

INDIRECT TAXATION AND ECONOMIC GROWTH RELATIONSHIP: EMPIRICAL EVIDENCE FROM ASIAN COUNTRIES

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Abstract

The chief aim of the study to explore the consequence of indirect taxes on economic growth in the Asian Countries and used the panel data of 12 (twelve) Asian countries for period of 1996 to 2018 and used PMG techniques to estimate the model. This study found that the gross capital formation, political stability, labor force, inward FDI, human capital and taxes on goods and services have encouraging while domestic credit to private investment have adverse and significant consequence on economic growth in long term. The labor force and taxes on goods and services and political stability have encouraging and noteworthy consequence on economic growth in short term while gross capital formation, human capital, inward FDI, DCP have insignificant short-term consequence on economic growth. The TGS (taxes on goods and services) have encouraging and noteworthy effect on economic growth in Bangladesh, Iran, Nepal, Turkey, Indonesia, Malaysia, Thailand and Bhutan while have harmful and significant effect on economic growth in Pakistan, Sri Lanka, Phillipine and Japan. This study concluded that the indirect taxation has encouraging and noteworthy effect on economic growth in the Asia. Moreover, the effect of indirect taxes was very from country to country dues its economic situation. The Political stability (PS) have also noteworthy effect on economic growth. This study recommended that indirect taxes are more helpful to collect the revenue with the presences of political stability.

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Background of the study

The main responsibility of the government to collect revenue to finance the expenditure. The main and the oldest sources of revenue was taxation. There were some other motives can be achieved by the government through taxation like economic stabilization, to minimize the income inequality and to provision of public goods and services (Abiola & Asiweh, 2012). The chief function of a taxation policy was to collect the adequate revenue which was essential to fulfil the expenditure and repayment the government debt (Okoye & Ezejiofor, 2014). Tax system was itself a best instrument to mobilize the country internal resources and creating a good environment to promote economic growth (Ayuba, 2014). Therefore, the tax system has dual benefit, on one side its mandatory for the gathering of revenue to finance the public expenditure and on other side it promotes economic growth.

This study based on the endogenous growth theory presented by King and Rebelo (1990) stated that government taxation policy can influence economic growth permanently in the short and long run. Cremer, Pestieau, and Rochet (2001) stated that taxes on income were sufficient because the individuals are not same according to the qualitative characteristics and the indirect taxes were more appropriate for the optimal tax policy. According to Dahlby (2003) that the collection of indirect taxes were transparent. According to Ilaboya and Mgbame (2012) that the supporters of indirect taxation believe that these taxes were enhanced growth, while other believes that indirect taxation does not have statistically noteworthy consequence on economic growth. Some argues that the indirect taxes were the main cause of higher inflation and widen the income inequality. Atkinson and Stiglitz (1976) present the theorem that the government depends on taxes on income mainly because each individual have own utility function and earning ability, therefore, no need to impose the indirect taxes. Cremer and Gahvari (1995) stated that there were presence of uncertainty in the individual income, therefore, taxes goods and services are mandatory factors of the optimal tax policy. Naito (2007) using the endogenous growth model and argues that the indirect taxes were increase the welfare in the presence of nonlinear taxation on income.

There are lot of literature available on the relationship between the taxation and it's types means direct and indirect taxation and economic growth, but there no clear theoretical and empirical evidence is available that the effect of taxation and it's types have negative or positive effect on economic growth and used different data and techniques to estimate the data. This study concentrations on the effect of indirect taxes on economic growth. According to Poterba, Rotemberg, and Summers (1985) ,Madsen

and Damania (1996), Harberger (1964), Greenidge and Drakes (2010), Emran and Stiglitz (2005), Musaga (2007), Greenidge and Drakes (2010) and Ilaboya and Mgbame (2012) that indirect taxes have harmful and statistically noteworthy effect on economic growth and Kneller, Bleaney, and Gemmell (1999), Arisoy and Unlukaplan (2010), Scarlett (2011), Bâzgan (2018), Laura (2019) and Yanikkaya and Turan (2020) found that indirect taxes have encouraging and statistically noteworthy effect on economic growth and Ilaboya and Mgbame (2012) found that indirect taxes have insignificant consequence on economic growth. Therefore, this study was conducted to find the answer of the controversial question that the effect indirect taxes on economic growth.

The chief objective of the study to investigate the relationship of indirect taxation on economic growth of Asian countries. This study will be more beneficial for the governments to design the tax policy and to influence the economic growth. This study is contributed to the existing literature and different from other studies because it first time used this data set of twelve Asian countries and used PMG techniques to analyze the data. The political stability as controlled variable, which is one of the most important factors to collect the maximum revenue and spend on developmental projects. This study was organized as that background of the study was present in part one, existing literature review in part second, empirical strategy in part three, data analysis and discussion in part four and conclusion in part five and references at the end.

Literature Review

Musaga (2007) found that indirect taxes have statistically noteworthy and negative consequence on economic growth in Uganda. Greenidge and Drakes (2010) found that the effect of total and indirect taxes have adverse effect on economic growth in the short and long run for Barbados economy. Scarlett (2011) used the quarterly data from 1990-2010 and ARDL techniques to evaluate the model to examine the effect of tax policy on Jamaica's economic growth. He concluded that growing the revenue through indirect taxes were more encouraging long run growth effect. While, increasing revenue through income taxes were too harmful to economic growth. Kadir, Idris, and Mohamed (2011) examined the effect of indirect taxation and gross national products by using three-monthly data for the period 2000-2008 for Malaysian economy. They found negative correlation between the GNP and other taxes, sales taxes and import duties while service taxes, excise and export duties have positive correlation with GNP. They concluded that indirect taxes was enhanced growth. Ilaboya and Mgbame (2012) observed the effect of indirect taxation on growth and used data for the years 1980 to 2011 for Nigerian and ARDL techniques to

estimate the data. They found that the indirect taxes have negative but statistically insignificant consequence on economic growth.

Bâzgan (2018) examined the consequence of indirect and direct taxes on economic growth in Romania and used quarterly data from 2009-2017 and VAR model to estimate the data. He found that an rise in indirect taxes have promote the economic growth and increase in the direct taxes have harm the economic growth. Laura (2019) observed the effect of indirect taxes on economic growth and used the time series data from 1981-2018 and OLS and ECM techniques to estimate the data. He found that excise and customs duties and VAT have encouraging and statistically significant consequence on economic growth while excise and customs duties have insignificant consequence on economic growth. But, the overall consequence of indirect taxes have noteworthy on economic growth. Yanikkaya and Turan (2020) surveyed the long run association among the tax rates and economic growth and used the panel data setfrom 1970-1999 for Nigerian economy and GMM techniques to analyze the data. They found that the convert the tax revenue from the taxes on individual income to property and consumption taxes, keep the overall tax revenue constant, have statistically noteworthy and positive consequence on economic growth.

Empirical Strategy

This study used the panel data for 12 Asian countries named Iran, Nepal, Bangladesh, Pakistan, Turkey, Sri Lanka, Indonesia, Phosphine, Thailand, Japan and Bhutan for period of 1996-2018. This study used the modified proposed model of Arnold et al. (2011) by using the panel ECM framework. Ormaechea and Yoo (2012), Baiardi, Profeta, Puglisi, and Scabrosetti (2017) and Azam (2019) also used the Pesaran, Shin, and Smith (1997) constructed model.

$$\Delta GDPG_{it} = \beta_{0t} + \vartheta_i GDPG_{i,t-1} + \beta_1 GKF_{it} + \beta_2 LF_{it} + \beta_3 HK_{it} + \beta_4 PS_{it} + \beta_5 FDI_{it} + \beta_6 DCP_{it} + \beta_7 TGS_{it} + \sum_{i=1}^n \gamma_{ij} \Delta GDPG_{it} + \sum_{i=0}^n \vartheta_{1j} \Delta GKF_{it} + \sum_{i=0}^n \vartheta_{2j} \Delta LF_{it} + \sum_{i=0}^n \vartheta_{3j} \Delta HK_{it} + \sum_{i=0}^n \vartheta_{4j} \Delta PS_{it} + \sum_{i=0}^n \vartheta_{5j} \Delta FDI_{it} + \sum_{i=0}^n \vartheta_{6j} \Delta DCP_{it} + \sum_{i=0}^n \vartheta_{7j} \Delta TGS_{it} + \omega_{it}$$

..... (1)

Where

$$\vartheta_i = - \left(1 - \sum_{i=1}^p \gamma_{ij} \right), \beta_i = \sum_{i=1}^p \vartheta_{ij},$$

$$\gamma_{ij} = - \sum_{m=j+1}^p \gamma_{im}, j = 1, 2, \dots, p-1 \text{ and } \vartheta_{ij} = - \sum_{m=j+1}^p \vartheta_{im}, j = 1, 2, \dots, q-1, i = 1, 2, \dots, n$$

where

$i = 0, 1, 2, \dots, n, \vartheta_i$ is the correction term from the short run to long run equilibrium.

Table 1: Variable Description

| S# | Variable | Unite | Source | Symbol |
|----|--|--|----------------------------------|--------|
| 1 | GDP growth | percentage | WDI (2019) | GDPG |
| 2 | Labor force (as percentage of total population) | percentage | WDI (2019) | LF |
| 3 | Secondary school enrollment (% gross enrollment) proxy for human capital | percentage | WDI (2019) | HK |
| 4 | Gross capital formation (as %age of GDP) | percentage | WDI (2019) | GKF |
| 5 | Political Stability | Rank from for lower to higher (1 to 100) | The global economy website, 2019 | PS |
| 6 | Inward Foreign Direct Investment (% of GDP) | percentage | WDI (2019) | FDI |
| 7 | Domestic credit to private sector (%age of GDP) | percentage | WDI (2019) | DCP |
| 8 | Taxes on goods and services (%age of total revenue) proxy for indirect taxes | percentage | WDI (2019) | TGS |

Note: WDI stand for World Development Indicator

Estimation Techniques

This study used the panel unit root test because the panel data permitted to strong statistical test and test statistics tends to normal distribution instead of nonconventional distribution. In this study we used panel unit root tests Levin, Lin and Chu t test introduced by Levin, Lin, and Chu (2002), Im, Pesaran & Shin W-test introduced by Im, Pesaran, and Shin (2003) and Augmented Dicky Fuller test- Fisher Chi-square test introduced by Maddala and Wu (1999). The PMG techniques was used to estimate the long and short run coefficient for whole panel and the short run coefficient for each country constructed by Pesaran, Shin, and Smith (1999) to estimate the model. We also apply panel cointegration test constructed by Kao (1999) with the H_0 that there are no-cointegration in the heterogeneous and homogeneous panels.

Results and Discussion

Table 2 presents the descriptive statistics and correlation among the variables. The mean of GDPG, GKF, HK, LF, PS, DCP, FDI and TGS are 4.453, 28.521, 69.072, 42.596, 37.721, 60.580, 1.352 and 28.928 respectively and the standard deviation are 3.277, 9.349, 20.963, 8.125, 19.299, 50.795, 1.352 and 12.202 respectively. The skewedness values of all variables are lies in the normality range between -1.96 to 1.96, furthermore, GDPG, HK and TGS are negatively skewed while GKF, LF, PS, DCP and FDI are positively skewed. The kurtosis value of variables is positive and have heavy tail.

The correlation between the GDP growth and GKF, HK, LF, PS, DCP, FDI and TGS are 0.337, 0.049, 0.015, 0.007, -0.313, 0.155 and 0.048 respectively. GKF, HK, LF, PS, FDI and TGS have positive correlation with GDP growth, means if these variables increase the GDP growth will be also increases, while the DCP have negative correlation with GDP growth, means DCP increases the GDP growth will be decreases.

Table 2: Summary of Descriptive Statistics and Correlation Matrix

| | GDPG _{it} | GKF _{it} | HK _{it} | LF _{it} | PS _{it} | DCP _{it} | FDI _{it} | TGS _{it} |
|--------------------|--------------------|-------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|
| Mean | 4.453 | 28.521 | 69.072 | 42.596 | 37.721 | 60.580 | 1.352 | 28.928 |
| Median | 4.969 | 25.490 | 72.463 | 41.678 | 35.000 | 37.765 | 1.027 | 30.166 |
| Maximum | 17.926 | 61.702 | 99.763 | 59.106 | 76.000 | 221.289 | 6.435 | 56.132 |
| Minimum | -13.127 | 15.000 | 23.000 | 25.413 | 1.000 | 6.675 | -2.757 | 2.200 |
| Std. Dev. | 3.277 | 9.349 | 20.963 | 8.125 | 19.299 | 50.795 | 1.352 | 12.202 |
| Skewness | -1.139 | 1.512 | -0.343 | 0.196 | 0.311 | 1.308 | 1.057 | -0.382 |
| Kurtosis | 8.159 | 5.211 | 2.065 | 2.127 | 2.317 | 3.563 | 4.388 | 2.771 |
| GDPG _{it} | 1 | | | | | | | |
| GKF _{it} | 0.337 | 1 | | | | | | |
| HK _{it} | 0.049 | 0.014 | 1 | | | | | |
| LF _{it} | 0.015 | 0.065 | 0.215 | 1 | | | | |
| PS _{it} | 0.007 | 0.462 | 0.253 | 0.323 | 1 | | | |
| DCP _{it} | -0.313 | -0.104 | 0.480 | 0.580 | 0.545 | 1 | | |
| FDI _{it} | 0.155 | -0.063 | 0.103 | 0.097 | 0.096 | 0.220 | 1 | |
| TGS _{it} | 0.048 | -0.422 | 0.248 | 0.447 | -0.169 | 0.198 | 0.052 | 1 |

Table 3: Results Panel Unit Root Tests with Constant

| Variable | LLC Test (P-value) | | IP&S W Test (P-value) | | ADF-Fisher X^2 Test (P-value) | | Decision |
|--------------------------|-----------------------|------------------------|--------------------------|------------------------|------------------------------------|------------------------|----------------------|
| | At Level | At 1 st Dif | At Level | At 1 st Dif | At Level | At 1 st Dif | |
| GDPG_{it} | -6.1983* (0.0000) | ----- | -7.1413* (0.0000) | ----- | 97.9023* (0.0000) | ----- | I(0) |
| GKF_{it} | -2.4589* (0.0070) | ----- | -2.5126* (0.0060) | ----- | 55.9306* (0.0002) | ----- | I(0) |
| LF_{it} | -0.1385 (0.4449) | -6.8921* (0.0000) | -0.6473 (0.2587) | -10.231* (0.0000) | 32.4583 (0.1160) | 141.979* (0.0000) | I(1) |
| HK_{it} | 0.1111 (0.5442) | -9.2621* (0.000) | 1.3188 (0.9064) | -10.794* (0.0000) | 25.4695 (0.3806) | 146.417* (0.0000) | I(1) |
| PS_{it} | -1.3862 (0.0828) | -8.3576* (0.0000) | -0.7794 (0.2179) | -8.0688 (0.0000) | 27.6557 (0.2748) | 108.659 (0.0000) | I(1) |
| FDI_{it} | -3.0960* (0.0010) | --- | -4.0365* (0.0000) | --- | 59.2525* (0.0001) | ----- | I(0) |
| DCP_{it} | -0.9285 (0.1766) | -5.1104* (0.0000) | 0.2167 (0.5858) | -5.8421* (0.0000) | 31.819 (0.1315) | 78.4861* (0.0000) | I(1) |
| TGS_{it} | -2.169** (0.0151) | -9.7575* (0.0000) | -1.5938 (0.0555) | -10.651* (0.0000) | 36.0135 (0.0547) | 144.230* (0.0000) | I(0), I(1) & I(1) |

Note: * & ** represent 1% & 5% level of significance respectively.

Table 3 indicated the panel unit root test results, which depicted that GDPG, GKF and FDI have zero degree order of integration and LF, HK, PS and DCP have first degree of order of integration, the all three panel unit root test have same results. The LLC test shows that TGS have zero-degree order of integration while IP&S W test and ADF- Fisher chi square test shows that TGS have first degree of order of integration. The pattern of the data has mix order of integration which recommend using the PMG techniques to estimate the model.

Table 4 illustrations the PMG and panel co-integration test results. The gross capital formation and inward FDI have encouraging and noteworthy long run effect on GDP growth but have insignificant short run effect. If one percent rise in GKF will bring increase in the GDP growth by 0.1502% in long term. The same outcome was showed by (Karim & Khan, 2018; Rehman, Tariq, & Khan, 2018) and opposite results was shown by Devarajan, Swaroop, and Zou (1996). The labor force has also encouraging

and noteworthy consequence on economic growth in long term and short term. If one percent increases in the labor force will bring rise in the GDP growth by 0.1713 percent in long term and 0.2810 percent in short term. Solow (1956) stated that sustainable growth was achieved by physical capital and labor force, while Kneller et al. (1999), presented negative and significant effect over economic growth. The HK has statistically noteworthy and positive consequence on GDP growth in long term but have insignificant consequence in short term. The political stability has encouraging and statistically noteworthy consequence on economic growth in long term and short term. If one unit increase to political stability will rise in GDP growth by 0.0477% in long term and 0.2108 percent in short term. The same results was given by (Feng, 1997) and Cox and Weingast (2018). The DCP has negative and significant effect on economic growth in the long term while have insignificant effect on economic growth in the short run. If one percent rise in the DCP will cut the GDP growth by 0.1461% in long term. The TGS have encouraging and noteworthy consequence on economic growth in long term and short run. If 1% rise in the revenue from TGS will bring rise in GDP growth by 0.2312% in long-term and 0.1277 percent in short term. This result was confirmed the Kneller et al. (1999), Arisoy and Unlukaplan (2010), Scarlett (2011), Bâzgan (2018), Laura (2019) and Yanikkaya and Turan (2020) findings that the indirect taxation have encouraging consequence on economic growth and oppose with the results of Poterba et al. (1985), Madsen and Damania (1996), Harberger (1964), Greenidge and Drakes (2010), Emran and Stiglitz (2005), Musaga (2007), Greenidge and Drakes (2010) and Ilaboya and Mgbame (2012) that indirect taxes have adverse and statistically noteworthy outcome on economic growth. The results of significantly positive impact of inward FDI on growth is in accord with Azam and Ahmed (2015), Abdullah et al. (2019), and Azam et al. (2020). The error correction term values are -0.5859 and significant, means that there are 59% speed of correction from short run to long run equilibrium. The Kao Residual cointegration test value is -7.7262 and significant, therefore, reject the H_0 that there are no cointegration in the variables.

Table 4: PMG Results on Taxes on Goods and Services and Economic Growth

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--|-------------|------------|------------------|--------|
| <i>Long Run Coefficients</i> | | | | |
| GKF _{it} | 0.1502* | 0.0350 | 4.2860 | 0.0000 |
| LF _{it} | 0.1713* | 0.0406 | 4.2217 | 0.0000 |
| HK _{it} | 0.0378* | 0.0141 | 2.6871 | 0.0080 |
| PS _{it} | 0.0477* | 0.0094 | 5.0674 | 0.0000 |
| FDI _{it} | 0.3707* | 0.0745 | 4.9731 | 0.0000 |
| DCP _{it} | -0.1461* | 0.0142 | -10.2920 | 0.0000 |
| TGS _{it} | 0.2312* | 0.0492 | 4.6997 | 0.0000 |
| <i>Short Run Coefficients</i> | | | | |
| ECM | -0.5859* | 0.1944 | -3.0139 | 0.0030 |
| D(GKF _{it}) | 0.0003 | 0.0509 | 0.0065 | 0.9948 |
| D(LF _{it}) | 0.2810** | 0.1088 | 2.5825 | 0.0108 |
| D(HK _{it}) | 0.0527 | 0.2272 | 0.2319 | 0.8169 |
| D(PS _{it}) | 0.2108** | 0.0884 | 2.3842 | 0.0184 |
| D(FDI _{it}) | 0.0321 | 0.0528 | 0.6074 | 0.5445 |
| D(DCP _{it}) | 0.3437 | 0.3892 | 0.8831 | 0.3786 |
| D(TGS _{it}) | 0.1277** | 0.0644 | 1.9825 | 0.0493 |
| C | 0.0600 | 0.1183 | 0.5071 | 0.6129 |
| <i>Kao Residual Cointegration Test</i> | | | | |
| t-statistics (P-value) | | | -7.7262 (0.0000) | |

Note: * & ** represent 1% & 5% level of significance respectively.

Table 5(a) and 5(b) shows the short run coefficient for each country encompassed in the data set. The political stability has encouraging and significant consequence on economic growth in the all included countries in the model. The TGS have encouraging and noteworthy effect on economic growth in Bangladesh, Iran, Nepal, Turkey, Indonesia, Malaysia, Thailand and Bhutan while have harmful and significant consequence on economic growth in Pakistan, Sri Lanka, Philippine and Japan. The error correction term values were found adverse and noteworthy for all countries except Turkey.

Table 5(a): PMG Short Run Results on Indirect Taxes and Economic Growth Country Wise

| Variables | Bangladesh | Iran | Nepal | Pakistan | Sri Lanka | Turkey |
|------------------------------|-----------------------------------|-----------------------------------|----------------------------------|------------------------------------|--|----------------------------------|
| ECM | -0.1548* [0.0052] (0.0001) | -0.2212* [0.0267] (0.0037) | -0.8808* [0.0192] (0.0000) | -0.7264* [0.0193] (0.0000) | -0.6190* [0.0130] (0.0000) | 0.0054 [0.0126] (0.6951) |
| D(GDPG _t (-1)) | 0.0104 [0.0073] (0.2498) | 0.0462*** [0.0161] (0.0644) | 0.3766* [0.0119] (0.0001) | 0.2416* [0.0081] (0.0001) | 0.0602* [0.0040] (0.0006) | 0.0364** [0.0087] (0.0247) |
| D(GKF _t) | 0.1896* [0.0182] (0.0019) | 1.0552* [0.0773] (0.0009) | 0.1929* [0.0066] (0.0001) | 0.5598* [0.0176] (0.0001) | 0.1677* [0.0108] (0.0006) | 0.3886* [0.0620] (0.0082) |
| D(LF _t) | 1.0386*** [0.3367] (0.0539) | -0.4937 [0.3293] (0.2308) | 0.3974** [0.0778] (0.0145) | 1.0731* [0.0815] (0.0009) | 0.1742*** [0.0598] (0.0618) | 0.0117 [0.1143] (0.9251) |
| D(HK _t) | 0.1431* [0.0013] (0.0000) | 0.1687 [0.0561] (0.0574) | 0.0622* [0.0016] (0.0000) | 0.4333* [0.0070] (0.0000) | 1.0225* [0.0403] (0.0001) | 0.2998* [0.0100] (0.0001) |
| D(PS _t) | 0.1224* [0.0037] (0.0001) | 0.5182 [0.0160] (0.0001) | 0.0926* [0.0016] (0.0000) | 0.0633* [0.0037] (0.0004) | 0.0435* [0.0014] (0.0001) | 0.0567** [0.0126] (0.0206) |
| D(FDI _t) | 0.2686** [0.0526] (0.0146) | 0.6632 [0.7508] (0.4421) | 4.3505* [0.4584] (0.0025) | 0.1429 [0.0694] (0.1316) | -0.0307 [0.1113] (0.8004) | 0.2152 [0.3944] (0.6233) |
| D(DCP _t) | -0.0387* [0.0023] (0.0005) | 0.3526* [0.0271] (0.0010) | 0.0713* [0.0001] (0.0000) | 0.1715* [0.0029] (0.0000) | -0.0640* [0.0030] (0.0002) | 0.1565* [0.0126] (0.0011) |
| D(TGS _t) | 0.0942* [0.0079] (0.0013) | 0.7000*** [0.2232] (0.0518) | 0.1045* [0.0065] (0.0005) | -0.5702* [0.0218] (0.0001) | -0.1592* [0.0036] (0.0000) | 0.7205* [0.0756] (0.0024) |
| C | -0.7296 [0.3232] (0.1092) | -0.5328 [0.5769] (0.4239) | -9.3782 [4.8061] (0.1461) | -6.1208*** [2.1053] (0.0621) | - 6.6343*** [2.6045] (0.0841) | -1.0692 [0.7354] (0.2420) |

Note: *, ** & *** represent 1%, 5% & 10% level of significance respectively.

Table 5(b): PMG Short Run Results on Indirect Taxes and Economic Growth Country Wise

| Variable | Indonesia | Malaysia | Philippine | Thailand | Japan | Bhutan |
|------------------------------|-----------------------------------|----------------------------------|-----------------------------------|----------------------------------|----------------------------------|-----------------------------------|
| ECM | -0.5745* [0.0258] (0.0004) | -0.7693* [0.0166] (0.0000) | -0.1091* [0.0114] (0.0025) | -0.1194* [0.0124] (0.0024) | -0.1105* [0.0083] (0.0009) | -0.5509* [0.0253] (0.0002) |
| D(GDPG _t (-1)) | 0.0644* [0.0050] (0.0010) | 0.0651* [0.0036] (0.0004) | -0.1480* [0.0079] (0.0003) | 0.1911* [0.0078] (0.0001) | 0.2089* [0.0139] (0.0006) | 0.1559* [0.0066] (0.0002) |
| D(GKF _t) | 0.1340* [0.0056] (0.0002) | 0.5575* [0.0250] (0.0002) | 0.0182*** [0.0065] (0.0677) | 0.7053* [0.0253] (0.0001) | 0.0246 [0.1852] (0.9027) | 0.0620* [0.0071] (0.0031) |
| D(LF _t) | 0.9968* [0.0350] (0.0001) | 0.1481** [0.0321] (0.0191) | 1.2239* [0.0450] (0.0001) | -0.0604 [0.0751] (0.4797) | 1.2260* [0.1413] (0.0032) | 0.4071* [0.0289] (0.0008) |
| D(HK _t) | 0.0236*** [0.0101] (0.1014) | 0.2714* [0.0084] (0.0001) | 0.0422* [0.0059] (0.0057) | 0.3321* [0.0122] (0.0001) | 0.0409 [0.1115] (0.7383) | 0.0268** [0.0064] (0.0252) |
| D(PS _t) | 0.0467* [0.0018] (0.0001) | 0.1081* [0.0007] (0.0000) | 0.0065* [0.0003] (0.0003) | -0.0075 [0.0051] (0.2424) | 0.1544** [0.0359] (0.0231) | 0.2040* [0.0098] (0.0002) |
| D(FDI _t) | -0.0191 [0.0291] (0.5591) | -0.7603* [0.0404] (0.0003) | -0.2467* [0.0312] (0.0042) | -0.0844 [0.0447] (0.1556) | 0.5828 [1.0077] (0.6036) | -0.9575* [0.0430] (0.0002) |
| D(DCP _t) | 0.6571* [0.0057] (0.0000) | -0.0267* [0.0024] (0.0015) | 0.2581* [0.0031] (0.0000) | -0.1573* [0.0021] (0.0000) | -0.0219* [0.0012] (0.0003) | 0.1741* [0.0189] (0.0027) |
| D(TGS _t) | 0.1928** [0.0638] (0.0567) | 0.0248* [0.0034] (0.0053) | -0.5495* [0.0181] (0.0001) | 0.3583* [0.0374] (0.0024) | -0.2087* [0.0234] (0.0030) | 0.0124*** [0.0043] (0.0634) |
| C | -21.424 [12.578] (0.1871) | 6.6222 [5.8505] (0.3400) | -0.663*** [0.2794] (0.0984) | -0.3670 [0.2256] (0.2022) | 0.5987 [0.3229] (0.1608) | -5.4426 [3.3340] (0.2011) |

Note: *, ** & *** represent 1%, 5% & 10% level of significance respectively.

Conclusion and Recommendation

The main aim of the study to investigate the effect of indirect taxes on economic growth in the Asian Countries and used the panel data of 12 Asian countries for period of 1996 to 2018 and used PMG techniques to estimate the model. This study found that the gross capital formation, political stability, labor force, inward FDI, human capital, and taxes on goods and services (TGS) have positive while domestic credit to private investment have negative and significant effect on economic growth in the long run. The labor force, political stability and taxes on goods and services (TGS) have encouraging and significant consequence on economic growth in the short run while gross capital formation, human capital, inward FDI, domestic credit to private sector have insignificant consequence on economic growth

in the short run. The taxes on goods and services (TGS) have encouraging and significant effect on economic growth in Bangladesh, Iran, Nepal, Turkey, Indonesia, Malaysia, Thailand and Bhutan while have adverse and significant consequence on economic growth in Pakistan, Sri Lanka, Philippine and Japan. This study concluded that the indirect taxes have positive and significant effect on economic growth in the Asia. Moreover, the effect of indirect taxes was very from country to country dues its economic situation. The Political stability have also significant effect on economic growth. This study recommended that indirect taxes are more helpful to collect the revenue with the presences of political stability.

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