FINANCE INDIA
© Indian Institute of Finance
Vol. XXXIV No 2, June 2020
Pages – 527 – 540

Twin Deficit or Twin Divergence in India : An Econometric Enquiry

AMIT KUNDU*
ANIL KUMAR GOYAL**

Abstract

The study focuses on twin deficit which is trade deficit and fiscal deficit for economic performance. Direction of causality is tested and main focus is given on impulse response function and decomposition. The experiential study is based on the secondary data. Two variables i.e., current account and budget deficit are used. Research period is from 1990 to 2018. For the fulfillment of the objective econometric models such as Stationarity and Cointegration, the VAR Model, Impulse Response and Variance Decomposition have been used. The observations from the variance decomposition depict no causal connection between two deficits in the study period 1990-2018. Granger causality test also supports the non-causality between the variables concerned. As no apparent causal relation was found, these research findings hold the Ricardian Equivalence Hypothesis which refuses any involvement between trade deficit and the fiscal deficit.

I. Introduction

LIKE OTHER DEVELOPING countries India has been facing fiscal deficit. Fiscal deficit has been varying during the last 30 years. On the contrary trade deficit has varied between 0% and 6.8% in the same period. It is necessary to reduce the two deficits. There is a close relation between two deficits. Since these two deficits are behind the primary reason for poor economic health of an economy, empirical study on causal connection between the variables is a concerned research area in the Indian economy.

According to the argument of Mundell-Fleming enlargement of budget deficit put pressure on the interest rate. High interest rate compare to world interest rate creates a situation to inflow capital and trade deficit takes place. On the other hand Ricardian theory assumes that fiscal deficit has no pressure on real rate of interest and finally on trade balance.

* Assistant Professor, Mathabhanga College, Department of Economics, Cooch Behar, P.O. Mathabhanga, District Cooch, Behar, West Bengal 736146, INDIA

** Professor, Rukmini Devi Institute of Advanced Studies, 2A and 2B, Madhuban Chowk, Rohini, Delhi 110085, INDIA

Submitted January 2020; *Accepted* June 2020

Article accepted under MoU signed with GLA University (India) in 2019-2020

4.2 *Overall Findings with Concluding Remark and Policy Implication:*

This article focused on the usefulness of well-known two-deficit phenomenon in developing India. The data observed over the period 1990 to 2018. Sophisticated econometric tools like Unit root test, VAR, Impulse response functions and variance decomposition were used in this article. From the VAR study it is inspected that there is no connecting association between two deficits during the period of investigation. From impulse response function we came to know that any shocks transmitted from trade deficit will not have any momentous impact on budget deficit. In opposite, any shocks produced from fiscal deficit will have less important shock on trade deficit.

The observations from the variance decomposition depict no causal link between the deficits concerned over the period 1990-2018. Granger causality test also supports the non-causality between the variables concerned.

As no apparent causal relation was found these research findings hold the Ricardian uniformity Hypothesis which declines any involvement between trade deficit and in the fiscal deficit. The empirical evidences support the RE hypothesis. It recommends that the fiscal policy did not follow during the period of study had not been harmful to generational wellbeing.

4.3 *Further Scope of research*

As there are other variables such as interest and inflation that are responsible for twin deficit hypothesis these variables should be included in further research to get better result when twin deficit proposition would be applied in the economy of India.

References

Abell, J. (1990), "Twin Deficits during the 1980s: An Empirical Investigation", *Journal of Macroeconomics*, Vol. 12, pp. 81-96

Afonso, A., F. Huart, J. T. Jalles, and P. L. Stanek, (2018), "*Twin Deficits Revisited: a role for fiscal institutions*?", REM working paper, 031-2018

Aghevli, B. B., and C. Sassanpour, (1982), "Prices, output and the trade balance in Iran", *World Development*, Vol. 10, No. 9, pp. 791-800

Anoruo, E. and S. Ramchander, (1998), "Current Account and Fiscal Deficits: Evidence from Five Developing Economiesof Asia", *Journal of Asian Economics*, Vol. 9, pp. 487-501

Badinger, H., Fichet de A., Clairfontaine, and W. H. Reuter, (2017), "Fiscal rules and twin deficits: The link between fiscal and external balances", *The World Economy*, Vol. 40, No. 1, pp. 21-35

Baharumshah, A. Z., and E. Lau, (2009), "Structural breaks and the twin deficits hypothesis: Evidence from East Asian countries", *Economics Bulletin*, Vol. 29, No. 4, pp. 2517-2524

Baharumshah, A. Z., E., Lau, and A. M. Khalid, (2006), "Testing twin deficits hypothesis using VARs and variance decomposition", *Journal of the Asia Pacific economy*, Vol. 11, No. 3, pp. 331-354

Barro, R. (1974), "Are Government Bonds Net Wealth?", *Journal of Political Economy*, Vol. 82, No. 6, pp. 1095–1117

Basu, S. and D. Datta, (2005), "Does Fiscal Deficit Influence Trade Deficit? An Econometric Enquiry", *Economic and Political Weekly*, Vol. 40, pp. 3311-3318

Bhat JA, and NK Sharma (2018), "The twin-deficit hypothesis: revisiting Indian economyin a nonlinear framework", *Journal of Financial Economic and Policy,* Vol. 3, pp. 386–405

Bose, S. and S. Jha, (2011), "India's Twin Deficits: Some Fresh Empirical Evidence", *ICRA Bulletin, Money and Finance,* 2011

Darrat, A. F. (1988), "Have Large Budget Deficits Caused Rising Trade Deficit?", *Southern Economic Journal,* Vol. 54, pp. 879-887

Devapriya, T. N. K., and M. Ichihashi, (2012), "How does the budget deficit affect inflation in Sri Lanka", *Economics Journal,* Vol. 54, pp. 879-887 and IDEC Discussion Paper, pp. 1-38

Enders, W., and B. Lee, (1990), "Current Account and Budget Deficits: Twin or Distant Cousins", *Review of Economics and Statistics,* Vol. 72, pp. 374-382

Feldstein, M. (1992), "The budget and the trade deficits aren't really twins", *NN BER, Working Paper 3966*, NBER, Cambridge, MA, 1992.

Ghatak, A., and S. Ghatak, (1996), "Budgetary deficits and Ricardian equivalence: The case of India, 1950–1986", *Journal of Public Economics,* Vol. 60, No. 2, pp. 267-282

Gupta, S., and K. Singh, (2016), "Fiscal deficit and its trends in India", *International Journal of Business and Management Invention*, Vol. 5, No. 11, pp. 63-75

Islam, M. F. (1998), "Brazil's twin deficits: An empirical examination", *Atlantic Economic Journal*, Vol. 26, No. 2, pp. 121-128

Khalid, A.M. and T.W. Guan, (1999), "Causality Tests of Budget and Current Account Deficits: Cross Country Comparisons", *Empirical Economics*, Vol. 24, pp. 389-402

Kulkarni, G. and L. Erickson (2006), "Twin Deficit Revisited: Evidences from India, Pakistan and Mexico", *The Journal of Applied Business Research,* Vol. 17, No. 2, pp. 97-107

Litsios, I., and K. Pilbeam, (2017), "An empirical analysis of the nexus between investment, fiscal balances and current account balances in Greece, Portugal and Spain", *Economic Modelling*, Vol. 63, pp. 143-152

Magazzino, C. (2012), "The Twin Deficits Phenomenon: Evidence from Italy", *Journal of Economic Cooperation and Development*, Vol. 33, No. 3, pp. 65-80

Mansur, A. H. (1989), "Effects of a Budget Deficit on the Current Account Balance: The Case of the Philippines", *Fiscal Policy, Stabilization and Growth in Developing Countries. Washington, DC: International Monetary Fund*, pp. 309-345

Markin, A. J. and P.K. Narayan, (2013), "Re-examining the Twin Deficits Hypothesis: Evidence for Australia", *Empirical Economics*, Vol. 45, pp. 817-829

Mudassar, K., A. Fakher, S. Ali, and F. Sarwar, (2013), "Validation of twin deficits hypothesis: a case study of Pakistan", *Universal Journal of Management and Social Sciences*, Vol. 3, No. 10, pp. 33-47

Ncanywa, T., and T.E. Letsoalo, (2019), "Which among twin deficits hypothesis, twin divergence, and Ricardian's equivalence hold in a developing country?", *Journal of Public Affairs*, Vol. 19, No. 2,

Osoro, K. O., S.O. Gor, and M.L. Mbithi, (2014), "The twin deficit and the macroeconomic variables in Kenya", *International Journal for Innovation Education and Research*, Vol. 2, No. 9, pp. 64-84

Parikh, A. and B. Rao, (2006), "Do Fiscal Deficits Influence Current Accounts? A Case Study of India", *Review of DevelopmentEconomics*, Vol. 10, pp. 492-505

Rajasekar, T., and M. Deo, (2016), "The Relationship Between Fiscal, Deficit and Trade Deficit in India: An Empirical Enquiry Using Time Series Data", *IUP Journal of Applied Economics*, Vol. 15, No. 1

Ratha, A. (2012), "Twin deficits or distant cousins? Evidence from India", *South Asia Economic Journal*, Vol. 13, No. 1, pp. 51-68

Rosensweig, Jeffrey A., and Ellis W. Tallman (1993), "Fiscal policy and trade adjustment: are the deficits really twins?", *Economic Inquiry* Vol. 31, No. 4, pp. 580-594

Roy, A., and S. D. Gupta, (2013), "An empirical investigation of budget and trade deficits: the case of Bangladesh", *International Journal of Economics and Financial Issues*, Vol. 3, No. 3, pp. 570-579

Saeed, S. and A. Khan (2012), "Twin Deficit Hypothesis: The Case of Pakistan 1972-2008", *Natural and Applied Sciences*, Vol. 3, No. 2, pp. 155-162

Suresh, K.G. and A. K. Tiwari, (2014), "A Structural VAR (SVAR) Analysis of Fiscal Shocks on Current Accounts in India", *Macroeconomics and Finance in Emerging Market Economies*, Vol. 7, No. 1, pp. 140-153

Vamvoukas, G. A. (1999), "The twin deficits phenomenon: evidence from Greece", *Applied Economics*, Vol. 31, No. 9, pp. 1093-1100

Zaidi, I.M. (1985), "Saving, investment, fiscal deficits, and the external indebtedness of developing countries", *World Development*, Vol . 13, No. 5, pp. 573-588

Annexture

Table A 1.1
Lag Selection Criterion

VAR Lag order Selection Criteria
Endogenous variables: Budgetdeficit
Tradedeficit
Exogejous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-18.357	NA*	0.0164*	1.565*	1.662*	1.593*0
1	-17.633	1.280	0.0211	1.817	2.108	1.901
2	-16.320	2.121	0.0262	2.024	2.508	2.163

Note : * indicates lag order selected by the criterion
Source: Self Computed

Table A 1.2
Results of Estimations of Equations (5) and Equation (6)

Dependent Variable	Independent Variable	Coefficients	Standarderrors	't'Statistics
BDt	Constant(α)	0.2083	(0.0983	[2.118]
	BD_{t-1}	-0.0060	(0.210)	[-0.028]
	Bd_{t-2}	-0.2812	(0.212)	[-1.320]
	TD_{t-1}	-0.0169	(0.124)	[-0.136]
	TD_{t-2}	-0.0426	(0.112)	[-0.377]
	R^2 = 0.085 , F-stat = 0.492 , Log likelihood = -2.059 , AIC = 0.543			
TD_t	Constant(α_1)	0.3583	(0.157)	**[2.278]**
	TD_{t-1}	-0.1072	(0.198)	**[-0.539]**
	TD_{t-2}	0.0933	(0.180)	**[0.517]**
	BD_{t-1}	-0.2936	(0.336)	**[-0.872]**
	BD_{t-2}	-0.0800	(0.340)	**[-0.235]**

Notes : R^2 = 0.064831, F-stat = 0.363957, Log likelihood = -14.26437, AIC =1.481875
Source: Self Computed