**What Determines the Growth of Services Sector in Pakistan?**

**A Comparison of ARDL bound testing and Time Varying Parametric Estimation with General to Specific Approach**

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**Abstract:**

This empirical study followed time varying parametric approach (Kalman Filter) and auto regression distributed lag(ARDL) with general to specific approach to find out relevant macroeconomic determinants of Pakistan’s services sector’s growth. To our best of knowledge, no author has made such study that employed these estimation techniques to find out determinants of services sector growth in Pakistan while employing general to specific approach. Current study bridges this gap. Annual data was taken from World Development Indicators (2014) during period 1976-2014. Main findings of the study are that rolling regression estimates of explanatory variables justify the use of Kalman filtering approach. Results show that inflation has negative effect on services sector output growth in case of TVP approach. This result does match with ARDL results. Net foreign direct investment has positive and significant effect on services sector output growth in both techniques of estimation. Gross national expenditures with positive effect are the relevant significant determinants of services sector output growth at five percent significance level in case of TVP approach while relationship was insignificant in case of ARDL estimation. Impact of remittances received on services sector growth is negative in case of time varying parametric approach. This result is different from ARDL results where relationship is positive and significant at five percent level of significance. All the one step ahead state vectors confirmed the stability of models in case of time varying parametric approach. Cumulative sum of recursive residuals (CUSUM) and cumulative sum of recursive residuals square (CUSUMQ) also confirmed the stability of results of auto regression distributed lag. Based on these empirical findings, we conclude that government should focus on service sector growth augmenting factors while formulating any policy relevant to the concerned sector.

**Keywords:** Services sector, Kalman filter, Rolling regression

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