ROLE OF HUMAN CAPITAL, INDUSTRIALIZATION AND TRADE OPENNESS IN ECONOMIC GROWTH IN SELECTED ASIAN COUNTRIES

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ABSTRACT

This research focuses on the impact of human capital with industrialization, trade openness and urban population on growth potential of selected Asian countries by using a panel data of eight Asian economies. The dependent variable was used as GDP per capita. The random effect results highlighted that secondary school enrolment has contributed much towards growth. It was also found that industrialization has also augmented growth of the Asian nations. Moreover, trade openness and urban population also seemed to be enhancing economic growth in Asian countries. The findings recommended that nations must allocate more budget towards education sector which will make possible more and free of cost education for the general public. Moreover, economies must focus on more education and more stable economic and political environment for more production and growth in these economies.

INTRODUCTION

Education is normally viewed as a significant lever for economic growth, but still there is no usually recognised opinion on the appliance of this supposed engine of growth. There is not even an agreement about the way of causality: whether education causes growth or if it is the other way around. A connected difficulty is whether economic growth reacts on the stock of human capital stock, as in Romer (1990), or on the upsurge of human capital, as in Lucas (1988). Industrialization contributes much towards economic growth. The reason for the industrial revolution has been a long discussion eventually. Much share of changes not only in size and but also in structure of manufactured exports from underdeveloped nations does not signify for variations in the value added in manufacturing sector. It is required to create the critical mass connections that will offer monetary externalities to industrial firms in underdeveloped nations turn out to be essential (Jorg, 2004).

Trade openness has also been considered as engine for growth in different conducts. It makes enhancement in capital formulation and enlarges markets by an increased in investment (Miller, 2000) and Sulaiman et al. (2015). It leads to increase huge advantages to nation's industrial sectors by emerging novel approaches of production and upsurges the employment level by generating more job chances, and may reduce poverty (Pernia & Quising, 2005). Human capital is seen too a basic way towards growth. It makes enhancement in overall productivity level and earning prospective of working population. Human capital is also assessed by skills, prerequisite, ability to create new products, and experience of worker (De Oliveira et al., 2000).

Urbanization is defined as a procedure containing both urban population growth and urban land change. Much of the countries have seen large shifts in the geographic distribution of their population over the past decades, particularly underdeveloped nations. Population growth balancing with running urbanization rates have caused for increased size of few cities, decreasing population in others, and the birth of new cities. Urban attentiveness is helpful for economic growth in high-income nations.

Rapidly increasing urban growth has made provision of much financial funding for local governments, which has assisted the government to make better urban infrastructure and support urbanization. Simultaneously, this funding has offered help to local governments to indorse local industry and economic development by applying low-cost land policies for attracting investment (Whiting, 2011). We have focused on how human capital with industrialization, trade openness and urban population will determine much economic growth in some selected Asian countries. This work will also offer policy for further improvement and course of actions.

Education may enhance economic growth. But economies have to pay the cost for education. Considering this, Fontvieille (1990) has focused on how did educational costs or human capital human capital enhance economic growth and economic development in France. Hanushek and Kimko (2000) highlighted the role of education in determining growth by immigrants in United States. It was found that immigrant's spending on schools and education led to increase economic growth in United States. Moreover, labour force also increased growth. Ana Bela Nunes (2003) used secondary data to highlight the role of human capital on economic growth. It was found that human capital or more spending on education enhanced economic growth of Portugal.

Heeks and Mola (2009) found that heavy investment on health, education and information communication and technology enhanced production and economic growth. Andrews (2010) focused on how foreign aid would be beneficial for development in the country. Result showed that inappropriate utilization of aid on better political, economic and socio-cultural environment would not cause sustainable socio-economic development. Trade openness will also improve economic growth. Considering it, Awokuse (2007) found a positive relationship between trade openness and economic growth in Bulgaria, the Czech Republic, and Poland. It was suggested for good environment to increase growth.

Following Awokuse (2007), Kim et al. (2011) investigated that how trade and financial development may lead to improve the growth potential of the economies. Findings indicated the positive link of trade openness and financial development in rich economies and negative line in poor economies. Information communication and technology also results in efficient production and investment by using data from 14 OECD countries. It was found that information communication and technology resulted in increased economic growth. By using data from 1985 to 2012, Kooray et al. (2017) focused on the influence of trade liberalization on economic growth in African countries. Regression results showed that trade liberalization, labour force participation and political institutions increased economic growth in these economies.

Gross fixed capital formation seemed also helpful to increase growth. For this, Qayyum and Zaman (2019) found the positive association of trade, gross fixed capital formation, total labor force participation and economic growth in Pakistan. Asmare and Haiyum (2020) investigated that how trade openness with other factors affected economic growth Ethiopia. Result found that trade openness, and human capital accumulation led to increase economic growth. The study suggested for more openness. Ali et al. (2022) found the role of openness and institutional quality in determining growth of OIC countries. Findings indicated the positive link of trade openness, human capital, and public expenditure with economic growth for OIC countries. Ogbuabor et al. (2023) also checked the influence of industrialization, trade openness, and labor force participation on Africa's productive capacity. They used datat from 2000 and 2018. It was found that industrialization, trade openness, and labor force participation enhanced productivity in Africa.

Significance of the Study

Researchers have shown the significant impact of exports, imports, foreign direct investment and institutional quality along with other factors influencing economic growth of industrialized and poor countries. However, we focus on how human capital and industrialization with other factors may determine growth in Asian nations.

Research Hypothesis

The major hypothesis of current work are given as.

H1: Higher the secondary school enrolment, higher the economic growth.

H 2: There is a positive link of industrialization and economic growth.

H 3: Higher the trade openness, higher the economic growth in Asian nations.

H 4: Urban population is positively associated with economic growth.

METHODOLOGY

For this research work, we utilised data from 2005 to 2018 of the concerned variables in making analysis of the influence secondary school enrollemnt, industrialization, trade openness and urban population in selected Asian nations. We have selected 8 Asian economies as Bangladesh, India, Indonesia, Iran, Jordan, Malaysia, Pakistan, Philippines. The required data were taken from World Development Indicators. GDP per capita ($ US) has been used as dependent variable and explanatory factors were human capital (secondary school enrollment ratio), industrialization(i.e., log of value added manufacturing growth), trade openness (i.e., exports as % of GDP and imports as % of GDP) and urban population (% of GDP) in this work. Furthermore, we have utilized random effect technique to find out the good results.

Model Specifications

The econometric model is shown as

The equation is:

$$LGDPPC = \beta_0 + \beta_1 SSER_{it} + \beta_2 TRADO_{it} + \beta_3 LMAN_{it} + \beta_4 URBNP_{it} + u_{it} \qquad (1)$$

LGDPPC= Log Economic growth (GDP per capita)

TRADO= Index of (exports as % of GDP & imports as % of GDP)

LMAN= Log of manufacturing value added

URBNP= urban population % of total populationn population

it = (time trend)

uit= (error term)

RESULTS AND DISCUSSION

The descriptive statistics of the concerned variables have been revealed here. We focus that how human capital, industrialization with other factors affect growth potential of concerned Asian nations.

In table 1, it is indicated that on average GDP per capita is 11.4298 percent. On average, secondary school enrolment (SSER) is 69.9492 percent. Its range has been observed from 25.6367 to 88.9102 in the concerned countries. On average, industrialization (LMAN) has been seen as10.6865 percent across nations. Finally, on average urban population has been looked as 7.7123 percent across countries. Moreover, the value of standard deviation remain very low of all the variables.

Table 1. Summary statistics of the major variables.

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
LGDPP	112	11.4298	0.5256	10.2967	12.4543
SSER	112	69.9492	17.0332	25.6367	88.9102
TRADO	112	70.4163	43.4744	25.3062	230.8545
LMAN	112	10.6865	0.5252	9.6068	11.6913
LURBNP	112	7.7123	0.4911	6.6611	8.6630

Empirical Estimations

Table 2 points out random effect result. We find value of Chi2 as 2.47 and probability value is 0.27 which considers for random effect technique. It shows that secondary school enrolment with other variables may influence growth of economies.

Table 2. Reveals random effect results and the dependent variable is GDP per capita.

Variables	Coefficients, Standard Errors and t-values
SSER	0.0012*
	0.0004
	(2.97)
TRDOP	0.0011*
	0.0002
	(6.21)
LMAN	0.6660 *
	0.4722
	(14.10)
LURBNP	0.2334*
	0.6996
	(3.34)
C	2.5026
	0.3029
	(8.20)
Wald chi2	3123.12
Probability	0.0000
R2 Within	0.98
R2 Between	0.98
R2 Overall	0.97

z-values are in parentheses; z** p<0.05, * p<0.1.

Human capital is the major cause for improving growth of the nations. It is found that one percent increase in secondary school enrolment will cause for 0.0012 percent increased growth in Asian nations. The reason may be that more educated and qualified people will perform better at work places which will increase production and productivity. In this way growth will be increased. Our result is supported by Heeks and Mola (2009). Trade openness also affect economic growth. The study result shows that one percent increase in trade openness will lead to enhance growth by 0.0011 percent in the concerned Asian economies. It seems that trade openness is very necessary for enhancing growth here in these countries. The reason may be that educated people work more in production processes and GDP increases which will

prosperous the countries and there will be improved welfare in these economies. Our result is consistent with Asmare and Haiyum (2020).

We have observed that industrialization enhance too the growth and development in Asian countries. The result shows that one percent increase in industrialization has caused 0.6660 percent increased growth in the nations. For this, due to industrializtaion, much of the urban population will be indulged in the work force. This work involvement will ultimately lead to increase income and investment chances. Moreover, urbanization has increased chances for more employment and this will cause for less poverty and more growth and development. So, industrialization has very good contribution in economic growth. Our result is supported by Ogbuabor et al. (2023).

Role of urbanization in determining economic growth cannot be ignored. Urban population has much contribution in economic growth of the nations. Result pointed out that one percent increased urban population will lead to enhance economic growth by 0.2334 percent. Much involvement of urban educated dwellers in production will result in more production and export. In this way, economic growth wll be seen enhancing.

CONCLUSIONS

Our work attempts to point out the influence of human capital and industrialization with other variables in determining growth of selected Asian countries. We consider important variables as trade openness, urban population and industrialization. We have utilised data of 8 Asian nations. The study focuses on random effects technique in this analysis. For this work, we have used GDP per capita as dependent variable and industrialization, trade openness, urban population and human capital have been taken as explanatory factors. It is found that secondary school enrolment seems to be improving growth with industrialization and urban population and trade openness in the concerned nations. Considering the importance of these variables, we have checked the effect of these variables. Our research concludes that secondary school enrolment, industrialization, trade openness and urban population seems to be augmenting growth potential of Asian nations. Considering the major results, it is recommended that higher education provision by the management. Urban population must be involved more and more in work force for contributing in growth in these economies. There is a need for improving industrialization for more development and welfare. Focus should be made more on stable economic and political environment for more trade openness.

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