EFFECT OF FISCAL DECENTRALIZATION ON ECONOMIC GROWTH IN DISTRICTS OF NEPAL: AN ECONOMETRIC ANALYSIS

- Khim Lal Devkota[1]

ABSTRACT

The main objective of this article is to identify the effect of fiscal decentralization on economic growth in districts of Nepal. Empirical modeling method is applied to identify the desired objective. Fiscal decentralization is one of the important topics that have been widely discussed in governance and economics literature by many. In order to be able to investigate fiscal decentralization's effect on district economic growth a cross section time series panel data set of 20 districts for the period 2007-2009 is used. The expenditure decentralization index is introduced into the regression as independent variable to test the effect of fiscal decentralization on district economic growth. Economic growth is subject to many influences beyond fiscal decentralization. In order, to control for these influences, a set of control variable are used to improve the robustness of result. On using the panel regression model against the fiscal decentralization index and a range of district control variables, it has been found that the coefficient of fiscal decentralization is statistically significant and positive to district economic growth. The relationship is completely robust. It proves that ceteris paribus, fiscal decentralization enhances the district economic growth and vice-versa.

KEY WORDS : *Fiscal Decentralization, Economic Growth and District*

INTRODUCTION

In general, decentralization is the transfer of authority and responsibility for public functions from the Central Government to Intermediate and Local Governments (LGs). It has been adopted in one or another form in almost all countries around the world whether a county adopts a federal or unitary or centralized system of governance. It is a long process and manifests itself in various forms and formats.

[1] Mr. Devkota is a Fiscal Decentralization expert at Local Bodies Fiscal Commission (LBFC) and Local Governance and Community Development Programme (LGCDP), Nepal. The views expressed in the article are those of author. Comments and suggestion are welcome at ; kldevkota@lbfc.gov.np, devkotak@gmail.com

Modern Political system is predominantly based on people's participation, local self-governance and decentralization. Decentralization is therefore an integral part of the modern governance at the central, provincial, and at the local level. It promotes democratization, equity, people's participation and effective service delivery at local level through transfer of authority, power, responsibilities including fiscal authority and resources to lower level of the government. Both in the developed and developing countries, people are demanding more decentralization for participatory local democracy and local development, effective service delivery and addressing diversities. Globally, it has become the necessity for the better service delivery and compulsion for participatory governance .

On the other hand, fiscal decentralization, or the transfer of fiscal power from the Central Government to Local Governments, is seen as part of a reform package to all developed and developing countries to improve efficiency in the public sector, to increase competition among LGs in delivering public services, and to stimulate economic growth. It has caught much attention of the policy makers and economists around the globe. Indeed, it entails the assignment to LGs or resources to finance the functions for which they are responsible. In general, it is the assignment of expenditure functions and revenue sources to LGs. As stated by Martinez-Vazquet J. and Robert McNab (1997), over the past two decades most developing and transitional economies have embarked upon fiscal decentralization. It is, because, fiscal decentralization is considered as an effective policy instrument to foster economic growth and macro- economic stability.

Nevertheless , fiscal decentralization enhances the economic growth directly by increasing the efficiency of public expenditures (Samuelson, 19954 and Oates 1972, 1993) and indirectly through enhancing economic efficiency , creating horizontal fiscal equality and by maintaining macro economic stability (Martinez-Vazquet J. and Robert McNab ,2005).

Truly, in many countries, one of the primary motives of fiscal decentralization is the prospect of improving the economic growth and enhancing the macroeconomic stability. This is also the case for Nepal.

On this background, this article would be focused on a specific debate in the literature of fiscal decentralization that it improves the economic growth. Especially, it has been concentrated to Nepal.

RATIONAL OF THE ARTICLE

In recent years, there has been a growing interest among development specialists, multilateral development agencies, economists and governments on fiscal decentralization as a primary tool for promoting economic growth (United Nations 1991). In fact, Fiscal decentralization is becoming a hot topic amongst policy-makers. Dillinger (1999) rightly says, out of 75 developing and transitional countries with populations greater than 5 million, all but 12 claim to have embarked on some form of government decentralization initiative over the last decade.

Nepal is in the midst of a major political, administrative and fiscal restructuring reform moving towards a federal governmence structure. At presently, Nepal has two-tier system of Local Governments , comprising Districts as the intermediary level and Municipalities and Villages as the lower levels. Decentralization is not a new concept in Nepal. Several attempts were made to deconcentrate, diffuse and decentralize in the past. (Kelly, 2011, Koirala, 2011), the process initiated in 1962 ended up by creating 75 districts, 14 zones and later, 5 development regions in 1972. Subsequently in 1999, the Government consolidated its local governments system through enacting the Local Self Governance Act(LSGA). The current Local Governments structure is embodied in the LSGA, together with the Local Self Governance Regulation, 2000. These laws lay the legal basis for the current local government structure in Nepal and define the various LGs expenditure and revenue functions and provide the underpinnings for strong local autonomy in planning and budgeting. The LSGA makes an important point when it creates Local Bodies (LBs) instead of LGs.

In Nepal, the true level of fiscal decentralization started after the promulgation of Local Self-Governance Act 1999 (LSGA) and Local Self Governance Regulation 2000 (LSGR). LBs are assigned the expenditure responsibilities with revenue authorities by LSGA and LSGR. In addition to revenue and expenditure assignments, every year Government of Nepal (GON) is providing different grants, both conditional and unconditional to them. Besides, GON is directly investing a huge sum of money annually for socio-economic and infra-structural development at the local level through it's district level agencies and offices. In addition, they are collecting own source revenues by using various types of tax and non tax sources. In fact, the LBs are mobilizing thousands of millions of financial resources every year. The resource transfer from central government to different level of local bodies and the revenues which they are collecting is thus, expected to enhance the local economic development overtime.

The expectation , in reality can either be true or false. This is the vital issue which should be reviewed. Against this, the main objective of this article is to analyze the effect of fiscal decentralization on economic growth in districts of Nepal .

EXISTING LITERATURE

For the overall economic growth and development, the role of fiscal decentralization can't be ignored. As stated by Samuelson (1954), fiscal decentralization enhances the economic growth directly by increasing the efficiency of public expenditures. Additionally, Sinha and Estache (1995) state that fiscal decentralization tends to increase both total and sub-national spending on infrastructure-possibly because the preferences of sub-national governments in terms of quality and quantity of infrastructure are different from the central government's preferences .

In fact, fiscal decentralization has many proponents, in particular as a strategy to improve service delivery at local level. Commonly accepted objectives for fiscal decentralization include those of an efficient allocation of resources via a responsive and accountable government, an equitable provision of services to citizens in different jurisdictions, and preservation of macroeconomic stability and promotion of economic growth. Boschmann , (2009) rightly says, particularly during the last two decades, countries throughout the world have been decentralizing responsibilities for infrastructure delivery from the central state to lower spheres of government.

In the same way, the World Bank (1994), stresses that improvement of basic infrastructures such as , roads, water, sewerage, and electricity, etc. are the essential ingredients in improving the life of the poor in many countries. As stated by bank these are the basic services to generate the income of the poor in the short run and enhancing the productivity of the country in the long run.

It has long been held that, in theory, fiscal decentralization may be conducive to economic growth. Tiebout (1956) and Oates (1972,1993,1999) state if few public goods entail nationwide externalities, sub-national governments are likely to be more efficient in the production and delivery of public goods . It is also asserted that decision-making on expenditures at lower levels of government is more responsive to diversified local preferences and needs and, therefore, more conducive to production, allocative and economic efficiency. Their's another argument in support of the fiscal decentralization is that, it increases the likelihood that the Central

Government responds quickly to the demands of the local people by promoting competition among LGs.

However, the literature on decentralization and economic growth in the context of development is still in its infancy (Bardhan, 2002) and it is harder to confine. Kim (1995) found a positive relationship between fiscal decentralization and economic growth using an international panel data set. Using data for 80 countries, Huther and Shah (1996) also found a positive correlation between fiscal decentralization and economic growth. Martinez-Vazquet and Mcnab (2001) review the current knowledge on an issue of increasing policy interest and found that fiscal decentralization may indeed have a direct impact on economic growth. Akai and Sakata (2002) used US states as their unit of analysis. They found a positive relationship between fiscal decentralization within states and state economic growth. Similarly, Haldar(2007) also found that fiscal decentralization in general is positively correlated with favorable economic outcomes.

In contrast, Davoodi and Zou (1998) found a negative relationship between fiscal decentralization and economic growth in developing nations, but no relationship in developed nations. Xie et al. (1999) found a negative, but not very significant, relationship between the aggregate local share of US government spending and US economic growth.

Further, using data from Chinese provinces, Zhang and Zou (1997) found a negative relationship between the ratio of provincial government spending to central government spending and provincial economic growth. That finding contradicts the often-asserted hypothesis that greater decentralization is associated with higher economic growth.

Additionally, a comparative study of China and India by Jin (2009) has shown that the degree of fiscal decentralization in both countries is far from the point where its effect on economic growth becomes positive. Despite the dangers of widening disparities in terms of interregional fiscal resource distribution from further decentralization, no substantial evidence shows a trade-off between horizontal fiscal equalization and growth in either country An in-depth and more thorough going fiscal decentralization with greater emphasis on equalization of fiscal disparities are required in order to effect sustainable economic growth as well as social harmony in these two Asian countries. In case of Nepal, (Devkota and Shrestha (2010) have found that, fiscal decentralization is conductive to economic growth . They have used the fiscal transfer data over the period 1995-2009 and have used an macro level simple regression model.

Further on using Ordinary Least Square method from the cross sections of 75 districts data over the period 2005-2009, Devkota (2013) found that the effect of fiscal decentralization on secondary school enrollment rate is positive ; i.e., the proxy of Human Development is positive.

MODEL AND EMPIRICAL RESULTS

To assess empirically whether fiscal decentralization is supportive to distinct economic growth , a simple linear model is applied ;

$$Y_{it} = a_0 + \beta_1 FD_{it} + \beta_2 X_{it} + \varepsilon_{it}$$

where the indices i,t denote districts, and years , respectively; Y represents average annual per capita of district agriculture GDP growth as proxy by growth of district GDP per capita; FD is a index of fiscal decentralization measured at total District Development Committes (DDCs) expenditures with the total District expenditures (DDCs and Government of Nepal). The data set for agriculture production and district level government expenditure were taken from Ministry of Agriculture and Financial Comptroller General Office respectively. X is economic control variables comprising districts characteristics. These control variables are; population, primary school enrollment rate, number of primary schools and sectoral capital expenditures, the education, health, road, agriculture, drinking water and others. The data set for population was derived from Central Bureau of Statistics whereas the data set for schooling and sectoral capital expenditure were from Department of Education and Ministry of Federal Affairs and Local Development respectively. The parameters α_0 is scalar, β represent parameter vectors, and εi is an error term, which is assumed to be normally distributed, homoscedastic, and independent across observations. All control variables used here are measured as of the initial year in each cross-section sample. The data set are from the 20 districts for the period of three years (2007-2009). Based on existing governance structure, the data set equally balance the development and ecological regions. The name of these sampling districts is included in annex 1. Human development index and the own source revenues have been taken the main basis for picking the districts. There are 60 observations in 20 groups for the panel regression. The use of data with time-series and cross-section dimensions enables consideration of district-specific characteristics. The panel data allow more flexibility in modeling. Time series data for each district in cross-district regression analysis can better capture the dynamics of relationships between fiscal decentralization and district economic growth. Further, all coefficients are estimated with fixed-effects with correction for panel with heteroskedasticity and panel serial correlations. Finally, all variables are converted into logs.

The final formulations and expanded version of above model is given as follows;

$$\begin{aligned} Y_{it} = a_0 + \beta_1 FD_{it} + \beta_2 PS_{it} + \beta_3 PSE_{it} + \beta_4 Pop_{it} + \beta_5 PCEdu_{it} + \beta_6 PCH_{it} \\ + \beta_7 PCR_{it} + \beta_8 PCAgri_{it} + \beta_9 PCDWS_{it} + \beta_{10} PCOth_{it} + \varepsilon_{it} \end{aligned}$$

Where, Y is GDP growth. It is a proxy of annual growth of per capita agriculture production measured in real terms. It is measured in annual percentage change, FD is a measurement of fiscal decentralization. It is the ratio of DDCs total expenditure to the combined government and DDC expenditures. PS is number of total primary schools at community level in districts measured at per thousand district population. PSE is number of total primary student enrollment rate at community schools in districts measured at population. Pop is population, PCEdu, PCH, PCR, PCAgri, PCDWS and PCOth represent the per capita capital expenditures in education, health, road, agriculture, drinking water and sanitation and other sectors respectively. The empirical test analysis and results is stated in annex 2. The finding is that the estimated coefficient on fiscal decentralization is positive and statistically significant at 10 percent level .This finding provides evidence that fiscal decentralization contributes to economic growth. Further, the null hypothesis is rejected; the Hausman test leads to favor a fixed effect specification. As this result suggests that the random effects estimator is inconsistent. In terms of control variables, the primary school variable is statistically significant. However, its impact is negative. Primary school enrollment rate and population are not statistically significant. In sectoral capital expenditures, only two variables namely road and drinking water are statistically significant. However, the coefficient of these variables is negative.
The none of the coefficients of sectoral capital expenditure variables are positive. This clearly gives a message that the Local Bodies in Nepal are spending money without concrete and proper plan. However, this does not mean that they are not doing well. Needless to say, the overall expenditure is supportive to district economic growth.

CONCLUSION

The key objective of this article is to analyze the effect of fiscal decentralization on economic growth in districts of Nepal on using the cross section district level data for the period of three years (2007-2009). Based on 20 districts data set for the panel regression model, the finding is that, ceteris paribus fiscal decentralization enhances the district economic growth. Theory suggests that a close match between expenditure and revenue assignments at Local Governments level benefit allocative efficiency, production efficiency, and fiscal efficiency and hence enhances to economic growth. In case of Nepal, the findings so far derived from the regression modeling rightly matches the theory. The positive association between fiscal decentralization and district GDP per capita growth is directly or indirectly consistent to Samuelson (19954) , Tiebout (1956), Oates (1992, 1993, 1999), Kim (1995), Huther and Shah (1996), Akai and Sakata (2002), Martinez - Vazquez and Robert M. (2001,2005), Haldar (2007), Devkota and Shrestha (2010) and Devkota (2013).

In the present context, the article exclusively concludes that the process of fiscal decentralization is beneficial to the economy of Nepal. Moreover, it points out that it is conducive for economic growth. The overall conclusion is that, fiscal decentralization is supportive to district per capita agriculture growth; i.e. the proxy of district per capita GDP growth of Nepal and it is a crucial step towards economic growth in aggregate.

References

Akai N and M. Sakata (2002). Fiscal decentralization contributes to economic growth: Evidence from state-level cross section data for the United States. *Journal of Urban Economics,* 93–108.

Bardan, P. (2002) . Decentralization of Government and Development. Journal of Economic Perspective*, 16 (4) : 185 -204.*

Boschmann, Nina (2009). *Development Partners Working Group on Local Governance and Decentralization.* Berlin : DPWG-LGD.

Davoodi, Hamid, and Heng-fu Zou. (1998). Fiscal Decentralization and Economic Growth: A Cross-Country Study". *Journal of Urban Economics,* 43 (2): 244-57.

Devkota, K.L (2013). Effect of Fiscal Decentralization on Human Development of Nepal; *SWASHASAN*, The journal of Self-Governance and rural Development. Kathmandu, Ministry of Federal affairs and Local Development.

Devkota, Khim Lal and Shrestha, Chandra Lal (2010). Impact of Fiscal Decentralization on Economic Growth of Nepal . *Nepalese Journal of Development and rural Studies*, Vol. 7 No 2.

Dillinger, W. (1994). *Fiscal Decentralization and its Implications for Urban Service Delivery*. Urban Management and Municipal Finance Discussion paper No. 16. washington, D.v: The world Bank.

Halder, Pragna (2007). *Measures of Fiscal Decentralization*. Andrew Young School of Policy Studies, Georgia State University, Department of Economics.

Huther J., A. Shah (1996). *A simple measure of good governance and its application to the debate on the appropriate level of fiscal decentralization*. Washington, DC: World Bank.

Jin, Yinghua (2009). *A Comparative Study of Fiscal Decentralization in China and India*; an unpublished PhD dissertation. Andrew Young School of Policy Studies, Georgia State University.

Kelly, Roy (2011). *Stock Taking of Fiscal Decentralization Policies : Consolidated Report* . Kathmandu, Nepal : Local Bodies Fiscal Commission.

Kim S. (1995*). Fiscal decentralization, fiscal structure and economic performance: three empirical studies* . University of Maryland, Unpublished PhD dissertation.

Koirala Bimal (2011). *Report on Stock Taking of Fiscal Decentralization Policies (Expenditures).* Kathmandu, Nepal : Local Bodies Fiscal Commission.

Martinez-Vazquet J. and Robert McNab (1997). *Fiscal Decentralization, Economic Growth and Democratic Governance.* Andrew Young School of Policy Studies, Georgia State University, Working Paper 97-7.

.... (2001). *Fiscal Decentralization and Economic Growth. Andrew Young School of Policy Studies* , Georgia State University, Working Paper 01-01.

....(2005). *Fiscal Decentralization, Macro stability and Growth. Andrew Young School of Policy Studies,* Georgia State University, working paper, 05-06.

Samuelson, P. A. (1954). The Pure Theory of Public Expenditure. *Review of Economics and Statistics*, Vol. 36(4), pp. 387-389.

Sinha, Sarbajit and Estache, Antonio (1995). *Does Decentralization Increase Spending on Public Infrastructure ?* The World Bank, Policy Research Working Paper, WPS 1457.

Oates, Wallace E. (1972). *Fiscal federalism*. New York : Harcourt Brace Jovanovich.

.... (1993). Fiscal decentralization and economic development. *National Tax Journal*, 46 ,237–243.

.... (1999). *An Essay on Theory of Fiscal Federalism*, London: Harcourt Brace.

Tiebout, C. (1956). A pure theory of local expenditures. *Journal of Political Economy* , 64, 416–424.

United Nations (1991). *Fiscal Decentralization and the Mobilization and Use of National resources for Development* : issues Experiences and Policies in the ESCAP region . New york : United Nations.

World Bank (1994). *The World Development Report : Infrastructure for Development* . Washingtan, DC.

Xie, D., Zou, H and Davoodi, H (1999). Fiscal Decentralization and economic growth in the United States. *Journal of Urban Economics*, n. 45 (2), pp 228-39.

Zhang, Tao, and Zou, Heng-fu (1997). *Fiscal Decentralization, the Composition of Public Spending, and Regional Growth in India. Development Research Group Working Paper*, Washington, D.C.: World Bank.

Annexes

1. Name of Sampling Districts

S.N	Development Region	District	Ecological Region
1	Eastern Development Region	Dhankuta	Hill
		Khotang	Hill
		Taplejung	Mountain
		Jhapa	Terai
2	Central Development Region	Kathmandu	Hill
		Makawanpur	Hill
		Dolkha	Mountain
		Sarlahi	Terai
3	Western Development Region	Gulmi	Hill
		Lamjung	Hill
		Mustang	Mountain
		Rupandehi	Terai
4	Mid Western Development Region	Jajarkot	Hill
		Salyan	Hill
		Mugu	Mountain
		Banke	Terai
5	Far Western Development Region	Achham	Hill
		Dadeldhura	Hill
		Bajura	Mountain
		Kanchanpur	Terai

2. : Panel regression results

Independent Variables	Coefficient	t-statistics	P value
FD*	9.709	1.94	0.062
logPS*	-3.567	-1.83	0.077
logPSE	-0.528	-0.87	0.39
logPOP	0.760	1.42	0.165
logPCEdu	0.293	1.51	0.141
logPCH	-0.039	-0.22	0.831
logPCR**	-0.593	-2.06	0.048

Independent Variables	Coefficient	t-statistics	P value
logPCAgri	0.311	1.49	0.124
logPCDWS*	-0.462	-1.95	0.061
logPCOth	-0.017	-0.15	0.883
Constant	-0.798	-0.58	0.565
F-value	1.67		
Prob > F	0.13		
R-sq within	0.36		
R-sq between	0.01		
R-sq overall	0.00		
Hausman tests	22.4		
p-value of Hausman test	0.0000		
No of observations	60		
No of groups	20		

Dependent Variable log GDP per capita growth, * and ** indicate variables whose coefficient are significant at 10 and 5 percent levels respectively.