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Original Research

Reckonings of Environmental Efficiency and Convergence in Asian-Pacific Region: A Malmquist- Luenberger Approach

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Abstract

The second wave of industrialization at the end of the last century brought the attention of researchers to the effect of more energy usage and its effects on environmental degradation. It was also highlighted in the 2030 agenda for sustainable development goals (2015) that environmental degradation threatens humans' well-being unless countries use environment-friendly production processes. The present study has used the Malmquist- Luenberger Index (MLI) to estimate the environmental efficiency of the Asia-Pacific (APAC) region for the period 1990 to 2019. The estimated results showed that the environmental efficiency of APAC countries declined by 0.36%, on average, in the studied period. The results also highlighted that the Republic of Korea has the highest total factor productivity (TFP) output growth rate in the APAC region. In contrast, Lao People's DR and the Maldives have the lowest TFP. Conditional, unconditional, and Club convergence tests are also tested for the APAC region. The results also suggested that convergence in environmental efficiency is conditional on trade openness, industrial growth, and energy prices. Some policies are also suggested for the APAC region at the end of the study.

Keywords: Asia-Pacific (APAC) region, environmental degradation, environmental efficiency, Malmquist-Luenberger index, sustainable development

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Introduction

The introduction of the world trade organization (WTO) created opportunities for countries to become global suppliers. The industrial revolution in developing countries and technology transferred from developed countries after world war II drastically increased global production and economic growth rates [1-4]. At the same time, academia also drew the attention of policymakers toward the adverse effects of high industrial growth and economic growth rates on the environment [5-7]. In recent years, researchers presented the concept of environmental efficiency (green growth) that compelled policymakers to shift their focus from economic growth to sustainable development [8, 9]. This study has estimated trends of environmental efficiency of the countries in Asia- Pacific (APAC) region. Moreover, the study also estimates the three types of environmental efficiency convergence tests to suggest some practical policies for the APAC region.

Energy use in production increased drastically in recent years and caused environmental degradation [10-14]. The high growth rates due to trade liberalization policies also contributed to more energy demand and environmental degradation [15-18]. The studies conducted in the last decades suggested that the concept of biodiversity must be included in the economic development models to avoid further environmental degradation [19, 20]. The Sustainable Development Goals (SDGs) are the best example where the United Nations has shown its intentions to unite the world towards sustainable development with the help of a better environment. Every country globally finds sustainable development by integrating economic, social, and environmental dimensions [21]. The environmental cost of economic activities started to be realized at the start of the 21st century, and many studies have highlighted it [8, 11, 22-25].

The measurement of environmental efficiency can play an immanent role in determining environmental policies for any region or the whole world. Non-parametric data envelopment analysis (DEA) and parametric stochastic frontier analysis (SFA) are the two methods used to measure environmental efficiency [26]. The problems like misspecification of functional form, multicollinearity, and theoretical constraints compel the researchers to use DEA [27]. In this regard, the Malmquist - Luenberger Productivity Index (MLI) is capable of dealing with complicated scenarios of inputs and outputs. MLI has become a standard measure of environmental efficiency over time [26]. The MLI applied in this study provides both desired and undesired output categories for the given inputs [28-33]. This would help the present study to check economic activity's negative (undesirable) effect and positive effects (desirable output). The present study has used labor, capital, and energy use as input variables, while economic growth (desirable) and environmental degradation (undesirable) are output variables.

APAC region comprises 50 % of the world population and 47% of world trade. The Regional Comprehensive Economic Partnership trading block comprises ten Southeast Asian countries, constituting almost one-third of the global economy. The APAC region accounts for 29% of the global GDP [34], and the economic growth of this region is increasing at the fastest rate [35]. This region's sustainable development through green growth can primarily benefit the world. One of the objectives of this study is to check whether the countries in the APAC region are going towards sustainable development by considering the environmental effects of economic activity or not, as this region emits the most significant volume of greenhouse gas and produces about half the world's carbon dioxide (CO_2) [36]. The other main objective of the study is to check the environmental convergence in the APAC region, as it is significant for policymakers to devise appropriate policies for this region. The present study has also estimated the rate of absolute convergence in the Asia- Pacific region and the rate of conditional convergence by considering important variables like trade volume, industrial growth, energy price, and population growth. Moreover, the club convergence properties of environmental efficiency are also estimated.

Literature Review

The effect of rapid production on the environment came to light at the end of the last century when researchers tried to establish the link between gross domestic product (GDP) and environmental degradation. Later, it was realized that there is a need to focus on green growth, which can be achieved with the help of efficient production methods that reduce CO_2 emissions [37]. The world is focusing on environmentally efficient production methods and devising policies to attain sustainable development. The present study is a rare initiative to find the environmental efficiency of the APAC region with the help of a relatively updated and modern estimation method. Moreover, the present study is designed to give some policy guidelines for the APAC region by testing environmental efficiency convergence.

The industrialization revelation in developing countries and the globalization process causing the internationalization of the domestic markets increased the production of developing countries [38] especially countries in APAC region. This led to an increase in energy consumption, which became a vital output determinant along with labor and capital. The higher production level and its effect on environmental degradation have become one of the most debated issues in the world. Many researchers tested the relationship between GDP and environmental degradation and concluded that the relationship between both variables is linear with a positive slope [39], inverted U-shaped [40-42], or N-shaped [39, 43], depending upon the country, region, and number of years under consideration

[42-45]. In a famous study, the authors proposed five methods to estimate CO_2 emissions when countries use bioenergy [20]. The authors concluded that there must be a balance between eco-efficiency and economic growth. Eco-efficiency is normally linked to the effect of using labor, capital, energy type, industrial structure, population growth, etc., on the GDP and various indicators of environmental degradation. In this regard [46], presented a method to estimate efficiency inform of desired and undesired outputs when specific inputs are used. While studying efficient energy usage, some researchers considered only GDP as an output variable. In this regard [47], using data from 1995 to 2002, estimated the energy efficiency of 29 administrative regions of China. The authors used DEA to generate results using biomass energy and traditional inputs, i.e., labor and capital. Similarly, in another study, [48] estimated the efficient energy-saving targets by taking data from 17 APEC countries and only GDP as an output variable. These authors used input factors of energy consumption, capital investment, and labor. Moreover, the authors used DEA constant return to scale analysis to determine efficient energy-saving targets.

Later, the researchers realized to include environmental degradation variables as an output while measuring environmental efficiency. In this regard, ZHO P. and ANG B. [29] included labor, capital, and energy as input variables while GDP and environmental degradation (CO2 emissions) as output variables. Similarly, some other studies have used DEA to assess environmental efficiency where labor capital, energy (renewable and non-renewable), industrialization, and government expenditures are input variables. In contrast, GDP and environmental degradation are output variables where CO_2 and CH4 are used as proxies of environmental degradation [30-33, 38]. While considering the nonparametric models for efficiency estimation, the Malmquist Productivity Index (MPI) is used by many researchers [49]. The literature review suggested that not a single study has been conducted to check the environmental efficiency of the countries in the Asia- Pacific region despite these countries producing a significant share of world production.

According to convergence theory, countries with lower levels of environmental efficiency catch up to those with higher levels. The literature suggests that convergence can be measured in absolute, beta, and club convergence. Absolute and beta convergence concepts were derived from the neoclassical theory of economic growth, and many researchers check the convergence of countries by taking various economic indicators with certain conditions [50, 51]. The convergence test is based on the Neoclassical growth theory that fails to address the issues of heterogeneity at the individual level and economic changes in the data [52]. Baumol first presented the idea of club convergence in growth rates in 1952 [53]. Club convergence restricts unconditional convergence to specific groups (clubs) where convergence is checked only within a specific club. [52] presented a relatively new idea of club convergence by incorporating a time-varying factor model.

Most of the researchers in the past have estimated the convergence of countries' economic growth to validate catchup made either at the province, state, or country levels [54-56]. Much attention is now given to environmental efficiency and its convergence concept in environmental economics due to its importance and effects on human survival [57]. In this regard [33] estimated the CO_2 emissions efficiency of 262 cities in China. Later, club convergence was also checked among cities. Similarly, [58] checked the three types of convergence of eco-efficiency for 22 countries from Organization for Economic Cooperation and Development countries. This was the first study to check the eco-efficiency convergence for a specific region. A recent study by [26] estimated the environmental efficiency of 104 countries by using DEA and covering data from 1980 to 2016. This study also assessed the convergence of environmental efficiency by using absolute, beta, and club convergence estimates. In another study [59] assessed the environmental efficiency across the United States from 1990 to 2017.

The literature review suggests that no research has been conducted that has estimated the environmental efficiency of the countries in the APAC region. The present study will use the MLI to estimate environmental efficiency. Moreover, the present study includes important variables like industrial growth, energy price, population size, and trade volume to check conditional convergence. The club convergence of environmental efficiency will also be checked, which will help to recommend some policies for the Asia-Pacific region.

Material and Methods

Malmquist Luenberger Productivity Index (MLI)

Environmental efficiency can be measured with the help of SFA and DEA. SFA differentiates the statistical noise from the productive inefficiency, but at the same time, the chances of misspecification of the functional form are predominant due to its parametric quality. The SFA approach has some theoretical constraints and is prone to the problem of multicollinearity [27]. Compared to SFA, the DEA is less prone to the problem of multicollinearity and specification bias [60]. DEA is better than SFA as it adjusts many inputs and outputs simultaneously, and its efficiency of result generation with the increase in variables [27]. Hence, the present study has used DEA to measure the relative efficiency of Decision-Making Units (DMU). DMU uses inputs to get the outputs in the form of desirable and undesirable that are assumed to be null-joint. In this study, MLI is used to measure environmental efficiency. MLI is estimated based on the Distance Directional Functions (DDF) instead of Shephard Distance Functions (SDF).

Compared to SDF, DDF increases the desirable outputs and reduces the undesirable outputs compared to SDF. The DDF function for MLI is given as follows:

$$\vec{D}_{\circ}^{t+1}\,(x^t, y^t, z^t; P) = \max\{\beta|(y^t, z^t)+\beta g \in P(x)\} \quad t=t_1+....+t_2 \tag{1}$$

Where P is a directional vector that accommodates both undesirable and desirable outputs, β is a scaling factor through which undesirable outputs are decreased, and desirable outputs are increased. DEA models are used to estimate DDF with the help of the data set are (x^t, y^t, z^t). DDF measures the values in period *t* based on the technology in the period *t+1*. The MLI [61] for two consecutive time periods as follows:

$$MLI_t^{t+1} = \sqrt{\frac{(1+\ \vec{D}_{\circ}^{t}\,(x^t,y^t,z^t;\,y^t-z^t))}{(1+\ \vec{D}_{\circ}^{t+1}\,(x^{t+1},y^{t+1},z^{t+1};\,y^{t+1},-z^{t+1}))}} \tag{2}$$

The MLI is disintegrated into two parts: efficiency change or technical change (MLIEC) and technological change (MLITC) over time. The equations for MLIEC and MLITC are given as follows:

$$MLIE_t^{t+1} = \sqrt{\frac{(1+\ \vec{D}_{\circ}^{t}\,(x^t,y^t,z^t;\,y^t-z^t))}{(1+\ \vec{D}_{\circ}^{t+1}\,(x^{t+1},y^{t+1},z^{t+1};\,y^{t+1},-z^{t+1}))}} \tag{3}$$

$$MLITC_t^{t+1} = \sqrt{\frac{(1+\ \vec{D}_{\circ}^{t}\,(x^t,y^t,z^t;\,y^t-z^t))}{(1+\ \vec{D}_{\circ}^{t+1}\,(x^{t+1},y^{t+1},z^{t+1};\,y^{t+1},-z^{t+1}))}} \tag{4}$$

$MLIEC_t^{t+1}$ shows efficiency change, and $MLITC_t^{t+1}$ shows technological change. If the value of MLI happens to be equal to one, it will show that there is no change in inputs and outputs over periods t and t+1. If the value of MLI_t^{t+1} is greater than one, it will show the environmental efficiency has increased over the period, while the value of MLI less than one will show the decrease in environmental efficiency in successive two-time periods. If the value of $MLIEC_t^{t+1}$ is greater than one, it shows efficiency change enables the less production of undesirable outputs and more production of desirable outputs [62]. Similarly, if the value of $MLITC_t^{t+1}$ is more than one, it shows technical change produces more desirable output and less undesirable outputs and vice versa if the value of $MLITC_t^{t+1}$ is less than 1.

Environmental Efficiency Convergence Tests

Conditional convergence and unconditional convergence are two types of β convergence. A negative and statistically significant β from value zero confirms the convergence. The model for unconditional convergence is given as follows:

$$\ln\left[\frac{EE_{it}}{EE_{i;\,t-1}}\right] = \alpha + \beta lnEE_{i,t-1} + \varepsilon_{it} \tag{5}$$

Here i represent a country, and t represents the time. $lnEE_{it}$ shows the natural logarithm of environmental efficiency of country i in time period t while $lnEE_{i,t-1}$ is lag period environmental efficiency for each country. β is convergence coefficient, and ε_{it} is the error term.

In conditional convergence, different subgroups of countries converge to specific levels based on the country-specific characteristics. In this method, the individual-specific and time effects are controlled. The model for conditional convergence is given as:

$$\ln\left[\frac{EE_{it}}{EE_{i;\,t-1}}\right] = \alpha + \beta lnEE_{i,t-1} + \lambda X_{it} + \mu_c + \varepsilon_{it} \tag{6}$$

Here X_{it} includes conditional variables, and μ_c captures the unobserved country effect. The conditional variables for this study are energy price (measured through consumer price index), total trade volume, industrial growth, and population growth.

The present study has also used the club convergence test to classify the countries' environmental performance by making clubs/groups [52]. The log t-test is applied for club convergence to avoid skewed and unreliable estimation [63]. The log t-test facilitates the existence of numerous convergence clubs in the presence of transactional heterogeneity. The log t-test to test the null hypothesis of club convergence is as follows.

$$\ln\left[\frac{H_1}{H_t}\right] - 2log\big(log(t+1)\big) = \hat{a} + \hat{b}logt + \varepsilon_{it} \tag{7}$$

Here estimated slope coefficient $\hat{b}$ measures the speed of adjustment. The null hypothesis of convergence is rejected at a 5% significance level if the test statistics value is less than -1.65. However, if the value is more significant than -1.65, the process will stop here, and a conclusion can be drawn that the whole sample is converging. If the null hypothesis is rejected, we have to apply four steps to repeat the procedure according to a clustering mechanism [52].

Data Sources

The present study has taken data from the APAC region from 1990 to 2019. The APAC region consists of 58 countries, but only 32 were selected due to data constraints. Furthermore, these countries are further divided into five regions for regional analysis. The present study has taken Labor (labor engaged), Capital (Capital stock), Energy (total energy consumption) as input variables while GDP and CO_2 emissions as output variables [64-66]. The Labor, Capital, and GDP data is taken from Penn World Table 9.1. In contrast, the data on energy consumption is taken from the U.S energy information agency, and data on CO_2 emissions is taken from fossil CO_2 emissions of all world countries' reports. The energy price, trade volume, industrial growth, and population data is taken from World Development Indicator (WDI).

Results and Discussion

Results of Environmental Efficiency

The present study has estimated MLI to check the environmental efficiency of 22 counties located in APAC region. The efficiency change (MLIEC), technological (MLITC) change, and total factor productivity (TFP) are estimated for each pair of adjacent years and DMU. Table 1 shows each selected country's mean MLIEC, MLITC, and TFP.

Discussion

The results show that the Republic of Korea has the highest TFP and is the only country with increased MLITC in the sample countries. The Republic of Korea recorded a 5.3% increase in TFP due to a 4% increase in MLITC and a 1.5% increase in MLIEC. Lao People's DR and the Maldives have the lowest TFP. Both countries faced around a 4.5% decrease in TFP due to a decrease in the scores of MLITC only. All the countries have experienced increased MLIEC scores except Iran and Nepal. The average TFP of all countries declined by 0.36%, and the average MLIEC increased by 1.86%.

Results of Average Sub-Regional Environmental Efficiency

To present study has also estimated the sub-regional environmental efficiency of the APAC region. The APAC region is divided into five regions, namely East and North-East Asia (ENEA), North and Central Asia (NCA), Pacific (PAC), South-East Asia (SEA), and South and South-West Asia (SSWA). Table 2 shows the number of countries in each sub-region of the APAC, along with average efficiency change, technical change, and total environmental efficiency growth.

Discussion

The results presented in Table 2 show that the two sub-regions, namely NCA and ENEA, are showing increased average environmental efficiency growth, while three sub-regions, namely SSWA, SEA, and PAC, are showing a decline in average environmental efficiency growth. All the sub-regions have positive average efficiency change, while a decline in average technological change can be observed in all sub-regions. SSWA and SEA are the worst-performing regions in terms of average environmental efficiency growth, as both regions are experiencing a decline of 1.2% in TFP. NCA and ENEA recorded a 0.8% increase in average environmental efficiency growth attributed mainly to an increase in average efficacy change. Comparatively increase in average efficiency change is more in PAC and SSEA than in other sub-regions. The result suggests that there is a need to invest in technology in all these regions to improve the APAC region's environmental efficiency.

Results of Environmental Efficiency Convergence

β-convergence

The environmental efficiency is tested through β-convergence (unconditional and conditional) and club convergence.

Discussion

The results of unconditional and conditional β-convergence are presented in Table 3. Pooled regression was used to get the results for unconditional convergence. The result shows the existence of unconditional convergence as the coefficient of $\ln EE_{t-1}$ is negative and statistically significant. This result confirms the environmental efficiency convergence in the APAC region. The countries in this region with a low level of environmental efficiency are catching up with the countries having an initial high level of environmental efficiency. The speed of convergence is 4.64% which is relatively low. While checking conditional convergence, the coefficient of $\ln EE_{t-1}$ is still negative and statistically significant shows conditional convergence in the APAC region. Trade volume has a negative and statistically significant effect on environmental efficiency. Some researchers have found trade's negative and significant effect (measured through many indicators) on environmental efficiency [67, 68]. On the contrary, few researchers have proved a positive and significant relationship between trade and environmental efficiency [69, 70]. One possible reason for the negative effect of trade on environmental efficiency in our study is that most of the countries in the APAC region heavily rely on fossil fuels to get energy [71, 72] and less use of renewable energy resources to produce commodities for exports. Higher trade volumes depict higher demand for goods and more usage of energy and hence more pollution [73]. The results of the previous section showed that scores of technological change have decreased for the whole region except the Republic of Korea. Here technological effects of increased trade volumes are harming environmental efficiency. Industrial growth positively and significantly affects environmental efficiency convergence. The same results were obtained in a study where data from 104 countries were taken [26]. The population has a negative but insignificant effect on environmental efficiency.

Table 1. Average Environmental Efficiency Growth (1990-2019).

Asia- Pacific Region	Countries	MLIEC	MLITC	TFP
North and Central Asia (NCA)	Armenia	1.06	0.98	1.029
	Azerbaijan	1.047134	0.976924	1.018824
	Georgia	1.020655	0.984297	1.000473
	Kazakhstan	1.024052	0.994297	1.016428
	Kyrgyzstan	1.036128	0.974662	1.008124
	Tajikistan	1.013052	0.993376	1.003572
	Turkmenistan	1.018438	0.991941	1.008107
	Uzbekistan	1.010283	0.972697	0.981193
South and South-West Asia (SSWA)	Bangladesh	1.024259	0.960783	0.973772
	Bhutan	1.041707	0.982724	1.01711
	India	1.023359	0.964917	0.984759
	Iran	0.993134	0.992007	0.984531
	Maldives	1	0.957452	0.957452
	Nepal	0.995459	0.980817	0.975317
	Pakistan	1.018414	0.968652	0.985172
	Sri Lanka	1.034507	0.974245	0.998186
	Turkey	1.014917	0.997269	1.011369
South-East Asia (SEA)	Brunei Darussalam	1	0.975072	0.975072
	Cambodia	1	0.980145	0.978914
	Indonesia	1.009834	0.978434	0.984793
	Lao People’s DR	1.008603	0.955603	0.95389
	Malaysia	1.020579	0.99009	1.009876
	Philippines	1.045076	0.975045	1.005307
	Singapore	1.004817	0.988924	0.993155
	Thailand	1.024931	0.985128	1.005307
Pacific (PAC)	Australia	1.019021	0.9832	1.001097
	Fiji	1.017531	0.9687	0.985459
	New Zealand	1.016521	0.989931	1.005266
East and North-East Asia (ENEA)	China	1.015448	0.970466	0.984
	Japan	1.013583	0.988862	1.0004
	Mongolia	1.010017	0.993479	0.993562
	Republic of Korea	1.015083	1.040052	1.053017
Average Value		1.018642	0.981568	0.996328

Source: Author’s Calculations

Club Convergence

Club convergence is estimated after the β-convergence tests. The cyclical part is removed and the first nine periods are discarded. The results of the log t-test are presented in Table 4.

Discussion

The log t-regression test result shows that the value of t-statistics is -0.3532. Since the value of t-statistics is greater than -1.65, we fail to reject the null hypothesis of convergence. These results confirm that all countries

Table 2. Average sub-regional environmental efficiency (1990-2019).

Sub-region	Countries in Region	MLIEC	MLITC	TFP
NCA	8	1.08718	0.983524	1.008215
SSWA	9	1.016195	0.97543	0.987519
SEA	8	1.01423	0.978555	0.988289
PAC	3	1.0179691	0.98061	0.997274
ENEA	4	1.013533	0.998215	1.007745

Source: Author's Calculations

Table 3. Environmental Efficiency Convergence.

Variables	Ln EE_t (Absolute Convergence)	Ln EE_t (Conditional Convergence)
Ln	-.7300127*** (.0318801)	-.8594824 *** (.0325616)
LTra		-.0147406** (.0068731)
Lind		.015129** (.0068828)
LInf		.0141493*** (.0038685)
LPop		-.0368028 (.0299542)
Constant	-.0046255** (.0023055)	.1214294 (.1023386)
Observations	924	856
Speed of convergence (s)	0.046406	0.048589

*Standard errors are in parentheses *** p<0.01, ** p<0.05,*
Source: Author's Calculations

form a single converging club. With these results, we cannot make further clubs and conclude that the APAC region forms a single converging club.

Conclusion

The concept of green growth evolved in recent decades, and now every country aims to have sustainable economic development. The world is experiencing a new challenge in the form of global climate change, and policymakers must understand the environmental efficiency and patterns of environmental growth over time for the countries. The present study is designed to check the environmental efficiency of the countries in the APAC region, and convergence tests are applied to check whether the countries with a low initial level of environmental efficiency are catching up with the countries with a higher level of environmental efficiency.

The study results show that the APAC region's average environmental efficiency growth from 1990 to 2019 declined by 1.86%, as shown in Table 1. APAC region is further divided into five sub-regions, and results show that increase in average environmental efficiency growth in two sub-regions, namely NCA and ENEA. Technical change (efficiency change) is the main contributor to the APAC region's increased average environmental efficiency growth. The results of the study also confirm the theory of convergence. The convergence speed is 4.64 % and 4.86% for absolute and relative convergence, respectively. The speed of adjustment is relatively low in both cases. The convergence is conditional 8 in the case of the club of convergence, trade openness, industrial growth, and energy price.

Based on the results of this study, the study recommends some policies for the APAC region. The improvement in the MLI in all the countries in this region is mainly due to the efficiency change. It is recommended that there is a need for the encouragement of technical innovation and technology transfers. The countries in this region lacking the technology to produce renewable energy should import technology from developed countries and follow the footsteps of countries like Scotland, Iceland, and Denmark, where renewable energy is fulfilling a considerable share of

Table 4. Results of Club Convergence (1990-2019).

Club	Countries	t-Statistics	Co-efficient	Standard Error	Speed of convergence
1	32	-0.3532	-0.3224	0.9128	0.034896

Source: Author's Calculations

total energy consumption. The trade and environmental policies should be integrated. In this regard, it is recommended that environmental effects should be considered while formulating trade agreements between or among countries.

APAC region produces half of the world's Carbon dioxide (CO_2). India and China are two of the APAC region's three largest CO_2 omitting countries. There are many countries in this region with a heavy industrial base. The usage of fossil fuels in these industrial countries is damaging the environment. There is a dire need to formulate industrial transformation policies that facilitate the countries' becoming environmentally efficient economies. In this regard, there is a need to impose a high carbon tax in this region. However, the consumers primarily affected by high energy prices due to carbon tax must be compensated for the general adaptability of this policy.

The results of sub-regional convergence suggest that a universal environmental policy for the APAC region is not recommended. The international institution should consider making sub-regional environmental-related policies instead of environmental policies for the whole region.

Future Work

The scope of the present study is only to study the Asian-Paccific region. However, the researcher can extend this work to other regions by taking other classifications like developed and developing countries. Some other factors than trade, industrial growth, inflation, and population can be considered (based on the characteristics of the sample countries) to check the conditional convergence in future studies.

Conflict of Interest

The authors declare no conflict of interest.

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