The role of workers’ remittances and cooperatives in economic growth: Evidence from Nepal

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Abstract: Cooperatives play important role in economic development, particularly, in the developing countries’ case. Considering this fact, Nepal’s constitution 2017 has incorporated the cooperative as one of the three pillars of her economy. Similarly, remittances have become one of the important sources of government expenditure in the recent years in Nepal and has got numerous attentions from the policy makers. This paper aims to analyze the role of cooperatives and workers’ remittances in economic development of Nepal using the time series data for the period of 1994 to 2018. We employ the advanced econometric methodology for time series analysis, the Auto Regressive Distribution Lag (ARDL) approach of cointegration. The major findings from the econometric estimation is that the cooperatives are beneficial to the economy as expected by the policy makers of the country. Also, the dominancy of the remittance is downsizing the economy seeking an urgent attention from the policy makers to rescue the remittance-based economy both in the short and long run.

KEYWORDS: Economic Growth, Cooperatives, Remittances, Developing Countries, Nepal

INTRODUCTION

The role of cooperatives and workers’ remittance in Nepal have not been researched well but are widely discussed issues among the policy makers of Nepal. Also, Nepal has the special attention to accelerate the economic growth intending to graduate to a middle-income country by 2030 (COPAC - Committee for the promotion and advancement of cooperatives, 2015) and both of these economic variables seem important for the economic growth of Nepal. In addition, Nepal needs to balance between economic growth and the distribution of the national income so that the spirit of the aspiration of the marginalized group is fulfilled. In this regard, cooperatives can help by facilitating poor people’s economic activities to bring them into the mainstream of the economy. Almost similar role seems to be played by remittance to increase the money circulation due to remittance inflows in about two decades. It is worthwhile to note that the preamble of Nepal’s constitution has mentioned the cooperatives as one of the three pillars of its economy, such as, public/government sector, cooperative sector and private sector.

Observing the data from the world development indicator, we realize that Nepal needs to focus on economic development. The data shows that GNI Per Capita is $800 against $2730 of the world average, and the lowest 20 percent people access only in 8.3 percent of total asset, and the growth rates were recorded 4.8 and 7.9 percent in 2010 and 2017 respectively. During the same period, inflation was recorded 15.1 and 8.7 percent. The contribution in the GDP from agriculture is about 26 percent but almost 60 percent of the population relies on it for employment. The industrial contribution is 13 percent only. The economy is mainly dominated by service sector. The ratio of exports to GDP is recorded only about 9 percent while import to GDP is about 43 percent (World Bank Group, 2018). These scenarios of the macroeconomic indicators seek urgent attention from the policy makers for overall economic growth and equitable distribution of the benefit among the people of all ethnic, regional and income group.

Against this background, this paper aims to make systematic study of the cooperatives’ and workers’ remittances’ contribution in the economic development of Nepal. We document that how cooperative societies have raised the huge amount of capital mobilization, collecting the scattered and small savings observing their contribution to mitigate the social gap between rich and poor. We believe that workers’ remittances have accelerated the cooperatives’ activities as the remittances have been contributing the money circulation among the poor families, who may become the cooperative members, channelize their small savings to the investment through there and contribute to economic development of nation.

Self-motivated cooperative activities are helpful to the societies making their economic lives easy in many respects, from which one can feel the economic freedom and self-respect. The literature of economic development suggests that individual economic freedom is one of the key indicators of economic development, the base of democratic stabilization, and the most effective tool of poverty reduction (Miller & et al., 2014).

If we look the historical pattern of borrowing, poor people’s borrowing in traditional ways, i.e., borrowing from landlord paying heavy amount of interest, have been replaced by...
their own fund collected in the cooperatives. That additional cost of the loan now have become the base of dividend, such as, the return from cooperative activities. Optimization of local resources, skills, and expertise for their community have been enhanced by cooperative societies. It seems that the cooperatives have playing a role for development and equitable distribution. We argue that remittances boost cooperatives activities and by their roles boost the development activities in the country.

A thorough theoretical analysis has been made before entering to econometric estimation. Various sources of data as cited in the relevant places have been used as the source of data for qualitative analysis and time series data are used for the econometric estimation. Looking this nature of the data, we have used Autoregressive Distributed Lag (ARDL) approach of cointegration for the econometric estimation to detect the role of cooperatives in the economic growth of Nepal. The results show that the contribution of cooperatives in economic growth is positive and statistically significant suggesting that promoting the cooperatives’ activities can be a good way to enhance the economic growth of Nepal.

The paper is divided into five sections. After setting the introductory context, Section 2 highlights the issues of cooperatives and workers’ remittance to set the broader contexts. Section 3 reviews the literature discussing the role of cooperatives and workers’ remittances in economic development both in the global and national context. Section 4 discusses about the research methodology and results from econometric estimation, and the final section concludes.

**CONTEXT OF COOPERATIVES**

Nepal’s constitution 2015 has formally provisioned the cooperative society as one of the three pillars of the national economy. It is because the cooperatives not only create the conductive environment for economic development; but also lubricate the trend of self-help, self-responsibility, equality, equity, solidarity, and democracy. Cooperative societies are autonomous enterprises with joint ownership and democratically controlled system. The historical events of cooperative itself justifies the value of its presence. The earliest event of a cooperative comes from Fenwick, Scotland where, on March 14, 1761, some people there formed ‘Fenwick Weavers’ Society (ICA, 2018). They first started a cooperative business. Handmade cottage items were sold at a discounted price. On 1844, in the town of Rochdale, Lancashire, north England; a group of 28 poor artisans working in the cotton mills established the first cooperative society. It is honored as "Rochdale Equitable Pioneers Society". Workers were in a miserable condition. No access in minimum basic needs of livelihood. Low wage could not afford the high price of food, shelter and other household goods. Rochdale pioneers decided to work together combining their scarce resources. Initially, they focused on four items; oatmeal, flour, sugar and butter which were settled in lower price. In the starting, the shop was open for two days a week. They respected each other’s views, maintained openness, worked hard with honest, shared profit in equitable base. Every customer of the shop became a member of the society. Within the month, business flourished. Society started to run the shop, five days per week (ICA, 2018). It is not only a historical event, it also justifies the cooperative essence, values, and outcome. This historical incident became the icon of marginalized people. It gave the foundation to a prosperous society with democratic culture, mutual trust, respect, and hope.

In ancient days, Nepalese people started cooperating each other in the form of Nepali traditions. Historical practices of cooperative were Guthi (Trust for social and cultural consumption), Dharmabhakari (collection of access grain to fulfill others shortage), Paincho (borrowing stuffs for short time), Parma (working in collaboration (Paudel and Khanal 2015). It was the conceptual foundation of the modern cooperative society. First formal cooperatives in Nepal was co-operative credit society with unlimited liability in the Chitwan District. It worked as the part of a flood relief and resettlement program. Legally recognized after the first Cooperative Societies Act of 1959 (Department; Cooperative, 2017). After the restoration of democracy in 1990 cooperative movement took the pace.

The new cooperative act came into existence in 1992. Data shows 34512 cooperatives of different sectors are running cooperative formation. Thirty-four hundred thousand members are organized with nominal lead by the women. Share and saving mobilization is more than Rs.367 billion. It is a scattered penny collection of local marginalized individuals’ too. It shows the high potentiality of capital formation. In figure 1 The incremental tendencies of capital accumulation graph is increasing year by year some times in increasing rate. Figure 2 shows the growth in cooperative societies. The inclination of capital growth is sharper in comparison its numbers. It justifies the qualitative capital formation in coming days with respect to no of cooperatives.
Source: Department of Cooperative, Government of Nepal
Figures above show the growth of cooperatives, employment, membership, and capital over time. The graphs at the same time highlight women presence in members and employees. It further elaborates the consistent growth of women in comparison to the men. Cooperative exposes the women’s empowerment and their reliable contribution in development. Problem is that the coverage of the cooperative is very low. Total of 34512 cooperatives cover only about 3.5 million members in the country (Ministry of Cooperatives and Poverty Alleviation, 2017). Furthermore; most of the members have multi-membership. Hardly 10% of the total population is in the cooperative net. About 20% of the population is in below poverty line. Scenario appeals to the additional move for cooperative activities.

Figure 5 shows the scenario of workers’ remittances inflow in GDP and cooperatives’ capital in GDP. We noticed that the remittance inflow has been increased rapidly since 2002 when the armed conflict run by Communist Party of Nepal (Maoist) was in the climax that caused to migrate many youths for employment. From the same point the cooperatives’ capital has been increased capturing almost similar trend of workers’ remittances. The share of remittances stands around 28 percent as of 2018. In the case of cooperatives’ capital, the declining trend started since 2012 from about 27 percent of GDP to about five percent in 2018. One of the majorcauses of this decline seems to be a symptom shifting towards banking system from cooperatives as the remittances’ inflow increases because the gross capital formation has been increased substantially in this period.
LITERATURE REVIEW

The main point on the role of workers’ remittances in economic growth is that remittances will be more likely to contribute to longer-term growth in countries with higher quality political and economic policies and institutions, while in the absence of high quality of governance the impact will be poor, even negative in economic growth (Catrinescu, Leon-Ledesma, Piracha, & Quillin2009). Nwaogu & Ryan (2015) suggest the difference experience of workers’ remittance in different regional context, thus the role of remittance seems ambiguous to conclude.

On the other hand, cooperatives have a long history. Most of the literature in this field has inspired, some of them warned about the role of cooperatives in the national economy. We find three general approaches in this regard. The first approach highlights the positive contribution of cooperatives in economic development. The second string of literature suggests the lapses, some of them even go further and discuss the discouragement of the cooperatives in economic development. The third string of literature suggests ambiguity. In the essence, the review intuits the renovated concepts to enrich the cooperative development. At the mean time we are interested to know the role of workers’ remittance in different regional context, thus the role of remittance seems ambiguous to conclude.

The modern-day cooperative is organizing the members in a cooperative society and yielding the benefit but also is working as a dominant economic driver. A research was conducted in the initiation of the International Labor Organization (ILO) in the Kenya to identify the role of cooperative in economic development, employment, and poverty reduction. The management committee was formulated to conduct the research. Qualitative research was conducted. Focus group discussion, in-depth interview was accomplished with ministry level. The purposive area was selected. The research found 80 percent of the population received income directly indirectly from cooperative. Cooperative was in role model of strategic management. Cooperative of Africa was working with ILO to enhance the higher-level managerial capabilities of primary cooperatives to ensure the transparency and uplift the efficiency. Additional jobs were created, poverty was reduced tangibly. Social protection and advocacy on the behalf of a voiceless member was their motto.

Coop Africa was working in the extension of cooperative societies creating a conducive environment of law and policy through its dedicated centers International agencies ILO, World Bank, Danish International Development Agency (DANIDA) donate, assist, and work in partnership with cooperative of Kenya (Frederick O. Wanyama, Develtere, & Pollet, 2009). It shows the towering presence of cooperative. Furthermore, the Cooperative College of Kenya is established for cooperative education and training (Fredrick O Wanyama, 2009). Literature shows the strength of the cooperative. It is the motivational model for underdeveloped Nepali economy.

ILO has recognized the cooperative as a tool for sustainable development. The International Labor Organization (ILO) and the International Co-operative Alliance (ICA) have taken the joint motion to achieve the common goal of sustainable development. The cooperative movement is established as a consensus mean of economic development COPAC - Committee for the promotion and advancement of cooperatives, 2015).

In a developed country like the United Kingdom (UK) Cooperatives are used as a source of knowledge production entity. Higher educational institutions were established in modern corporate governance and delivering quality education and skill. The fee structure was affordable. Research was conducted in a workshop model. A deductive and inductive conceptual framework was used. Published research literature was thoroughly analyzed. Focus group discussion, interview, a panel discussion was conducted in inductive approach. Finding consolidated the importance of cooperative universities (Neary & Winn, 2017). In fact, such
an institution delivers the knowledge, sustains the democracy, enhance the employment and equitable society.

Cooperative is the base of women empowerment, at the same times creates the field for their exposure. A research was conducted in Senegal, West Africa in "Woman Leaders and Social Performance" using the network of Rotating Saving and Credit Association in Senegal. Data were analyzed using the regression model. The finding was concluded ‘female are more sincere, devoted and obey toward social and institutional obligations and norms’. So female managers were preferred even in the place where the board was dominated by male members. Furthermore; research showed gender inequality in the West African countries is less in comparison to other developing countries.

Although cooperative is the established phenomena of human society, it is not out of criticism. Issues are theoretical, legal and managerial.Robinson in his research “Cooperative or Exploitation, Argument Against the Cooperative Learning for Talented Students” pledges against cooperative learning in the behalf of talented students.In cooperative learning, ‘talented students are losing their opportunities’. It is argued that cooperatives are the formal entity which accepts the norms of heterogeneous participation of the member. Due to the heterogeneous cooperative environment, gifted talent students are losing their potentiality (Robinson, 1990). He claimed it as exploitation. To justify the research thematic analysis was done based on previous research findings. In his research, he was not rejecting the holistic phenomena of cooperative significance.Certainly, heterogeneousness is the beauty of cooperative movement where strong uplifts the weak member binding together. That is why cooperative is an economic tool to fill the gap between heterogeneous societies. It is also true an individual can be in cooperative society up to the moment he feels social responsibility or opportunity, it is a democratic entity.

Issues of legal provision of cooperative member are in discourse. Knuth Hagen Christian questions in the part of international legal provision of ‘ILO R 193’. There is a debate between the legal person and a natural person. In some of the country legal person cannot be a member of the primary cooperative.The debate is creating between policymaker, banker and the cooperative leader. This confusion is hindering the progress of cooperative movement(Knuth 2018). Certainly, dual meaning in law should be resolved. Cooperative friendly environment is the pre-requisition.

Empirical research conducted in fruit and vegetable cooperative in Zhejiang China found a controversial result against the established cooperative law and norms. The research was conducted "Governance Structure of Chinese Farmer Cooperatives: found two types of members as core and general, different voting right and decisive role in board and management. The conflict was seen between members. General members were compelled to be in cooperative for the benefit of the core member. The board and management committee were mixed. Research emphasizes the need for restructuring of cooperative is urgent(van den Heuvel, de Langen, van Donselaar, & Fransoo, 2011). In my opinion this is the violation of cooperative values and democratic norms. Such activities challenge the existence of movement.Research suggests for immediate cure.

While emphasizing the equitable economic development of the members, cooperative movement emphasizes the member's family, community and their environment. The research found cooperative that plans and invests the budget in cooperative education, environment safety, skill development training, and, social awareness campaigns among member's family, community; got sustained. Research in the Latin American country- Ecuador, Pichincha, approved this notion of this cooperative ethic. Quantitative research found that the cooperative which has planned budget and launched the activities got sustained. Those cooperatives which lack this part found in trouble (Fredrick O Wanyama, 2009). The social factor of the community is significant for sustainable development. The underestimation of social objectives and the sustainability of cooperative society is not easy. Cooperative could not show a unique identity with those only profit maximization entity. It is well said that “if identity is lost, everything is lost”; the same happens in the cooperative movements too.

When we go through the literature research in references to cooperative in Nepal; we findfocus on some part of limited area. A study was conducted in Rupandehi in "Saving and Credit Cooperative based on mixed (quantitative and qualitative) method research. The research was concerned only in saving and credit cooperative society. Finding was supportive of his research topic (Khagraj 2012). Research cannot give solid data. In the society, the same person is a member of saving and credit cooperative together with dairy, multipurpose and numerous other cooperatives. These all cooperative entities contribute to income, consumption, and saving. Comprehensive research in broad perspective is essential.

A research conducted in Nepali cooperative found the reason behind the failure, because of not maintaining the minimum level of the reserve ratio. The research was conducted in the quantitative paradigm. Five years of data were taken, and the regression model was fitted. Finding suggested for the existence of such an entity; adequate credit to deposit ratio must be maintained(Paudel & Khanal, 2015)It was the part of the cooperative society focused on saving and credit cooperative and its sustainability. Holistic significance of the cooperatives is yet to be researched.

The research on “Impact of good governance on Performance of cooperatives in Nepal” based on province 3 and province 6. 400 sample members were inquired from 18 cooperative societies. Data were analyzed using the SPSS statistical tool. The finding showed the performance, participation, professionalization was significant, in the meantime legitimacy was insignificant(Puri & Walsh, 2017).

The research on Financial Sustainability of Small Farmer Cooperative (SFC) in Mid- Western Region of Nepal: founded that cooperative are the mean of livelihood. Member of lower cast women, labors, peasants are
indiscriminately benefitted by SFC. Mixed method research methodology was used. Socio economic condition of the members found significant relating with income generating activities. This micro level research further consolidated economic prosperity of the marginal members through cooperative activities (Dhakal; Subas P., 2018; Tiwari & Nepal, 2018). Furthermore, the research was conducted focusing on the gender issue in cooperative movement. Woman’s role in decision making was analyzed thematically in post in post conflict environment. Result found women are lagged in decision making role then men in cooperative society. It is not carrying the total contribution of cooperative in economic development. Cooperative contribution in women empowerment in cooperative membership and employment may not be ignored in comparison to other entity.

In a dynamic scenario; focusing the Nepal Government’s campaign “Prosperous Nepal, happy Nepali”; recognition of cooperative movement by Nepal’s Constitution 2017 its importance is highlighted. Furthermore; for the achievement of "UN sustainable development goal", partnered by UN agencies with International Cooperative Alliance is a mean of social transformation (COPAC, 2015). Nepal is obliged to meet the millennium goals of sustainable development. So that comprehensive study of cooperative and its role is essential to know and promote. It justifies the need of research in the topic ‘Cooperatives and Economics Growth in Developing Countries: The Case of Nepal’.

**RESEARCH METHODOLOGY**

The research objective is to examine the contribution of cooperative activities in economic development and finding some determinants of economic growth in the context of Nepal. This study is focused on the overall contribution of the cooperatives in development. Available data from official web site of cooperative department are used. The main research question is: Does Cooperative contribute to economic development? Hypotheses corresponding to research questions
Null Hypothesis: Ho: There is no contribution of Cooperative in economic development.

Alternative Hypothesis: Ha: There is the contribution of Cooperative in economic development.

**The model:**

The Growth Model is designed as

\[ GDPPCG_t = \beta_0 + \beta_1 \text{COPCAPGDP}_{t-1} + \beta_2 \text{REMGDP}_{t-1} + \beta_3 \text{TRADEGDP}_{t-1} + u_t \ldots \ldots \ldots \ldots (1) \]

Where \( t = 1 \) to 25

GDPPCG = Gross Domestic Product Per Capita Growth is dependent variable.

Where \( \beta_0 \) is constant intercepts term; \( \beta_1, \beta_2 \) and \( \beta_3 \) are coefficients of the independent variables.

\( \text{COPCAPGDP} \) = Cooperatives’ capital to GDP in percentage, and its coefficient \( \beta_1 \) is expected to be positive. It is a major independent variable of the model of our interest.

\( \text{REMGDP} \) = Remittance share in GDP measured in percentage. Its coefficient \( \beta_2 \) is expected to be positive. It is because remittance has become an input and source of foreign currency reserve in the country but in the different countries’ context it has negative sign too.

\( \text{TRADEGDP} \) = Share of trade in Gross Domestic Product measured in percentage and its coefficient \( \beta_3 \) is expected to be positive sign because increasing trade encourages the employment and smooth economic activities in a nation.

**Econometrics:**

The association of the variables in the model with economic development is analyzed using a cointegration test based on autoregressive distributed lag (ARDL) approach. The ARDL approach of cointegration is best suitable in our case because of two reasons: first, this approach addresses the issues raised by the mix of I(0) and I(1) variables, and second, it addresses the issues of serial correlation. For time series data cointegration become a strong statistical tool for long error correction model (Pesaran, Shin, & Smith, 2001). In our model, based on the tests conducted in Paudel and Shrestha (2006) the GDP per capita growth is I(1) and the other variables, such as, cooperatives capital and remittance to GDP variables are I(0). In this situation, ARDL approach of cointegration minimizes the error using the dynamic model (Paudel, R. C., & Kankan, 2009). Equation 1 has been converted into Equation 2 to capture the dynamic impact in the form of Auto Regressive Distributed Lag Model. Gross Domestic Product Per Capita Growth (GDPPCG) is taken to measure the development of the study period.

\[ \Delta \text{GDPPCG}_t = \alpha_1 + \alpha_2 \text{GDPPCG}_{t-1} + \alpha_2 \text{COPCAPGDP}_{t-1} + \alpha_3 \text{REMGDP}_{t-1} + \alpha_4 \text{TRADEGDP}_{t-1} + \sum_{i=1}^{25} \tau_i \Delta \text{GDPPCG}_{t-i} \]

\[ + \sum_{i=1}^{25} \gamma_i \Delta \text{COPCAPGDP}_{t-i} + \sum_{i=1}^{25} \epsilon_i \Delta \text{REMGDP}_{t-i} + \sum_{i=1}^{25} \delta_i \Delta \text{TRADEGDP}_{t-i} + v_t \ldots \ldots \ldots \ldots (2) \]

\( \Delta \) indicates the first order differential variable. \( \alpha_1, \alpha_2, \alpha_3, \text{and} \alpha_4 \) are the coefficients of first order variables.

**Operator** is the vector of random error. Time is chosen in which the research is based on secondary data covering the period from 1994 to 2018.
corporatization environment was flourished after the restoration of democracy. Nepal’s Cooperative Act 1990 become the milestone for the growth of cooperative society. Gross Domestic Product Per Capita Growth (GDPPCG) is taken as dependent variable as a proxy of economic development. The ratio of Cooperatives’ capital to GDP in percentage (COPCAPGDP), share of workers’ remittance to GDP (REMGDP) in percentage, share of trade in Gross Domestic Product (TRADEGDP) are used as independent variables in the model. Each of these variables have key role on economic growth of the country, and the literature supports as discussed earlier.

**Data Source:**
Mainly two data sources are used for this study. Data sources are the Ministry of Poverty Elimination, Cooperative department for cooperative related data; and, World development indicators (World Bank) for the rest of the variables. The study period was chosen from 1994 to 2018. Time is chosen in which the corporatization environment was flourished after the restoration of democracy. Cooperative Act 1990 released which was the milestone for the growth of cooperative society. Gross Domestic Product Per Capita Growth (GDPPCG) is taken as a dependent variable to measure the development trend. Data for the cooperatives’ capital were found cooperatives department. The data from World Development Indicators were found for the rest of the variables.

**Results and Discussion:**
We estimated the model using the Schwarz Bayesian Criterion looking short sample of data, and the number of independent variables. As our sample is relatively small, results show that R² is 0.89 indicating the data are well fitted in the regression line. Result suggests that the ARDL model is best fitted. The F-Statistics is 6.48 which is greater than upper bound (95% significant) and it rejects the null hypothesis confirming contribution of independent variables in economic growth. The DW-statistic is close to 2, i.e., 1.92 within the expected range.

Table 1 shows the long-run coefficients of ARDL (3,0,1,2) model. The result shows the long-run impact of independent variables in the dependent variable. Our main variable of interest is cooperatives’ capital and remittance inflows, both measured in relationship with GDP, are statistically significant in 1 percent and five percent level, respectively, of significance in the long run. The results suggest that a 10 percent increase in the cooperatives’ capital causes to increase the per capita GDP by about one and a quarter percentage. Received remittance is used to consume imported goods and luxury. The TRADEGDP is positive and statistically significant suggesting that a 10 percent increase in the trade openness results to increase in the economic growth about two percentage.

Table 2 shows the ECMresult where the main concern is ec(-1) which is statistically significant as expected with negative sign. This results of ec(-1) indicates that the adjustment is fast in case of disequilibrium. Here, the coefficients of the lagged variables indicate the short run impact of those variables in the economic growth. Both the first and second lag value of the dependent variables show that previous years rate of economic growth statistically significant impact on economic growth of the current year, and the statistics impressive. The cooperatives’ capital also has a statistically highly significant impact on economic growth in the short run. The first lag of the trade openness has a positive statistically highly significant impact on economic growth. The time trend impact is strong both long and short run on economic growth indicating the year effect in the model.

The diagnostic test results suggest that the model passes the tests for serial correlation, functional form, normality and heteroscedasticity. Further, the stability test results (CUMSUM and CUSUMSQ) plotted against the critical bonds of five percent level of significance show that the model is generally stable in the structure.

| Regressor     | Coefficients | Standard Error | T-Ratio [Prob.] |
|---------------|--------------|----------------|----------------|
| COPCAPGDP     | 0.125        | 0.022          | 5.660[0.000]*** |
| REMGDP        | -0.126       | 0.053          | -2.362[0.038]** |
| TRADEGDP      | 0.169        | 0.035          | 4.701[0.001]*** |
| INPT          | -10.111      | 2.313          | -4.369[0.001]*** |
| TREND         | 0.328        | 0.085          | 3.849[0.003]*** |

Note: ***, **, and * refers the statistics are significant at 1%, 5% and 10% level of significance.
Table 2: ARDL (3,0,1,2) model ECM Results, Dependent Variable: dGDPPCG

| Regressor       | Coefficients | Standard Error | T-Ratio [Prob.] |
|-----------------|--------------|----------------|-----------------|
| dGDPPCG1        | 1.006        | 0.293          | 3.431[0.004]*** |
| dGDPPCG2        | 0.526        | 0.186          | 2.827[0.012]*** |
| dCOPCAPGDP      | 0.319        | 0.077          | 4.159[0.001]*** |
| dREMGDP         | -0.096       | 0.112          | -0.863[0.404]   |
| dTRADEGDP       | 0.523        | 0.087          | 5.997[0.000]*** |
| dTRADEGDP1      | -0.199       | 0.109          | -1.825[0.091]*  |
| dTREND          | 0.836        | 0.206          | 4.068[0.001]*** |
| Ecm(-1)         | -2.549       | 0.420          | -6.068[0.000]*** |

Note: ***, **, and * refers the statistics are significant at 1%, 5% and 10% level of significance.

CONCLUSION

This research paper is focused on the role of cooperatives and remittance on economic growth in the context of Nepal employing an advanced methodology for the time series data. However, data were not available for a long period, so limited to 25 years. Looking at the time series properties of the available data, ARDL approach of cointegration is employed.

The major findings of this research show that cooperatives are beneficial to the economy. Therefore, the direction of the
constitution accepting the role of cooperative as a pillar of Nepali economy is meaningful for development. However, the result for the remittance is not encouraging in this case. Probably it needs further research to analyze in more detail.

Further TRADEGDP coefficients suggest that the government to make more trade friendly environments indicated by both short-run and long-run results of this variable. Also, the key lesson from this study is that the government should take a positive measure to stop the migration and generate the environment of self-employment within the country to benefit both in the short run and long run. Self-employment, raising of scattered micro saving, inclusive development can be done in a short period by the mean of cooperative society. Probably linking the remittance and cooperatives’ development in more integrated way may help to enhance the economic growth rate.

REFERENCES

[1]. Catrinescu, N., Leon-Ledesma, M., Piracha, M., & Quillin, B. (2009). Remittances, institutions, and economic growth. World Development, 37(1), 81-92.

[2]. COPAC. (2015). Transforming our world: A cooperative 2030 SDG_5. Copac, (1995).

[3]. COPAC - Committee for the promotion and advancement of cooperatives. (2015). Transforming our world: A cooperative 2030, Cooperative contributions to SDG 8.

[4]. Department; Cooperative. (2017). Statistics of cooperative of all Nepal. Kathmandu: Department of Cooperative. Retrieved from http://www.deoc.gov.np/downloadfile/Coop_data_2074_1544686478.pdf

[5]. Dhakal; Subas P. (2018). Cooperative Enterprises and Post Crisis Nepal: A Social Responsibility Perspective on Women’s Employment and Empoerment. https://doi.org/10.1108/S2040-72462018000008016

[6]. ICA. (2018). History of the cooperative movement | ICA. Retrieved from https://ica.coop/en/cooperatives/history-cooperative-movement

[7]. Miller, T., & et al. (2014). 2014 Index of Economic Freedom: Malawi. The Wall Street Journal, (September 2013), 2013–2014. Retrieved from http://www.heritage.org/index/country/malawi

[8]. Ministry of Cooperatives and Poverty Alleviation. (2017). Statistics of Cooperative Enterprises, 2017 (p. 104). Retrieved from http://www.deoc.gov.np/downloadfile/Coop_data_1451631974.pdf

[9]. Nwaogu, U. G., & Ryan, M. J. (2015). FDI, foreign aid, remittance and economic growth in developing countries. Review of Development Economics, 19(1), 100-115.

[10]. Neary, M., & Winn, J. (2017). Beyond Public and Private: A Framework for Co-operative Higher Education. Open Library of Humanities, 3(2), 1–36. https://doi.org/10.16995/olh.195

[11]. Paudel, R. C., & Kankesu, J. K. (2009). Financial Liberalization and Performance in Sri Lanka: The ARDL Approach. I, 127–156. https://doi.org/10.1177/1391561409010000106

[12]. Paudel, R.C., & Shrestha, M. B. (2006). The role of external debt, total trade and labour force in economic growth: The case of Nepal. The Business Review, Cambridge, 5(2), 130–136.

[13]. Paudel, G., & Khanal, S. (2015). Determinants of Capital Adequacy Ratio (CAR) in Nepalese Cooperative Societies. Ssrn, 1–20. https://doi.org/10.2139/ssrn.2647541

[14]. Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Autoregressive Distributed Lag (ARDL) cointegration technique: application and interpretation. Journal of Statistical and Econometric Methods, 5(3), 63–91. https://doi.org/10.1002/jae.616

[15]. Puri, D. L., & Walsh, J. (2017). Impact of good governance on performance of cooperative in Nepal. Management & Marketing, XVI(2/2018).

[16]. Robinson, A. (1990). Cooperation or Exploitation? The Argument against Cooperative Learning for ‘gifted’ Students, 14(1), 9–27.

[17]. Tiwari, L., & Nepal, G. (2018). Financial Sustainability of Small Farmer Cooperative (SFC) in Mid-Western Region of Nepal. Journal of Advanced Academic Research, 4(2), 18–26. https://doi.org/10.3126/jaar.v4i2.19531

[18]. van den Heuvel, F. P., de Langen, P. W., van Donselaar, K. H., & Fransoo, J. C. (2011). Identification of Employment Concentration and Specialization Areas: Theory and Application. Wiley InterScience, 354(August), 26p. https://doi.org/10.1002/agr

[19]. Wanyama, Frederick O., Develtiere, P., & Pollet, I. (2009). Encountering the Evidence: Cooperatives and Poverty Reduction in Africa. Ssrn. https://doi.org/10.2139/ssrn.1330387

[20]. Wanyama, Fredrick O. (2009). Surviving liberalization: the cooperative movement in Kenya The Cooperative Facility for Africa (Coop. https://doi.org/10.1165/ajrcmb.18.4.2838

[21]. world bank group. (2018). World view States and markets Source: World Development Indicators database, 2018. Retrieved from http://databank.worldbank.org/data/Views/Reports/ReportWidgetCustom.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=NPL
| YEAR | GDPPCG | COPCAGDP | REMGDP | TRADEGDP |
|------|--------|----------|--------|----------|
| 1994 | 5.3847 | 5.90593363 | 1.232 | 50 |
| 1995 | 0.90909 | 6.57397575 | 1.291 | 59 |
| 1996 | 2.89026 | 7.08689184 | 0.977 | 58 |
| 1997 | 2.76641 | 7.69900607 | 1.006 | 64 |
| 1998 | 0.913803 | 8.78879081 | 1.390 | 57 |
| 1999 | 2.397933 | 9.46421021 | 1.658 | 53 |
| 2000 | 4.25449 | 10.4434122 | 2.029 | 56 |
| 2001 | 2.974418 | 10.9894457 | 2.447 | 56 |
| 2002 | -1.52866 | 12.9293702 | 11.213 | 46 |
| 2003 | 2.344112 | 14.7748921 | 12.180 | 44 |
| 2004 | 3.19846 | 16.5884691 | 11.309 | 46 |
| 2005 | 2.143984 | 18.4945108 | 14.905 | 44 |
| 2006 | 2.167897 | 20.4038709 | 16.069 | 45 |
| 2007 | 2.32979 | 22.4492689 | 16.792 | 45 |
| 2008 | 5.058608 | 24.5248599 | 21.738 | 46 |
| 2009 | 3.496219 | 24.7812047 | 23.208 | 47 |
| 2010 | 3.722471 | 25.1376696 | 21.647 | 46 |
| 2011 | 2.271277 | 26.8542821 | 22.296 | 42 |
| 2012 | 3.558004 | 17.3818373 | 25.427 | 44 |
| 2013 | 2.880964 | 13.8989814 | 29.001 | 48 |
| 2014 | 4.724406 | 11.8967087 | 29.439 | 52 |
| 2015 | 2.122095 | 8.99533076 | 31.432 | 53 |
| 2016 | -0.54445 | 7.39578604 | 31.209 | 49 |
| 2017 | 6.71925 | 5.20398884 | 27.846 | 52 |
| 2018 | 5.03521 | 5.18391501 | 28.230 | 51 |

(Source: Cooperative Department of Nepal and World Development Indicator and Interpolated)