



## Does the Inflow of FDI Boost the Health of the Population in SAARC Countries Evidence from a Panel Data Analysis

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### ARTICLE

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### ABSTRACT

**Purpose:** The relationship between foreign direct investment and population health has been the focus of research among researchers in recent years. One of the basic individual rights is a healthy life and decent living conditions, but the SAARC countries are lagging behind in this respect. The goal of this study is to evaluate the effect of foreign direct investment inflows on population health by integrating growth, foreign aid, and human capital into the model for selected SAARC countries.

**Design/Methodology/Approach:** The fixed effect technique based on the Hausman test was implemented through the period of 1996-2018 because of the Panel nature of the data.

**Findings:** Our empirical results indicate that FDI inflows have a positive and significant effect on population health. Increase in FDI inflows in the host country raises the income of the people, as better job opportunities are available to them.

**Implications/Originality/Value:** This research is a crucial step in observing the complicated relationship between Foreign Direct Investment and Population Health. It is expected that this research motivates the debate and enhance the knowledge further in this line of research. Government should provide incentives to the foreign investors by providing concessions in taxes, and better facilities in terms of improved infrastructure.



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### Introduction

Health is a state of full physical, mental, and social well-being and not just a lack of sickness or infirmity (WHO,2017). Health spending on strengthening the growth cycle and reducing poverty

has been generally less appreciated (CMH,2001). Stability and development of economies is important not only for individual health but for the welfare of every society to work properly. Every healthy person in the economy contributes to the share of GDP in countries, which is why it is important to place the economy on every person's path of economic growth (UN,2007).

Improved health condition helps people become more educated as school attendance increases. Individuals become a higher earning adult with a rise in their job experience and level of education. In this case they were given better work prospects to raise their living conditions. Health is the principal instrument for properly performing all functions. The developing economy's economic development and growth depend on the amount of skilled and healthy human capital available in those countries (Lopez et al. 2005).

The healthy person's benefits are higher than the sick person, due to the lower occupational absenteeism. With the rise in the life expectancy saving rate would rise as the retirement period earnings would increase (Bloom et al. 2004). Global investors draw investment in those countries where there was a surplus of skilled and safe labor (Uddin and Akhter 2017; CMH 2001). FDI may be used as a health determinant of the macroeconomic environment (World Bank 2014). The effect of FDI on population health was mostly an overlooked problem, one of important dimensions (Blonigen and O'Fallon 2011).

In the more prosperous world, higher education and health will be the staff who draw foreign investors to invest in this world (Alsan et al. 2004). International investment has mainly been attracted by those developed countries that have become better in their social infrastructure, i.e. education, health, and political stability etc.(Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2004). With the rise in FDI inflows, the economy's productive potential will be improved because of increased demand. Increasing labor force salaries in the manufacturing sector would increase which would boost the vicious poverty circle in developed countries overall (Dunning 1988). Foreign capitalists mostly avoid investing in areas where health care facilities are not easily available, and infectious diseases are widely spread due to poor health care systems (Sachs 2001).

FDI plays a vital role in developing countries fostering economic growth, improved working conditions and wages. These factors may lead to better access to health care facilities, particularly in developing countries where better health depends on buying power (Burns et al. 2017). There is a positive relationship between public health and Foreign Direct Investment when health is taken as an integral part of human capital as better human capital attracts the region's international investors (Alsan et al. 2006). Income inequality in societies will rise as a result of increased FDI inflows, which would rise the income differences between societies. Rising income disparities would increase stress among people which would deteriorate people's health (Wilkinson 2000).

Thanks to lower emissions, FDI has a positive effect on the atmosphere, generating innovative spillovers of technology that would enhance people's health outcomes (Owen and Wu 2007). Strong governance has the benefit of improving people's health status. Although inconsistent rules, legislation and policies, policy uncertainty and corruption deteriorate people's health status by enabling foreign investors to use obsolete production process machinery (Anyanwu 2011).

The host country's government has invested less on the social sector and provided foreign investors with tax cuts and subsidized services to draw FDI within their country (Herzer and Nunnenkamp 2012; Cole et al. 2006). Politicians, government, and foreign donors in SAARC countries are mainly concerned with education, health, and poverty (Zaman et al. 2011). The SAARC countries' workforce has bad health conditions in comparison to other countries of the globe's workforce. One of the basic human rights of each person is healthy life and better living

conditions, but the countries of the SAARC region are lagging behind in this regard (Hassan et al. 2014).

This research is intended to examine the impact of FDI inflows on population health. This work is crucial for two key purposes. Firstly, the growth of an innovative, knowledge-based, and creative economy needs improvement in health sector. Second, with the passage of time increases in SAARC area FDI inflows will help policy makers develop the mechanism to enhance SAARC countries FDI inflows. We use panel data analysis on SAARC countries over the period 1996-2018 to estimate the empirical results to analyze whether FDI inflows impact population health. Our results indicate that FDI inflows have beneficial effects on health of the population. Estimated findings robustly support the hypothesis that FDI inflows in selected SAARC countries has significant impact on population health.

### **Literature Review**

In economics, there is no new link between population health and FDI inflows. There is a considerable amount of literature on the effect of FDI inflows on economic growth and the impacts of FDI on population health are little known (Alam et al. 2016). When people enjoy the good standard of living, their working ability will increase, which will boost the country's GDP and allow it to expand. Through per capita spending on health services, the quality of life in these developing countries has been improved. The healthy labor force was more successful as they relaxed mentally and could gain higher earnings (Khan et al. 2016; Uddin and Akhter 2017). The key component of human capital is wellness. The physical and mental health of the workers is good for economic success of human capital and the entire economy. The findings show that, when health was taken as an integral part of the human capital, health has a positive and important effect on FDI (Alsan et al. 2004; Alsan et al. 2006; Majeed and Ahmad 2008, Nawaz and Bilal 2013). Old technologies and emissions, which cause fewer organic materials during manufacturing in secondary sectors are mainly used by the foreign investment in developing countries. Such organic materials were harmful to the industrial water (Jorgenson 2009; Hitam 2012).

Foreign direct investment inflows will increase domestic capital and the transfer of technology, contributing to economic growth and an increase in the level of income. Higher foreign direct investment income can increase expenditure on (public and private) sanitation inputs, such as improving conditions for water and sanitation, good nutrition and medical care, which can contribute to better health outcomes. Furthermore, foreign direct investment in the healthcare sector could increase the availability of medical products and services, which could lead to lower prices and thereby increased demand for medical products and services. It will thus improve the health of the population in the region (Imamura 2020; Kumari and Sharma 2018). (Kumari and Sharma 2018 ;Imamura 2020 ).

Anyanwu (2012) examine that the increase in FDIs in the host country included non-political variables, i.e., institutional quality. The better quality of institutions of the host country will attract MNCs, owing to the better situation of law and order in the region. The effect of foreign direct investment on income distribution on SAARC countries is critically analyzed by Mushtaq et al. (2014). Modern FDI technology is increasingly being used in host countries, and professional employers are more efficiently using new technology which will increase the efficiency of the business or sector and thus increase their wages and improve their living standards. Increased incomes from FDI and trade will increase host country educational rates, skilled people would easily take advantage of job opportunities and raise the standard of living of people by rising revenues. As a result, people should also improve their health status and life expectancy (Alam et al. 2016; Dar et al. 2016).

Several literature studies indicate that the association between population health and FDI inflows is negative. As the FDI technology transfer will increase in the host nation. Rising professional human resources can improve advanced technologies to reduce host country emissions. Even developed countries, the majority of the countries shift 'bottom-to-bottom' because they are neglecting the damage done to the ecosystem to draw more FDI even their countries to increase demand in their countries. As water contamination and unhealthy food intake increased because of FDI inflows, the health of people was affected. For skilled human resources and enhanced work efficiency, the health status of the workforce is important. By through the labor force 's productive potential incomes, better health facilities would be open. Higher FDI rates in manufacturing will increase host country environmental emissions (Herzer and Nunnenkamp 2012; Burns et al. 2017).

Governance is also a central factor affecting the health of the population. Some studies have indicated that an increase in international plant establishment within the investment country would have an adverse impact on host country policy (Alsan et al. 2004; Frankel and Rose 2005; Alsan et al. 2006; Cole et al. 2006). In order to prevent environmental pollution in the world that deteriorates people's health, international investors will have to inhibit themselves in their host country from using better technique and advanced manufacturing process (Tang 2015. Shah et al. 2015.; Ghosh et Renna 2015).

Schonfeldt et al. (2010) discuss the basic survival and wellbeing need of people's lives for food. With the rise in consumer goods prices, the poor cannot afford to buy their food and maintain their better health. Foreign investors avoid investment in these countries because of macroeconomic uncertainty in the economy. This is because there is greater risk of investment in countries with predominant macroeconomic uncertainty (Anyanwu 2011; Anyanwu 2012; Zafar 2013; Ahmed and Ahmed 2014).

A balanced workforce was highly efficient and mentally more active than a sick person. Labour attracting more FDI in the country will make healthy more waged (Lan et al. 2012; Anyanwu 2012; Khan et al. 2016; Nawaz and Bilal 2013; Azam and Ahmad 2015; Dar et al. 2016). The government will increase GDP spending in the health and education sector. By having trained employees, the manufacturing sector 's production capacity will increase in general, growing people's income. When income rates increased, people's buying power will be raising living standards (Alsan et al. 2004; Owen and Stephen 2007; Cantarero & Pascual 2008; Majeed & Ahmad 2008; Jorgensen 2009).

Foreign aid increases economic growth and development. With increasing foreign assistance, the government is increasing its infrastructure development spending. International aid increases the critical privately owned benefits by growing private resources, by financing public assets and by enhancing country lending in general. International aid enhances the way the developing country accesses foreign markets and serves as a catalyst to increase FDI. The increase in humanitarian aid reflects a strong partnership between the host country and foreign organisations. This boosts foreign investors' trust and encourages international investment there (Ratha et al. 2007; Majeed & Ahmad 2008; Packer et al. 2009; Anyanwu 2012).

This research will be linked in two ways throughout the current literature. In the first place, the impact of FDI on population health was not investigated in the case of SAARC countries. It is the third most critically important economy in the world. Therefore, one of the main goals behind the creation of the SAARC association is to enhance the health of the population. Secondly, the effect of the FDI on population health with foreign aid, human resources and governance has hardly been studied.

### **Overview of SAARC Countries Population Health, FDI and Economy**

The South Asian Association for Regional Cooperation (SAARC) was established on 8th December 1985. The South Asian Association for Regional Cooperation (SAARC) is made up of eight Southern Asian countries, Afghanistan, Bhutan, Pakistan, Maldives, Bangladesh, Sri Lanka, India, and Nepal. In the area of SAARC Afghanistan was recently included in 2005. In order to promote peace, freedom and economic growth in South Asian countries, this association was formed by agreements with its Member States. The SAARC leaders decided to collaborate in five main fields, that is to say, population and health, rural and agricultural development, telecommunications, technological and meteorological development.

One of the key goals behind SAARC development is also to improve the health status of the citizens from SAARC countries. People's health problems and communicable diseases have been sufficiently handled by the SAARC since its birth (SAARC Health Statistics 2017). The Social Agenda of SAARC is primarily concerned with improving the welfare of the people of SAARC countries as far as social development is concerned. The Committee's main objective in 1984 to this end was to focus on aspects of health, child and maternal health control, and the adequate treatment of chronic diseases, that is to say, AIDS, tuberculosis, and malaria, etc. Education programs for the eradication of these infectious diseases from the area were planned by the committee. The health of this area is bad in the country. The primary concern in SAARC countries is education, health and poverty for politicians, government, and international donors (Zaman et al. 2011). Good living and better life are among every person's basic human rights, but this prospect lags behind the SAARC countries (Hassan et al. 2014).

Nearly 24% of the global population (1.7 billion) had been in the SAARC countries (4% of the world's population) (5.1 million kilometers) SAARC region contributes just 3 % of GDP to the gross domestic product of the globe. About 40% of the SAARC 's population live below the poverty line (1.25 dollars a day). India was geographically dominated by 1.252 billion people in the SAARC region. The regional changes, population density and composition, life expectancy and mortality rates, etc. were the main differences in SAARC countries. FDI is expected to increase worldwide until 2013 and then to decrease sharply. The fall in FDI was attributed to a decrease in oil prices and economic growth. In developing countries, there was a 10 percent (\$714 billion) drop in FDI in 2016. In 2016, Asia's FDI fell dramatically relative to the globe. In the Asian nation, FDI has declined three percent (\$541 billion). FDI fell in South Asia by 4 percent (\$466 billion) in 2016. In 2020, FDI fell dramatically in developed economies. In Asia, FDI falls due to the coronavirus pandemic from 25 percent to 50 percent.

Human development is an integral part of the economy's economic growth. The development of human resources is regarded as individual development of education, health, and nutrition (Zaman et al. 2011). Developing human resources would draw FDI, i.e., by growing the human capital of qualified people and the indirect results, e.g., improving people's health, and improving the socio-political stability of countries (World Bank 2003; UNESCO 2003). Human Development Index measures human growth in three areas: healthy life, education and living standards. SAARC countries are on the list of least developed countries of the world in the United Nations Development Plan based on the Human Development Index, (HDI). The value of the human development index ranges from 0 to 1. In 2019, the HDI rankings of these nations were 133 (0.632) of Bangla desh, Bhutan was 129. (0.654), with India at 131.(0.645), 154(0.56) in Pakistan, and 72(0.782) in Sri Lanka.

From this section we infer that the improvement of population-health status is not being achieved as a prior objective of the SAARC establishment in the region. Therefore, new research needs to be carried out to know the reasons and to devise prudent policies to overcome this problem.

### Data Sources and Empirical Methodology

The data on FDI inflows (FDI proxy) has been collected from UNCTAD 2020. Data on net official development assistance (foreign aid proxy) and total labor force (human capital proxy) were acquired from World Bank 2020. Data on corruption (governance proxy) was acquired from World Governance Indicators 2020. Panel data from 1996 to 2018 were covered in our research. Following the approach of Burns et al. (2017), we used the following econometric model to estimate the empirical results.

$$HEL = f(FDI, Z) \quad (1)$$

We embrace the natural log to modify variables and minimize the probability of heteroscedasticity, which is still typical in cross-country analyses. The empirical form of our model is:

$$\ln Hel_{it} = \beta_0 + \beta_1 \ln(FDI_{it}) + \beta_2 \ln X_i + \alpha_i + \lambda_t + \varepsilon_{it} \quad (2)$$

$X_i$ = Control variables (foreign aid, GDP, Inflation, Governance).

Where,  $\beta$  denotes parameters,  $i$  denotes country subscript and  $t$  denotes time. The dependent variable is Population Health (Hel) measured by the two proxies i.e. Life Expectancy at birth, total (years) and infant rate of mortality per 1000 births. This proxy is used in literature by (Herzer and Nunnenkamp 2012; Alsan et al.2004; Alam et al.2016; L. Owen and Wu 2007; K. Burns et al.2017). The most important determinant of population health is Foreign Direct Investment. Foreign Direct Investment is measured by log of FDI flows (US million \$) (Majeed and Ahmad 2008; Herzer and Nunnenkamp 2012; Alsan et al.2004; Alam et al.2016; L. Owen and Wu 2007; K. Burns et al. 2017).  $X_i$  will be the additional control variables (foreign aid, human capital, and governance) $\alpha_i$  is a country specific effect,  $\lambda_t$  is a time specific effect and  $\varepsilon_{it}$  is the error term.

### Econometric Technique

Two models are used for panel data estimation, i.e. Model for Random and Fixed Effects. Hausman test will be used to deduce different model specifications. Hausman Test is used to check the null hypothesis to determine the discrepancy and similarities between the model of Fixed or Random Effects. If p-value is insignificant ( $p > 0.05$ ) then Random Effect technique is appropriate to use and if it is significant then we can reject our null hypothesis and can apply Fixed Effect technique (Baltagi 2008). The Hausman test gives preferences to the technique of the Fixed Effects because it is more suitable than the technique of the Random Effect. Fixed Effect technique does contain the hypothesis of correlation between country specific effects (Kimino et al. 2007).

### Fixed Effects Model

In Fixed Effects Model the individual effects have correlation with the explanatory variables of model and  $\varepsilon_{it}$  is the fixed term to be estimated and explanatory variables are independent of  $V_{it}$ . The fixed effects model is the most suitable model if we are preferring N number of countries (Batlagi, 2008). The one-way error component model has heterogeneity in their disturbance term i.e.

$$y_{it} = \alpha + \beta(X_{it}) + \mu_{it} \quad (3)$$

$i=1, \dots, N; t=1, \dots, T$

$$\ln Hel_{it} = \beta_0 + \beta_1 \ln(FDI_{it}) + \beta_2 \ln X_i + \alpha_i + \lambda_t + \varepsilon_{it} \quad (4)$$

$$\mu_{it} = \mu_i + V_{it} \quad (5)$$

Where,

$V_{it}$  is independent, N shows the number of observations and T denotes the time period. In Fixed Effects Model difference in cross sections can be represented by difference in constant term (error term) i.e.  $\mu_i$  (cross-sectional effect) and  $\lambda_t$  (time effect).

### Diagnostic Test

Various tests are carried out and findings are recorded in the appendix to the problem of multi-collinearity and heteroscedasticity.

### Multicollinearity Test (Variance Inflating Factor)

To detect the presence of multicollinearity among independent variable variance inflating factor (VIF) is applied. VIF evaluates the increase in standard errors due to the presence of collinearity among explanatory variables. Multicollinearity among explanatory variable cannot be an issue if according to rule of thumb  $VIF > 10$  (Kennedy 1992). Results show that multicollinearity is not an issue. Results are reported in Table 2 (Appendix).

### Heteroskedasticity Correction

Breusch-Pagan test is used to track the homoscedasticity of the panel results. Both the dependent and explanatory variables were tested to determine the problem of homoscedasticity. Estimated results confirmed the nonexistence of heteroskedasticity. Robust standard errors are described among the coefficients of regressions to solve the issue of heteroscedasticity. Wald test is also applied to check correlation among variables. The p-value of the Wald test shows that the association between the explanatory variables is present. Since of this robust fixed result are reported, the association between the explaining variables can also be resolved. Table 3 (Appendix 3) records the findings.

### Results and Discussions

Summary statistics are presented in Table 1. The correlation coefficients are presented in Table 2 and Table 3. FDI ranks second only to foreign aid in strength of correlation to log life expectancy at birth and FDI ranks fourth to human capital, foreign aid and governance in strength of correlation to log of Mortality rate.

**Table 1** Summary Statistics

Variables	Mean	S.D	Minimum	Maximum
HEL(LE)	4.207	.066	4.05	4.341
HEL (MOR)	3.648	.666	1.856	4.559
FDI	5.902	2.749	-1.05	10.76
FA	2.677	1.363	-433	5.44
HC	16.732	2.254	12.271	20.005
GOV	3.451	.771	.381	4.52

**Table 2** Correlation Matrix

Variables	HEL(LE)	FDI	FA	HC	INST
HEL(LE)	1.000				
FDI	0.196	1.000			
FA	0.230	-0.764	1.000		
HC	-0.078	0.848	-0.925	1.000	
GOV	0.081	-0.274	0.312	-0.446	1.000

**Table 3** Correlation Matrix

Variables	HEL (MOR)	FDI	FA	HC	INST
HEL(MOR)	1.000				
FDI	0.010	1.000			
FA	-0.304	-0.764	1.000		

HC	0.262	0.848	-0.925	1.000	
GOV	-0.338	-0.274	0.312	-0.446	1.000

### Fixed Effect Technique

For results estimation two techniques are applied, and our best and results are Fixed Effect results. In our estimated results, P-value of F-statistics show that the intercepts are different across cross section countries. So, Fixed and Random Effects model are more appropriate to apply. For the estimation of analysis, we apply Hausman test in order to choose Fixed or Random Effects model. The P-value of Hausman test is less than 0.05% which show that Fixed Effect model is better to apply for the estimation of results. In our regression model Population Health is the dependent variable. While independent variables are FDI, foreign aid, governance and human capital. We use two proxies to measures Health i.e. Life expectancy and Mortality rate to examine the impact of FDI on Population Health. According to the empirical findings most of the variables are significant in our estimations. Our empirical results show that 1% increase in FDI would increase life expectancy by 0.01%. Our estimated results reject our all-null hypothesis.

**Table 4** Results for FDI flows. Dependent variable: Life Expectancy at Birth

Variables	OLS	Fixed Effect
	Ln HEL	
Constant	2.829 (0.000) ***	0.662 (0.030) **
Ln FDI	0.015 (0.00) ***	0.010 (0.00) ***
Ln FA	0.039 (0.00) ***	0.013 (0.03) **
Ln HC	0.072 (0.00) ***	0.206 (0.00) ***
Ln GOV	-0.006 (0.28)	-0.007 (0.07) *
Obs	130	130
R-squared	0.717	0.80
F-test		123.0 (0.00) ***
Hausman test (P-Value)		114.8 (0.000) ***

Results of Table 3. shows that FDI has positive relationship with Population Health and are statistically significant. The P-value 0.000 shows that we reject our null hypothesis and accept our alternative hypothesis that 1% increase in FDI would increase life expectancy by 0.01%. The positive sign of FDI shows that countries having more FDI have better Population Health conditions. These results are consistent with the results of (Alam et al. 2016; Alsan et al. 2006; Majeed and Ahmad 2008; Immurana 2020). Results in Table 5. shows that there is negative and significant relationship between FDI and mortality rate. The negative sign of FDI shows that countries having more FDI have better Population Health conditions. These results are consistent with the results of (Cantarero and Pascual 2008; Azam and Ahmed 2015; Asongu, 2014).

FDI plays a key role in enhancing economic development, better working conditions and wages of human capital in developing countries. These factors could be helpful in accessing better healthcare facilities especially in developing countries where better health condition is depended upon purchasing power of population. FDI plays a key role in enhancing economic development, better working conditions and wages of human capital in developing countries. All this results in rise in level of income of the people. These factors could be helpful in accessing better healthcare facilities especially in developing countries where better health condition is depended upon purchasing power of population.



**Table 5** Results for FDI flows. Dependent variable: Mortality rate

Variables	OLS	Fixed Effect
	Ln HEL	
Constant	15.73 (0.000) ***	25.12 (0.00) ***
Ln FDI	-0.091 (0.00) ***	-0.073 (0.08) ***
Ln FA	-0.186 (0.00) ***	-0.074 (0.03) *
Ln HC	-0.663 (0.00) ***	-1.241 (0.00) ***
Ln GOV	-0.010 (0.77)	-0.018 (0.528)
Obs	130	130
R-squared	0.72	0.75
F-test		94.16 (0.00) ***
Hausman test (P-Value)		70.46 (0.000) ***

Foreign aid has positive and significant relationship with Population Health. The positive sign shows that increase in foreign aid overall improves the Population Health by increasing the purchasing power of people. These results are consistent with the result of (Majeed and Ahmad 2008; Anyanwu 2012). Foreign aid work as a catalyst in attracting Foreign Direct Investment in the country. Foreign aid enhances the productive capacity of capital by funding public and private transaction, similarly, varied microeconomic investment, neighborhood support, sustenance and allowance and investment in human capital reserves.

Governance has negative and significant relationship with Population Health. The negative sign indicates that increase in governance deteriorates Population Health condition. These results are consistent with the result of (Cole et al. 2006). Results in Table 4. show that governance has negative and significant relationship with Population Health. The negative sign of corruption shows that as corruption would increase health of people would fall. These results are consistent with the results of (Cole et al. 2006). Employees endure more stress and uncertainty also rises with the increase in competition in the host country. Government of the host country spend less on social sector, provide tax concession and subsidized infrastructure to the foreign investors to attract FDI in their country. Foreign investors use outdated technology in the manufacturing process which pollutes the environment and cause respiratory diseases in the country and deteriorates the Population Health condition.

Result shows that there is positive and significant relationship between human capital and Population Health. The positive sign of human capital is consistent with the finding of (Khan et al. 2016). A healthy human capital has high productivity level and is physically more energetic than the sick one. Heathy human capital earns higher wages as they attract more FDI in their country. FDI raises the wage rate and improves the working condition of the human capital of developing countries. Increase in wages result in upgrading living standard of the people. Macroeconomic instability reduces the investment risk in the country. Increase in exchange rate devalue the currency of host country which attract the foreign investors to invest in the country. Availability of lower wage labor boost the FDI in developing countries. Devaluation of currency reduce the real wages of Human Capital which lowers down the living standard of population in developing countries.

### Conclusion and Policy Implications

This study aims to empirically examine the Impact of Foreign Direct Investment on Population Health. For empirical estimation data is taken over the time period of 1996-2018 from World

Bank, World Development Indicators and UNCTAD dataset. There is positive relationship between Population Health and Foreign Direct Investment when health is taken as an integral component of human capital as better human capital attract foreign investors in the developing countries. In SAARC countries, the main concern of politicians, government and international donors is education, health and poverty reduction. Healthy life and better living conditions are one of the basic individuals right of every individual, but SAARC countries are lagging in these aspects.

Our empirical results can be outlined as follows (i) FDI has positive and significant impact on Population Health in selected SAARC countries. (ii) Foreign aid has a positive and significant impact on Population Health in selected SAARC countries. (iii) Governance has a negative and significant impact on Population Health in selected SAARC countries. (iv) Human Capital has a positive and significant impact on Population Health in selected SAARC countries. Present study finds the hypothetically logical results that increase in foreign investment in the country, raises the production process and overall increase the GDP of the country. Increase in income of people has a positive impact on living standard and health condition of people.

Policies should be made to decrease corruption, macroeconomic stability, decrease inequality in wages of Human Capital, decrease trade liberalization policies and increase investments in the healthcare sector. Government should make policies to improve their relationship with high income countries in order to easily access the necessary health services and specialized interventions. Improving in the government policies, not only attracts the foreign investors towards these countries, but also countries can get the benefits of FDI in terms of enhancing work conditions which positively effects the Population Health. Government plays an important role in securing that FDI generate better-paying jobs.

In conclusion it is suggested that future research could be conducted with larger time period and individual country in order to get clear impact of FDI on Population Health. In addition, the issue of endogeneity assured the future empirical research. However, this research is a crucial step in observing the complicated relationship between Foreign Direct Investment and Population Health. It is expected that this research motivates the debate and enhance the knowledge further in this line of research.

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## Appendix

**Table 1** Description of Variables and Data Sources

Variables	Description of Variables and Data Sources
Population Health (HEL)	Population Health is measured by the Proxy Life Expectancy at birth, total (years). It is also measured by the proxy of Infant Mortality rate per 1000 births. Source: WDI 2020
Foreign Investment (FDI)	Foreign Direct Investment is measured by the proxy of FDI flows (US million \$). Source: UNCTAD 2020.
Foreign aid (FA)	Net Official Development Assistance received per capita (current US\$) Source: WDI 2020.
Governance (GOV)	Governance is measured by the proxy of Control of Corruption: Percentile Rank. Source: World governance indicators.2020
Human Capital (HC)	Human Capital is measured by the proxy of total labor force. Source: WDI 2020.

**Table 2** Results for Variance Inflation Factor

Serial No.	Model	VIF
1	$\ln Hel_{it} = \beta_0 + \beta_1 \ln(FDI_{it}) + \beta_2 \ln X_i + \alpha_i + \lambda_t + \varepsilon_{it}$	6.75

**Table 3** Results for Breusch-Pagan / Cook-Weisberg test for Heteroskedasticity

Serial No.	Model	P-Value
1	$\ln Hel_{it} = \beta_0 + \beta_1 \ln(FDI_{it}) + \beta_2 \ln X_i + \alpha_i + \lambda_t + \varepsilon_{it}$	0.39