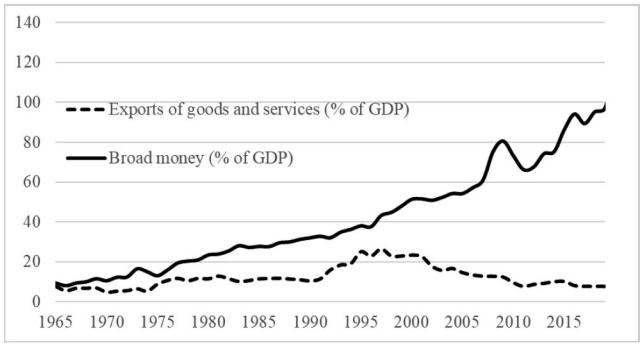


Source: World development indicator, World Bank Group (2019).

Trend of Financial Development and Export Promotion of Nepal

Nepal is putting in its best effort on trade through policy reform on the one hand and regional and international collaboration on the other. The country is a member of the Free Trade Agreement (SAFTA) and World Trade Organization WTO); liberal policies are implemented; however, these efforts could not reward export promotion (Kafle, 2017). It is reflected in figure-2. The rising slope of the financial development indicator indicates that the financial sector is developed as financial policy is reformed though exports could not follow up. The situation looks to have worsened during the 1990's and onwards, although trade liberalization and financial reform are underway.

Figure 2: Financial Development and Export Promotion Nepal



Source: World development indicator, World Bank Group (2019)

Although financial development, economic growth, and export promotion are interdependent variables, their time-dependent relations and country-specific implications differ. Even in Nepal, many studies examine the financial development, economic growth, and export promotion separately but lack comprehensive literature indicating interlinked aspects of these three tuples. This research summarizes and synthesizes Nepal's financial development, economic growth, and export promotion.

First, it focuses on the impact of short and long-term financial development on economic growth and export promotion. Second, the study uses the most up-to-date time series data set, various financial development indicators, and standard estimation methods. Finally, policy recommendations are made based on the empirical findings. This study is structured into five sections in which the running section introduces and overviews concepts on subject matters. The second section briefly analyzes the literature review in global and Nepali contexts. The research methodology is covered in section three, and section four works on data processing and analysis. The final section concludes with policy recommendations.

Review of Literature

This section evaluates and summarizes the selected research on financial development and its impact on economic growth and export promotion. The paper reviews the literature in chronological order briefly introducing the global and Nepali contexts.

Financial Development and Economic Growth

Global Context

Joseph Schumpeter was the first economist to build a formal framework around the link between financial development and economic growth (Bernanke & Gertler, 1989). Financial intermediaries efficiently gather savings and deploy resources, resulting in a high growth rate. Savings are collected with enticing incentives and transferred to the most lucrative project. Levine (1997) claims that financial development has a considerable and positive influence on long-run economic growth. Paper pleads financial market motivates individuals to trade various securities and the transfer of ownership targets liquid assets towards high-productivity entrepreneurs. The cause of the industrial revolution is said to be the 'Liquidity Transition'.

Similarly, Ang and McKibbin (2007) found a positive impact of financial development on Malaysia's economic growth. They used time-series data from 1960 to 2001 using unit root test and cointegration. The outcome demonstrates that financial development has a favourable impact on economic growth. Adelakun (2010b) investigates Nigeria from 1980 to 2008 that suggests financial development has a considerable and beneficial influence on Nigeria's economic growth. Jianguo (2018) for Bangladesh, India, Pakistan, and Sri Lanka from 1975 to 2016 in developing South Asia; concludes that financial development positively influences on economic growth.

However, some evidence indicates that financial development has little impact on economic growth. Ram (2013) examines the relationship between financial development and economic growth by analyzing 95 cross-country data sets from 95 countries, and the evidence does not support the clue that financial development positively impacts economic growth.

Nepalese Context

Shrestha (2005) examines the impact of financial liberalization on economic growth of Nepal from 1970 to 2003 using the ARDL cointegration approach. The paper concludes financial liberalization's impacts positively on economic growth. Similarly, Gautam (2014) uses the data from 1975 to 2012 to explore the link between financial development and economic growth, finds a strong relationship, although it is difficult to say whether it occurred first. Paudel et al. (2018) explore the connection and causation between financial development and economic growth using a data set from 1975 to 2015. They conclude that financial development leads to economic growth. Furthermore, Paudel and Acharya (2020) show an empirical relationship between financial development and economic growth employing the ARDL model using time-series data from 1965 to 2018. The research, however, ignores the influence of export drivers and control variables.

Financial Development and Export Promotion

Global Context

Gurley and Shaw (1955) explore that every economy's development is brought about by a harmonious mix of people, goods, services, and the financial market. Becker and Knudsen (2002) state that financial intermediaries reduce information cost and risk. The entrepreneur develops a new approach or technology that raises exports. Beck (2002) verifies this nexus for 65 countries using 30 years of panel data.

The Singapore economy increases exports through capital accumulation and productivity channels. Thangavelu and Owyong (2003) research using panel data from 1974 to 1995 for ten key Singapore business units. The study reveals that financial development raises the export size and scale of economies and boosts those industries' productivity. Melitz (2003) concludes the most efficient firm has unrestricted access to resources and takes advantage of export trade. In addition to financial growth, trade openness increases the amount of trade on the global market. Yucel (2009) examines Turkey's financial development, trade openness, and economic growth between 1989 and 2007 that concludes increased trade openness improves Turkey's trade volume with European Unions.

Nepalese Context

Pant and Panta (2008) find that Nepal's export competitiveness deteriorated from 1992 to till. They conclude that lack of skilled labours, difficult geographic location, and unpredictable regulatory systems harm export potential. Prasai (2014) uses the gravity model capturing the panel data from 1981 to 2009 to evaluate Nepal's total international trade pattern with 94 trading partners. The analysis shows the world trade organization (WTO) policy framework does not help Nepal.

Similarly, Paudel and Wagle (2017) use data from 134 trading partners to analyze Nepal's export promotion from 2009 to 2011. They conclude Nepalese export is significantly impacted by the partner nation's GDP per capita, distance, and tariff costs. Nordby et al. (2017) say that Nepal's small and medium enterprises (SMEs) employ 1.75 million people and contribute 22 percent of the country's GDP, though 25 percent of SMEs are unable to obtain formal banking services.

Research Methodology

The research model and econometric tools are discussed in this section. Models, variables, data source, model design, and estimating technique are deliberated. The methodology is inspired by the neo-classical economic theory developed by King and Levine (1993) and augment the Solow-Swan growth model. King and Levine1(993) use the financial indicators DEPTH, BANK, PRIVATE, and PRIV/Y to examine the link between financial development and economic growth. They deduce that labour work is steady for the long run; consequently, per capita GDP correlates to financial development.

Model and Variables

The research includes two distinct models. One to investigate the impact of financial development on economic growth and another for export promotion. The same set of financial indicators and control variables are included in both models. This study includes three commonly used standard financial ratios. They are the domestic credit to the private sector by banks expressed as a percent of GDP. Broad money is taken as a proportion of GDP and domestic credit to the private sector as a percent of GDP (Sahay et al., 2015). Furthermore, the impact of external factors cannot be ignored. For example, trade openness, consumption activities, and inflation affect economic growth and export promotion (Khoutem, 2015; Sehrawat & Giri, 2016). Selected variables are termed as

ECO: GDP per capita annual growth in percent is selected to measure the economic growth.

EPT: The percent of products and services exported to GDP is used as export promotion.

BNK: The domestic credit to the private sector by banks expressed as a percent of GDP.

BRM: The ratio of broad money to GDP is the most representative indicator of monetization (Breitenlechner et al., 2015).

DCP: Domestic credit to the private sector by financial corporations in loans, trade credits, and securities purchases with a claim for payback, except credit to the central Government.

FCE: The household and Government's final annual consumption expenditure expressed as a percent of GDP.

IFL: Inflation denotes the annual increase in the consumer price index expressed in percent.

TRD: The total sum of exports and imports of goods and services as a proportion of GDP (% of GDP) is measured as trade openness. It is used as the proxy of trade openness.

ECO and IFL are expressed in the annual change rate in percent;

Remaining variables BRM, DCP, BNK, FCE, and TRD are expressed in a ratio of GDP percent.

A linear regression model represents economic growth and export promotion (Khan & Senhadji, 2000).

Economic Growth Model:

$$ECO_t = \alpha_1 + \alpha_2 FID_t + \alpha_i CTV_t + u_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Export Promotion Model:

$$EPT_t = \beta_1 + \beta_2 FID_t + \beta_i CTV_t + v_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

ECO and EPT are dependent variables; denote the financial indicators by BNK, BRM and DCP. CTV stands for control variables FCE, IFL, and TRD as explained earlier.

Further, the model for economic growth:

$$ECO_t = \alpha_1 + \alpha_2 FID_t + \alpha_3 FCE_t + \alpha_4 IFL_t + \alpha_5 TRD_t + u_t \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Model for export promotion:

$$EPT_t = \beta_1 + \beta_2 FID_t + \beta_3 FCE_t + \beta_4 IFL_t + \beta_5 TRD_t + v_t \ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Where, all αs and βs are coefficients of the variables. Financial indicators in the model (3) and (4) may correlate. For example, when BRM increases, BNK and DCP also increase. If these financial indicators are included in the single equation, it can lead to spurious results. As a remedy is replaced by three financial proxies BRM, BNK and DCP to observe their impact turn-by-turn. The coefficient of each financial indicator is estimated to be positive for models (3) and (4). The greater the value of financial indicator higher the economic growth and export promotion. Similarly, the sign of TRD is expected positive for both models, whereas the sign of FCE is expected positive for economic growth and negative for export promotion. However, sign of inflation IFL is estimated negative for economic growth and positive for export promotion based on various literature.

Data and Sources

Data Characteristics

Data characteristics show the mean, median, standard deviation, and range of variables for 54 observations. The Table-1 shows mean and median value of ECO is equal to 2.04 and 2.21 respectively, it ranges from - 5.21 to 7.52, and a standard deviation is 2.87. Similarly, the EPT has a mean value of 12.36, a median of 11.47, ranging from 4.90 to

26.33, and a standard deviation of 5.50. The mean value of financial indicators BNK, BRM, DCP, are 22.44, 40.17, 22.71, and standard deviations are 20.61, 24.87, and 20.66 respectively.

Table 1: Descriptive Statistics

Variables	Mean	Median	Minimum	Maximum	Std. Dev.	Observation
BNK	22.44	13.02	1.62	76.17	20.61	54
BRM	40.17	32.44	8.05	95.33	24.87	54
DCP	22.71	13.39	1.79	76.32	20.66	54
ECO	2.04	2.21	-5.21	7.52	2.87	54
EPT	12.36	11.47	4.90	26.33	5.50	FC
FCE	89.03	88.88	84.34	96.36	2.24	54
IFL	7.99	8.36	-3.11	19.81	4.93	54
TRD	36.35	35.45	13.21	64.04	13.76	54

Source: Authors' Calculation

Data Source

This paper uses secondary data collected from the World Bank Group's open-source World development Indicators (2019). The data comes from the member countries under the Statistical Capacity Index (SCI) framework; the World Bank accepts only completed official data. Estimation is based on available time-series data from 1965 to 2018.

Use of Econometrics

Time-series data characteristics are primarily investigated then an appropriate econometric model is fitted. The ordinary least square (OLS) or vector autoregressive (VAR) model is suitable for level stationary time-series variables. The Johansen cointegration test can be used if all variables are non-stationary at I(0) or stationary at I(1). If data are mixed, the ARDL cointegration approach is suited for data analysis (Pesaran et al., 1999b, 2001).

Unit Root Test

To know whether the variable of interest is stationary in level, I(0), or in first difference I(0) with intercept only or with both the intercept and the time trend, we use Dickey-Fuller, Augmented Dickey-Fuller, and Phillips-Peron tests as discussed in Gujrati & Porter (2010). Table 2 shows those tests results. The test is first carried out at a level with the constant and constant plus trend. This test compares the estimated **t** value with the Monte Carlo simulation table value τ at a 5 percent level of significance. In Table 2a, only the variable ECO and FCE are stationary at I(0), the remaining others are at the first difference I(1).

Table 2a: Unit Root Test Results at Levels I(0)

Variables	Test with Intercept only		Test with Intercept and Trend	
	ADF	**PP**	**ADF**	**PP**
BNK	1.83	3.75	-0.69	-0.44
BRM	1.19	4.40	-1.68	4.40
DCP	1.81	3.71	-0.71	3.71
ECO	-1.55	-7.92*	-9.03*	-11.86*
EPT	-1.24	-1.41	-0.86	-1.41
FCE	-4.13*	-4.13*	-4.15*	-4.20*
IFL	-2.72	-6.31*	-2.83	-6.27*
TRD	-1.07	-1.07	-1.57	-1.68
Critical Value (5%)	**-2.92**	**-2.92**	**-3.18**	**-3.49**

Source: Authors' calculation based on database for estimation.

Note: * indicates the statistics are significant at a 5% level.

Table 2b: Unit Root Test Results at First Difference I(1)

Variables	Test with Intercept only		Test with Intercept and Trend	
	ADF	PP	ADF	PP
BNK	-5.59*	-5.50*	-6.03*	-6.45*
BRM	-6.02*	-6.04*	-6.53*	-9.01*
DCP	-5.58*	-5.50*	-6.03*	-6.45*
EPT	-7.11*	-7.16*	-7.35*	-7.35*
IFL	-9.13*	-27.84*	-9.06*	-27.13*
TRD	-6.69*	-6.69*	-6.68*	-6.68*
Critical Value (5%)	**-2.92**	**-2.92**	**-3.18**	**-3.49**

Source: Author's calculation based on a database for estimation

Note: * indicates the statistics are significant at a 5% level of significance.

Autoregressive Distributed Lag (ARDL) approach of Cointegration

The study uses the mixed combination of variables I(0) and I(1) which can be handled efficiently by Autoregressive Distributed Lag (ARDL) cointegration technique (Pesaran et al., 1999a). The model generates enough lags in the data generating process. The lag length for various criteria depends on the nature of the data and its size; nevertheless, it should be appropriate. The process adjusts the short-run dynamics with long-run equilibrium without losing any information (Ghouse et al., 2018).

Error Correction Method (ECM)

This error correction model (ECM) can infer the long-run relationship without altering the short-run dynamics (Pesaran et al., 1999a). Individual time-series variables

can be non-stationary, combining two or more linear non-stationary variables converge to stationary, then it is known as co-integrated (Pattichis, 1999). For economic growth, a dynamic Error Correction Model (ECM) derived from (3) is expressed in the form as given:

$$\Delta ECO_t = \alpha_0 + \sum_{i=1}^{t} \beta_i \Delta ECO_{t-i} + \sum_{i=1}^{t} \gamma_i \Delta FID_{t-i} + \sum_{i=1}^{t} \delta_i \Delta FCE_{t\_i} + \sum_{i=1}^{t} \vartheta_i \Delta IFL_{t-i} + \sum_{i=1}^{t} \theta_i \Delta TRD_{t\_i} + \lambda_1 ECO_{t-1} + \lambda_2 BRG_{t-1} + \lambda_3 FCE_{t-1} + \lambda_4 IFL_{t-1} + \lambda_5 TRD_{t\_1} + u_t$$

$$\Delta ECO_t = \alpha_0 + \sum_{i=1}^{t} \beta_i \Delta ECO_{t-i} + \sum_{i=1}^{t} \gamma_i \Delta FID_{t-i} + \sum_{i=1}^{t} \delta_i \Delta FCE_{t\_i} + \sum_{i=1}^{t} \vartheta_i \Delta IFL_{t-i} + \sum_{i=1}^{t} \theta_i \Delta TRD_{t\_i} + \lambda_1 ECO_{t-1} + \lambda_2 BRG_{t-1} + \lambda_3 FCE_{t-1} + \lambda_4 IFL_{t-1} + \lambda_5 TRD_{t\_1} + u_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

For export promotion, a dynamic error correction model (ECM) derived from (4) is expressed in the form

$$\Delta EPT_t = \beta_0 + \sum_{i=1}^{t} \mu_i \Delta EPT_{t-i} + \sum_{i=1}^{t} \eta_i \Delta FID_{t_i} + \sum_{i=1}^{t} \sigma_i \Delta FCE_{t_i} + \sum_{i=1}^{t} \varphi_i \Delta IFL_{t-i} + \sum_{i=1}^{t} \kappa_i \Delta TRD_{t_i} + \psi_1 ECO_{t-1} + \psi_3 BRG_{t-1} + \psi_4 FCE_{t-1} + \psi_5 IFL_{t-1} + \psi_6 TRD_{t_1} + v_t \ldots (6)$$

Where, $\alpha_o\, \alpha_o$ and $\beta_0 \beta_0$ are intercepts; $\beta_i \beta_i$ $\gamma_i, \delta_i, \theta_i$, ϑ_i, θ_i *and* μ_i, η_i, σ_i, φ_i, κ_i, $\gamma_i, \delta_i, \theta_i$, ϑ_i, θ_i *and* μ_i, η_i, σ_i, φ_i, κ_i, stand for short-run coefficients, $\lambda_1 \ldots$, *and* $\psi_1 \lambda_1 \ldots$, *and* ψ_1 are long-run coefficients and $u_t u_t$, $v_t v_t$ are error terms.

Results and Discussions

To achieve the objective of this paper and results to be the most possible credible, we first analyzed the time series properties of our data. Then, we moved to analyze the data based on ARDL approach of cointegration to detect the long run and short run association of the selected variables for two dependent variables, economic growth, and exports performance. First, it focuses on economic growth issues, then moves to export performance.

Impact of Financial Development on Economic Growth

Long-run Relationship

The long-run results are given in Table-3, Table-5, and Table-7, respectively, for financial indicators BNK, BRM and DCP. Table-3 shows BNK is positively significant at the 5 percent level, and FCE is negative at 10 percent level of significance; however,

IFL and TRD are not statistically significant. The 1 percent increase in BNK improves economic growth by 0.06 percent holding other variables constant. Similarly, one percent increase in FCE reduces economic growth by 0.20 percent.

The coefficient of financial indicator BRM is significant at a 1 percent level with a positive sign, listed in Tabl-5 which shows FCE is negatively associated with economic growth (ECO) at a 5 percent significant level. It meaning that it causes to decreasing economic growth whereas the IFL and TRD are not statistically significant. Economic growth rises by 0.06 percent due to 1 percent growth on BRM, holding rest of the variables in the model constant. On the contrary, it decreases by 0.26 percent, increasing the same unit of FCE. The estimated results in Table-7 show that the DCP is significant with a positive sign at a 1 percent level, and FCE is significant at a 10 percent level with a negative sign whereas the IFL and TRD are not statistically significant. One unit rise in DCP causes growth of 0.06 unit in the economy, the same unit of FCE retards it by 0.20 unit, assuming that other variables are constant in the models.

Error Correction Method (ECM) and Short-run Relationship

The error correction method (ECM) and the short-run relationship between financial indicators and economic growth are displayed in Table-4, Table-6, and Table-8. ECM coefficient for each financial indicator is negative and significant as expected, as shown in the tables that qualify the condition of cointegration. ECM coefficients for financial indicators BNK, BRM and DCP are -1.39, -1.40, and -1.39, respectively, indicating that the disequilibrium in past years will recover faster to attain the long-run equilibrium. The short-run impact for the financial indicators BNK, BRM and DCP, are shown in Table-4, Table-6 and Table-8, respectively, that reiterates the characteristics of the long-run relationship. These tables show financial indicators BNK, BRM, and DCP are positively significant at one percent and corresponding FCE is significant with a negative sign. IFL and TRD are not statistically significant for economic growth. Test statistics for financial indicators BNK, BRM and DCP, show the overall goodness of fit. The diagnostic tests pass the serial correlation, heteroscedasticity, and normality. Further, the stability test (CUSUM and CUSUM SQ) lies nearly within the five per cent significance level (see Figure-3).

In sum, financial indicators BNK, BRM, and DCP are significant, indicating the positive effect of financial development on short and long-run economic growth. The findings are similar to Liu (2002) conducted study for 109 industrial and developing countries, where the influence of financial development on economic growth was stronger for developing countries than developed ones. Likewise, Chang and Caudill (2005) derive the same conclusion for Taiwan that financial development leads the economic growth. Further, the result is similar to Adelakun (2010a) 's findings for Nigeria, Muhammad et al. (2016) for GCC countries, and Paudel et al. (2018) explore the same finance-growth nexus for the Nepalese economy.

However, some of the control variables in this research differ from existing studies. The final consumption expenditure (FCE) is statistically significant, with a negative sign showing

a reverse impact on the economy. It annoys the neoclassical view of economic growth. The result could not support the phenomenon and deviates from Tulsidharan (2006), finding that consumption expenditure injects economic growth for the Indian economy; Amin (2011) for Bangladesh that pleads consumption expenditure correlates with GDP.

Inflation (IFL) and trade openness (TRD) are not statistically significant contrary to the model estimation. The overall finding shows that financial development positively impacts economic growth where consumption expenditure reduces. Perhaps the financial growth is the outcome of remittance finance (Paudel & Acharya, 2021). Dependents may enjoy remittance consuming imported goods rather than participating in economic activities (Dahal, 2014).

Table 3: Long-term ARDL (1,0,0,0,0) Coefficients Dependent: ECO for FID(BNK)

Variables	Coefficients	Standard Error	T-Ratio [Prob.]
BNK	0.06	0.02	3.75[0.000]***
FCE	-0.20	0.12	-1.69[0.098]*
IFL	0.06	0.05	1.24[0.222]
TRD	0.02	0.02	0.63 [0.532]
INPT	17.51	10.73	1.63 [0.109]
Time trend	No of observations = 54		R-squared = 0.71
F-Stat. F (5,47) 23.34 [.000]			DW –Statistics= 2.13
Bound test (95%)	F-statistic: 20.71		Lower- Upper (3.01 - 4.41)

Table 4: The ARDL (1,0,0,0,0) ECM Results, Dependent: ΔECO for FID(BNK)

Variables	Coefficients	Standard Error	T-Ratio [Prob.]
ΔBNK	0.08	0.02	3.63[0.001] ***
ΔFCE	- 0.28	0.16	- 1.70[0.096] *
ΔIFL	0.08	0.07	1.23 [0.223]
ΔTRD	0.02	0.03	0.63[0.534]
ECM_{t_1}	- 1.39	0.13	- 10.73[.000] ***

Note: ***, ** and * denote the statistics is significant at 1%, 5% and 10% level and standard errors within the parenthesis.

Table 5: Long-term ARDL (1,0,0,0,0) Coefficients Dependent: ECO for FID(BRM)

Variables	Coefficients	Standard Error	T-Ratio [Prob]
BRM	0.06	0.02	2.92[0.005]***
FCE	-0.26	0.12	-2.1067[.041]**
IFL	0.06	0.05	1.3141[.195]
TRD	0.00	0.03	0.74[0.464]
INPT	22.66	11.22	1.96[0.056]*
Time trend	No of Observations = 54		R-squared= 0.72
F-Stat. F (5,47) 23.34 [.000]			DW Statistics = 2.17
Bound test (95%)F-statistic= 20.94			Lower - Upper (3.07- 4.40)

Note: ***, ** and * denote the statistics is significant at 1%, 5% and 10% level and standard errors within the parenthesis.

Table 6: The ARDL (1,0,0,0,0) ECM Results, Dependent: ΔECO for FID (BRM)

Variables	Coefficients	Standard Error	T-Ratio [Prob.]
ΔBRM	0.08	0.02	3.72[0.001] ***
ΔFCE	-0.37	0.17	-2.11[0.040] **
ΔIFL	0.09	0.07	1.31[0.196]
ΔTRD	0.00	0.04	-0.11[0.913]
$ECMt_{1}$	-1.40	0.13	-10.81[0.000] ***

Note: ***, ** and * denote the statistics is significant at 1%, 5% and 10% level and standard errors within the parenthesis.

Table 7: ***Long-term ARDL (1,0,0,0,0) Coefficients Dependent: ECO for FID (DCP)***

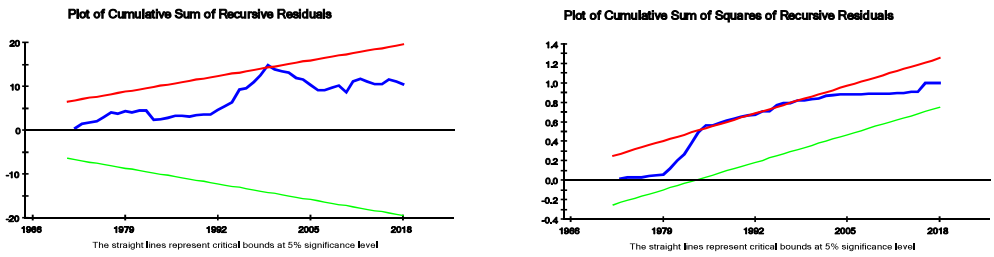
Variables	Coefficients	Standard Error	T-Ratio [Prob.]
DCP	0.06	0.02	3.76[0.000] ***
FCE	-0.20	0.12	-1.70[0.096] *
IFL	0.06	0.05	1.24[0.222]
TRD	0.01	0.02	0.60[0.550]
INPT	17.59	10.72	1.64[0.107]
Time trend	No of Observation = 54		R-squared = 0.71
F-Stat. F (5,47) 23.34 [.000]			DW Statistics = 2.13
Bound test (95%)	F-statistic: 20.72		Lower- Upper (3.07-4.0)

Table 8: The ARDL (1,0,0,0,0) ECM Results, Dependent: ΔECO for FID (DCP)

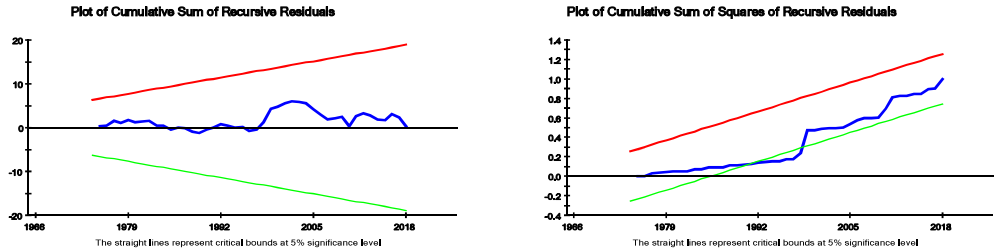
Variables	Coefficients	Standard Error	T-Ratio [Prob.]
ΔDCP	0.08	0.02	3.64 [0.001] ***
ΔFCE	-0.28	0.16	-1.71[0.095] **
ΔIFL	0.08	0.07	1.24[0.223]
ΔTRD	0.02	0.03	0.60[0.553]
$ECMt_{1}$	-1.39	0.13	-10.73 [0.000] ***

Note: ***, ** and * denote the statistics is significant at 1%, 5% and 10% level and standard errors within the parenthesis.

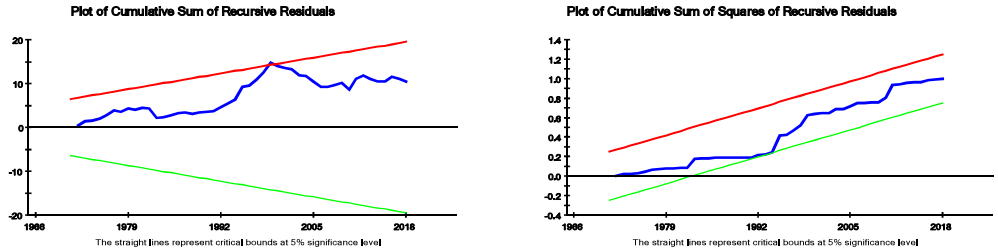
Figure 3: Plot of CUSUM and CUSUM Square for ECO FID = BNK



Plot FID = BRM



FID = DCP



Note: Straight lines show the boundary of 5% level Significance.

Impact of Financial Development on Export Promotion

The long-run impact of the financial development on export promotion is estimated with the help of model (6), designed in the previous section. Three related models were analyzed, replacing FID with BNK, BRM and DCP turn by turn. The effect analyzes cointegration, long-run relationship, ECM short-run dynamics and stability of designed models.

Co-integration Tests

The bound test (F-statistics) for financial indicator BNK and DCP became spurious because the estimated value appeared smaller than the lower bound of F-statistics. For effective results, FCE and IFL are dropped from the model. After redesigning the control variables, each model passes the bound test having a higher estimated value than the upper bound of F-statistics for financial indicators BNK, BRM, and DCP, and long-run coefficients are non-zero (Table-9, Table-11, and Table-13). The co-integration tests confirm the long-term relationship between financial development and export promotion.

Long-run Relationship

Table-9, Table-11, and Table-13 display the long-run results for the model related to financial indicators BNK, BRM and DCP respectively. Financial indicators BNK, BRM, and DCP are negatively significant while the TRD is positively at the 1 percent level

for export promotion. The control variable IFL included with BRM is significant with a negative sign at a 1 percent level (Table-11). The 1 percent increase in BNK, BRM, and DCP reduce the export promotion by 0.22, 0.19, and 0.19 percent, the same increase in TRD uplifts export promotion by 0.51, 0.55, and 0.43 percent respectively holding other variables constant. Table-11 shows Inflation (IFL) reduces export promotion.

Error Correction Method (ECM) and Short-run Relationship

Table-10, Table-12, and Table-14 show the error correction method (ECM) and the short-run relationship between financial development and export promotion. ECM coefficient is negative and significant for each financial indicator listed in the tables and fulfills the condition of cointegration. ECM coefficients for BNK, BRM, and DCP are -0.35, -0.54, and -0.35 respectively moderately low values, indicating slower recovery of short-run disequilibrium in past years to attain the long-run equilibrium. The recovery rate is 35, 54, and 35 percent in each period for financial indicators BNK, BRM and DCP respectively.

The short-run relationship between financial indicators BNK, BRM, and DCP with export promotion is shown in Table-10, Table-12, and table-14 respectively. Financial indicator BRM could not make significant in the short-run for export promotion; BNK and DCP are negatively significant; however, the control variable TRD is positive for each model. The 1 percent increase in BNK and DCP reduces the export promotion by 0.08 percent with equal weightage holding other variables constant. Similarly, 1 percent increase in TRD promotes the export by 0.43, 0.41, and 0.43 percent supposing the other variables constant in the model.

R-squared values are high (about 0.80) for each model shows the models are best fitted. The diagnostic tests show the absence of serial correlation, heteroscedasticity. CUSUM, and CUSUM SQ are plotted for each model and lie nearly within the critical bound of a five per cent level of significance (Figure-4). The plots further justify the structural stability of the model.

In sum, the financial indicators BNK and DCP are statistically significant with negative signs for export promotion (EPT) during the long run and the short run. BRM is negatively significant only for the long-run. Similarly, IFL (Inflation) is also negatively significant for export promotion; TRD (openness) is significantly positive. The sign of these indicators is contrary to estimation except TRD. However, test statistics justify the model's fitness, absence of serial correlation, and structural stability mentioned previously.

Although some of these findings are controversial to the estimation that financial development promotes export promotion in the Nepalese economy, it does not lack empirical support from the studies of other similar county contexts. For example, Siregar (2010) finds a solid finance-trade connection for developed Korea but less for developing Indonesia. The World Bank policy researcher Iacovone et al. (2019) argue that the cause of financial deficiency negatively impacts export promotion.

Moreover among the results, inflation (IFL) contrasts with Kiganda et al. (2017). They argue that inflation in the home country devalues the exchange rate, reduces consumption, lowers the market price in a foreign country, and finally promotes the export level. The negative effect of financial development, including inflation (IFL) shows that developed finance is not more focused on producing exportable goods, perhaps facilitating import trade. It may be the consequence of migrant's remittance effect (IMF, 2020). Financial development may not be adequate or competent to raise the export level or deficiency in the socio-political settings (Pant & Panta, 2008). Indeed, the financial sector needs to extend its capacity and improve its quality.

Table 9: Long-term ARDL (1,0,1) Coefficients Dependent: EPT for FID (BNK)

Variables	Coefficients	Standard Error	T-Ratio [Prob.]
BNK	-0.22	0.03	-8.14[0.000] * * *
TRD	0.51	0.03	14.72[0.000] * * *
INPT	-1.67	1.07	-1.56[0.126]
Time trend	No of Observation = 54		R-squared = 0.78
F-Stat. F (5,47) 23.34 [.000]			DW Statistics = 2.11
Bound test (90%)	F-statistic: 5.16		Lower- Upper (3.32 - 4.20)

Note: ***, ** and * denote the statistics is significant at 1%, 5% and 10% level and standard errors within the parenthesis.

Table 10: The ARDL (1,0,1) ECM Results, Dependent: ΔECG for FID (B)

Variables	Coefficients	Standard Error	T-Ratio [Prob.]
ΔBNK	-0.08	0.02	-3.9529[0.000]***
ΔTRD	0.43	0.03	12.4184[0.000]***
$ECMt_{-1}$	-0.35	0.10	-3.4021[0.001]***

Note: ***, ** and * denote the statistics is significant at 1%, 5% and 10% level and standard errors within the parenthesis.

Table 11: Long-term ARDL (1,1,0,0,1) Coefficients Dependent: ECG for FID (BRM)

Variables	Coefficients	Standard Error	T-Ratio [Prob.]
BRM	-0.19	0.02	-12.0173[0.000]***
FCE	-0.03	0.12	-.25973[0.796]
IFL	-0.09	0.04	-1.9508[0.050]**
TRD	0.55	0.03	21.6387[0.000]***
INPT	3.34	10.74	.31107[0.757]
Time trend	No of Observation = 54		R-squared = 0.83
F-Stat. F (5,47) 44.52 [.000]			DW Statistics = 2.21
Bound test (95%)	F-statistic: 5.88		Lower - Upper (3.07- 4.41)

Table 12: The ARDL (1,1,0,0,1) ECM Results, Dependent: ΔEPT for FID (BRM)

Variables	Coefficients	Standard Error	T-Ratio [Prob.]
ΔBRM	- 0.03	0.04	- 0.72[0.477]
ΔFCE	- 0.02	0.07	- 0.26[0.798]
ΔIFL	- 0.05	0.02	- 1.95[0.057]*
ΔTRD	0.41	0.04	11.48 [0.000]***
$ECMt_1$	- 0.54	0.11	- 5.06[0.000]***

Note: ***, ** and * denote the statistics is significant at 1%, 5% and 10% level and standard errors within the parenthesis.

Table 13: Long-term ARDL (1,0,1) Coefficients Dependent: ECG for FID (DCP)

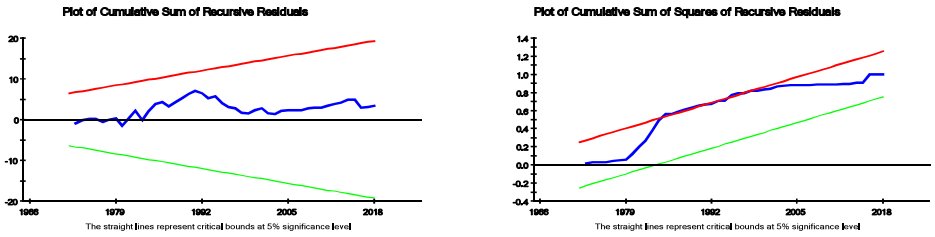
Variables	Coefficients	Standard Error	T-Ratio [Prob.]
DCP	- 0.08	0.02	- 3.96 [0.000]***
TRD	0.43	0.03	12.43[0.000]***
INPT	- 0.35	0.10	- 3.41 [0.001]***
Time trend	No of Observation = 54		R-squared = 0.78
F-Stat. F (5,47)	44.52 [.000]		DW Statistics = 2.11
Bound test (90%)	F-statistic: = 4.71		Lower- Upper (3.32 - 4.29)

Table14: The ARDL (1,0,1) ECM Results, Dependent: ΔECG for FID (DCP)

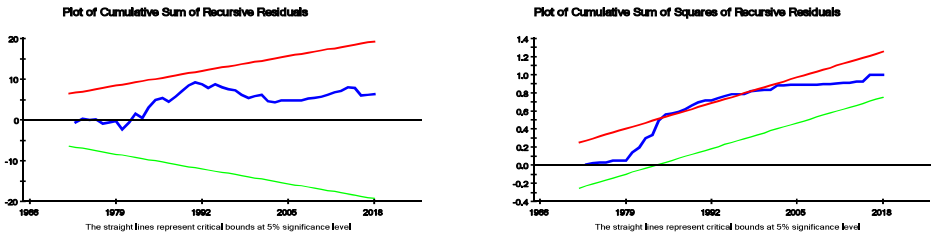
Variables	Coefficients	Standard Error	T-Ratio [Prob.]
ΔDCP	-0.08	0.02	3.96[0.001] ***
ΔTRD	0.43	0.03	12.43[0.000] ***
$ECMt_1$	-0.35	0.10	-3.41[0.001] ***

Note: ***, ** and * denote the statistics is significant at 1%, 5% and 10% level and standard errors within the parenthesis.

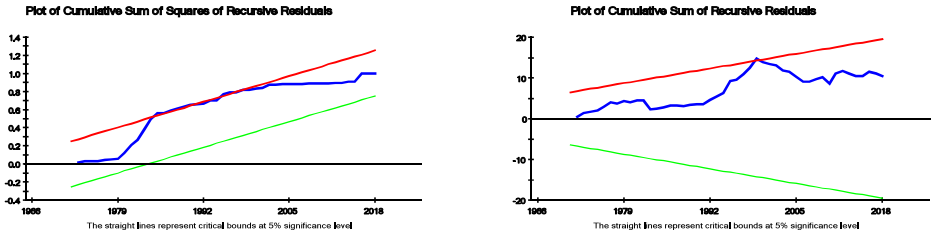
Figure 4: Plot of CUSUM and CUSUM Square for EPT FID = BNK



FID = BRM



FID = DCP



Note: Straight lines show the boundary of 5% level Significance.

Conclusion

The results show the significant positive impact of financial development on economic growth; however, final consumption expenditure (FCE) deters the achievement. It indicates that imported foreign goods might have fulfilled a major consumption as shown by data. The results could be interpreted that as the financial sector expands, imported consumption increases, reducing the economy's productive activities that hurts economic growth. Therefore, the policy should focus on financial development to align with productive activities rather than leaving a boost for the finance for the consumption.

Moreover, the effect of financial development on export promotion is statistically significant with negative coefficients. The results further indicate that financial development focuses on trade activities rather than productive activities. In addition, inflation (INF) is negatively associated and statistically significant, indicating that inflationary pressure is lowering exports. It may be the case of service sectors or export firms/industries using the imported raw materials or intermediate goods. Service sectors like transportation and tourism should be recognized and systemized motivate the productive activities so that both growth and exports performance can be improved. Additionally, the financial support for export promotion may not have been sufficient or not accessible to the cottage or base-level firms. Therefore, the government should reform financial sector policies, enhance efficiency, and extend capacity to synchronize with coverage and productive activities. The research is a regular process of new knowledge

based on new facts. This research must also be tested and updated in the changed scenario to address contemporary needs time to time (Evans, 1997). It is expected, as the financial sector advances, the financial need is synchronized with most entrepreneurial firms.

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