Article

Role of SME in Poverty Alleviation in SAARC Region via Panel Data Analysis

Faiza Manzoor [1], **Longbao Wei** [1,*], **Mohammad Nurunnabi** [2,3] **and Qazi Abdul Subhan** [4]

1   Department of Agricultural Economics and Management, School of Management, Zhejiang University, Hangzhou 310029, China; Faiza1885@yahoo.com or Faizamanzoor@zju.edu.cn
2   St Antony's College, University of Oxford, Oxford OX2 6JF, UK; mnurunnabi@psu.edu.sa
3   Department of Accounting, Prince Sultan University, Riyadh 11586, Saudi Arabia
4   Bahria Business School, Bahria University, Islamabad, P.O. 44000, Pakistan; qsubhan@gmail.com
*   Correspondence: lbwei@zju.edu.cn

check for updates

Abstract: The key objective of the formation of the South Asian Association of Regional Cooperation (SAARC) is to join hands collectively for slow economic growth, poverty eradication, deprived health and education sectors. In the 12th SAARC Summit, it has been declared that poverty eradication is the main area of concentration and SAARC countries would strive their best to minimize all types of poverty with the help of any possible strategy. The main objectives of the current study are to evaluate the development of the agenda of poverty eradication in SAARC countries through small and medium enterprise (SME) development because it would be considered as a short-routed remedy to mitigate poverty. The poorest 20% income holder as a percentage of GDP has been used as the proxy for poverty in the SAARC region. SME development has been measured through the SME share in GDP in respective countries. The panel dataset has been developed for the period of 1990 to 2015. The fixed effect method (FEM) and regression equation techniques were used to analyse the observed data. The results of the FEM were misleading. The regression equations for the respective countries were used for empirical analysis. The results have identified that there are three main factors that are essential in reducing poverty in the SAARC region: SME growth, openness of trade and social sector development.

Keywords: SME; poverty alleviation; SAARC; asian region; development

1. Introduction

The South Asian Association for Regional Cooperation (SAARC) region was formed to make collective efforts against major problems of this region [1]. There are multiple issues pertaining to small and medium enterprises (SMEs) that are now getting the highest priority among the policymakers of SAARC due to their confirmed multidimensional contribution to the socio-economic situation of a country. These enterprises are very easy to launch, need comparably less capital, generate more employment and produce commodities that meet local demands as well as contribute to export earnings [2]. In spite of these, the SAARC region with natural potentials is continuously deprived of the necessities of life [3].

Broadly speaking, the goal of the establishment of SAARC is to eliminate hunger-poverty and to build cooperative efforts for the collaboration in economic and social sectors but the statistics show that due to certain political disparities, there has been an influx of issues in economic cooperation. The benefits become disintegrated at grass root levels for the nations of these countries [4]. These countries are developing countries and most of the inhabitants gain their household income from self-employment or rendering their services. The SME sector is a significant source of generating

employment for the people. It helps in amplifying economic growth which ultimately reduces poverty in society. An increase in SME's growth may transform the population into higher household income due to economic activities [5].

A large number of SMEs in developing countries are based on the cottage industry which is run by self-employed entrepreneurs [6]. They use labor-intensive technology for manufacturing the products. Due to a lack of financial resources, SMEs in developing countries often adopt frugal and flexible business models [7]. They tend to minimize the use of capital resources, which ultimately transform into value-added goods. These enterprises tend to work longer hours and squeeze out a high return on limited capital [8]. The poor community can gain access to markets by using and recombining handy, low cost and openly accessible resources [9].

Historically, in the 8th SAARC Summit, held in 1995, it has been confirmed to launch a three-tier mechanism to address the issue of poverty affairs. The first-tier encompassed the secretaries who are concerned with poverty alleviation and social development in SAARC countries [10]. The second-tier included finance secretaries and the third-tier contained finance ministers. In January 1996, the 1st round of meetings under the three-tier apparatus was accomplished [4].

After the third tier, SAARC members tried to secure their collective interests in multilateral forums through dialogues and coordination. Poverty alleviation is considered the biggest challenge, faced by the inhabitants of South Asia and it has been declared that poverty eradication is the predominant objective of the SAARC region [11]. To achieve this objective, it is indispensable to make regional cooperation among member countries. To reactivate the poverty reduction activities in the region, an Independent South Asian Commission for Poverty Alleviation (ISACPA) has been formed to implement the suggestive measures. The SAARC continues to collaborate with international organizations and UN agencies in the field of poverty alleviation [11].

To come out from the vicious circle of poverty, it is impartible to concentrate on trade liberalization, employment generation and industrialization. All these suggestive measures are helpful in the reduction of poverty [12]. There is an immense need to restructure the trade policies and the member countries should reduce the trade barriers among themselves to promote bilateral trade as it is the way through which economic activities in respective countries may boost with the passage of time. Along with it, investment in human capital is also critical for projected growth in the region [13].

According to Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreements, Article-4 stated below, explains the status of Most Favored Nation (MFN) Treatment.

> With regard to the protection of intellectual property, any advantage, favor, privilege or immunity granted by a Member to the nationals of any other country shall be accorded immediately and unconditionally to the nationals of all other Members.

According to the TRIPS agreement, all member countries should comply with the treatment of MFNs unconditionally for the promotion of trade among member countries. In this regard, regional trade agreements (RTAs) are also playing an essential role in trade liberalization to reduce the extent of poverty. The implementation of RTAs is essential with a true spirit for the promotion of trade volumes among member countries.

In South Asia, most of the member countries are heavily relying on SMEs. The development of an SME is essential for the reduction of poverty in the region [14]. SMEs are presumed as an engine for economic growth. This proposition would be true if there is an improvement in the current status of SME growth and poverty reduction, which provided the necessary infrastructure. There are ample studies like [15] that reflect a positive correlation between SME growth and economic strengths. It is a general presumption that SME growth has a micro effect on the economy if they are small in numbers. When SMEs are progressing, it delivers the raw material for large-scale businesses that intensify the invention in the country. When production upsurges, it offers large varieties of products which provide a competitive environment in the country [16].

Due to an increase in economic activities in the country, the employment situation may become better, which has two impacts. One is on the social front and the other is on the economic front. On the social front, the social standard of people may increase due to an increase in the competitive environment. Another effect is the generation of job opportunities due to local competition as well as in international markets. At this stage, conducive trade liberalization policies play a pivotal role in the promotion of bilateral trade among the SAARC region.

Poverty is a phenomenon in which a person's basic needs for food, clothing and shelter are not being met. There are various ways to measure poverty such as the headcount ratios/incidence of poverty, the poverty gap/income shortfall, squared poverty gap index, Gini index, disparity of income distribution, composite poverty measures, the physical quality of life index (PQLI), the augmented physical quality of life index (APQLI) and human development index (HDI) [17]. The promotion of the SME is a great weapon against the poverty in less developed countries. Moreover, prior studies have been conducted in the areas of SMEs and economic growth [18], SMEs and socio-economic conditions [19] and SMEs and sustainable development [20] in various developed and emerging countries. They have used different poverty measures like headcount ratios [21] and the Gini index [22]. In the developing countries, a few studies have been conducted with contradictory outcomes. There is an immense need for further investigation, therefore, the present study has focused on SAARC countries in the perspectives of SMEs and poverty alleviation. The purpose of this paper is to analyses the role of SMEs on poverty alleviation in the SAARC region.

2. Theory and Empirical Literature Review

Although there is yet no comprehensive theory of poverty, there is the structure of the interpersonal and intergroup differentials in wealth and income, including the emergence and persistence of the poor in society. Nevertheless, two theories would be identified which attempts to deal with the problems of income inequality and poverty. These include power theory and the theory of personal income distribution. The power theory of poverty situates poverty within the structure of political power in society. According to the theory, poverty is a necessary concomitant of any situation in which the few possess much political power to organize the economic system in their own selfish interest. It insists that poverty will remain prevalent as long as there is no effective pressure from the poor to restructure the distribution of political power in the society in favor of the majority. This is basically a Marxian theory of an exploitative property system through which it determines the allocation of opportunities, income and wealth using the apparatus of state power. The concentration of wealth in the hands of the few while the majority languishes in poverty is a manifestation of the same historical process [23]. Power theory seems more relevant to developing countries in view of the tendency of those without economic power to seek political power to amass ill-gotten wealth.

The second theory is the theory of personal income distribution otherwise described as the size distribution of income [24]. It provides the macroeconomic foundation of income inequality and an organizing framework to determine the channel by which macroeconomic variables are transmitted into changes in poverty rates. It focuses attention on the labor market and the determinants of labor incomes based on demand and supply factors [25]. According to the marginal productivity theory of labor, the income received by labor is due to their marginal productivity. The marginal productivity of an individual depends on educational level, skills, aptitude, motivation, regional location and age among others. According to the theory of personal income distribution, the majority of families or households rely on labor market earnings for most of their income. As a result, poverty remains since they do not channel their labor power to creativity, innovation and entrepreneurship [26].

Consequently, a rise in unemployment may result in large income declines particularly among those whose income is low, to begin with. Hence, the theory predicts a positive relationship that may be mitigated by government transfer payments which reduce the role of earned income [27].

2.1. SME in Global Perspective

It is an admitted fact that SMEs play a critical role in rejuvenating and sustaining the nation's economy. It generates substantial employment, helps in reducing poverty and serves as an essential innovative engine for the world economy. Sanusi and Hamza [28] investigated the impact of SMEs on economic development. Their study was conducted on Asian countries namely (Malaysia, Indonesia, Singapore, Philippines, Thailand, India, China, Republic of Korea, Vietnam, Mongolia, Kazakhstan, Cambodia, Myanmar, United Arab Emirates, Oman, Qatar, and Saudi Arabia), which covered the period of 2008–2015. The total population of this study was 49 countries and sample size of 17 with a total number of 136 observations by using convenience sampling. Further, the independent variable was the SME's growth and the dependent variables were the gross domestic product (GDP), foreign direct investment (FDI), unemployment and exports. The research employed descriptive statistics, the Pearson correlation coefficient and a multiple linear regressions analysis to extract the findings. The findings showed that SMEs have a positive and significant impact on unemployment and export, however SME's have a negative and significant impact on gross domestic product and foreign direct investment.

Edom et al. [29] assessed the impact of SME's financing on poverty reduction in Nigeria from 1991 to 2010. Using the ordinary least square (OLS) analytical technique, the data from the central bank of Nigeria (CBN) statistical bulletin were obtained. The findings of their study revealed that there is a significant relationship between SME's financing and poverty reduction in Nigeria, whereas unemployment has a strong negative correlation with poverty in Nigeria. It was concluded that SME's financing has a positive relationship with poverty in Nigeria. They also recommended that adequate attention should be given to SMEs through channeling of more resources to the sector. More so, that the government should, as a matter of urgency, diversify the economy and create more jobs for the increasing population to reduce the unemployment rate in the country, thereby reducing poverty.

Kowo et al. [30] examined the role of SMEs on poverty eradication in Nigeria. They used primary data for the analysis. One hundred and forty-two (142) questionnaires were administered randomly to the entire employee population of the SME companies that are registered with SMEDAN in Lagos, Nigeria. Therefore, their study found that SME development affects poverty alleviation and also, training organized by SMEDAN affects the SMEs' employment creation. It was discovered that the SMEs provided employment opportunities and a training ground, which harnesses the utilization of local resources and also acts as a pillar hold of a nation, Nigeria inclusive. Their study concluded that a good development strategy, if employed by these SMEs, will grow to large-scale capital intensive. They also recommended that SMEs should source their loans from the financial institutions where interest rates are low.

2.2. SME and Poverty Alleviation in SAARC

SAARC is an organization of eight countries located in South Asia and it stands for the South Asian Association for Regional Corporation. SAARC is the regional intergovernmental organization and geopolitical union of nations in South Asia. Its member states include Afghanistan, Bangladesh, India, Nepal, Maldives, Pakistan and Sri Lanka. The Secretariat of this organization is located in Kathmandu which is the capital of Nepal. SAARC comprises 3% of the world's area, 21% of the world's population and 3.8% (US$2.9 trillion) of the global economy, as of 2015 [31]. SAARC countries are developing countries and most poor derive their household income from self-employment or selling their labor to others. Therefore, creating opportunities for people to earn a higher income is essential to poverty alleviation. SMEs are important engines to reduce poverty in society because of their significant provision of employment opportunities to the poor. The increases in SMEs' efficiency could translate into higher employee wages or household income of the owners, who are often poor as well [5].

It is a general presumption that SMEs play a vital role in revitalizing and supporting the nation's economy. They produce substantial employment, helpful in reducing poverty from the country and serve as an essential innovation engine for the world economy.

Ali [32] highlighted the SMEs and poverty in Pakistan. According to him, SMEs have a significant contribution to the economic development, poverty alleviation and employment creation in the economy. The author has used a time series data from 1972 to 2008 for investigating the role of the SME sector in poverty alleviation in Pakistan. The results confirmed a strong impact of SME growth on poverty alleviating in the country. He advised that economic policymakers have to focus on the establishment of proper financial markets to control financial constraints, faced by the SME sector in the country. The simplification of a lending procedure, the implementation of credit rights, and a decrease in credit costs would be supportive for the establishment of a robust SME area in Pakistan.

Hassaas [33] explored the effect of SMEs on poverty reduction in Afghanistan through alleviation and database. The role of the SME is very important in employment generation, poverty alleviation, gross domestic product (GDP) and economic growth which automatically reduces poverty in a country. He used annual data to examine the impact of SMEs on poverty reduction in Afghanistan. His study aims at finding out which SMEs with the use of activities of employment helped to reduce poverty reduction and it is recognized that SMEs are a powerful tool for poverty reduction and economic growth. After three decades of war in Afghanistan, the system and infrastructure of Afghanistan were completely destroyed and after creating the temporary government in Afghanistan in 2001, Afghanistan has been involved in many protocol and aids programs to rescue this country from poverty and raise the poverty line. Many tools, regulations and innovations have been raised to decrease poverty from Afghanistan and this is a very effective topic to decrease the problem of poverty through SMEs which is corporate with the help of the World Trade Organization (WTO), World Bank (WB), United Nation (UN), Japan International Corporation Agency (JICA) and other organizations or Non-Government Organizations (NGOs).

Dar et al. [34] have pointed out the definition and critical issues of SMEs in Pakistan. According to Dar et al., SMEs play an important role in the development of an economy but as compared to other countries, the Pakistani SME sector has contributedenormously. The SME sector has multiple problems and it is very challenging to contribute to national GDP. The authors have identified key constraints including regulatory and other government-related issues, fiscal problems, raw materials, infrastructure, technology barriers, human resources, law and order issues and marketing problems. These serious issues can be resolved as the government has key responsibilities for the development of primary aspects such as basic infrastructure, like power plants, roads, systems and procedures. Further, they suggested that the government should play a major role in improving SMEs and reducing the risk along with other barriers.

The poverty situation in India is prominent in spite of the high economic performer economy after economic reforms in 1991-92. According to the Asian Development Bank Report 2011 in India, over one-quarter of the population is living below the poverty line. In absolute numbers, approximately 301.7 million people in India are poor. The World Bank Report (2012) has authenticated that half of the extremely poor people are living in Sub-Saharan Africa. Approximately 389 million people are living on less than US$1.90 a day in 2013. From a global perspective, approximately half of the world's poor lives in South Asia and 534 million people in South Asia with over 300 million livingin India are living below one dollar per day in 2003. This has been explained in the report of the Asian Development Bank (ADB) in 2011 in terms of non-income measures of poverty like gender inequalities, infant mortality rates and literacy rate levels. As shown above, India has displayed intense poverty.

Rajeevan et al. [35] highlighted the role of SMEs in the Indian economy towards employment generation and poverty alleviation. It was found that the SME sector provides employment to nearly 60 million citizens through 26 million enterprises. Their study revealed that the growth of employment is higher by SMEs and it is helpful for economic growth and reducing poverty from the country.

Begum and Abdin [36] highlighted that the SME cluster development has a positive and significant role in poverty alleviation and employment generation in Bangladesh. According to Begum and Abdin, SME cluster development could be an emanating force for entrepreneurship growth, poverty alleviation and employment generation for any developing country like Bangladesh. The authors have emphasized that SMEs, situated at different clusters of Bangladesh, are contributing to the alleviation of poverty through employment generation, improving lifestyle and income for the workers and producing import substitute products simultaneously. The authors have described that for employment generation and poverty alleviation, it is essential for the government and for stakeholders to play their respective roles to generate a sustainable cluster of SMEs through enacting appropriate policy measures, access to finance, technology, capacity building, infrastructure development and adopting advanced marketing techniques.

Ahmed and Chowdhury [37] stated that SMEs are considered as an essential tool for poverty alleviation and to ensure rapid industrializations for developing countries like Bangladesh. The authors identified the main problems for SMEs of Bangladesh, e.g. the performance of SMEs especially in terms of the employee turnover rate, allocations of funds, quality assurances and marketing activities have been found significantly below the international standard. The SME sector gets negligible support from the government, so the development rate of SME's is unsatisfactory. The authors suggested that the Bangladesh government should pay attention to some areas, such as financial arrangements, the provision of infrastructure facilities, an appropriate legal framework and launch national quality policies, etc. as these would be very helpful in poverty alleviation from the country.

Moktan [38] stated that 98% of the private sector of Bhutan consists of SMEs and it is believed that they can play an essential role in the expansion of the economy, generating employment and reducing poverty. The authors analyzed some challenges on SMEs in Bhutan by conducting a questionnaires survey from 168 SMEs. The results indicated that major challenges are related to restrictive business regulations, infrastructure, finance and a lack of government support to SMEs. For reducing poverty, economic growth and development, the Royal Government of Bhutan needs to promote the growth of SMEs.

Vijayakuma et al. [39] analyzed the contribution of SMEs in economic development and poverty alleviation in Sri Lanka. They examined the status and economic growth of SMEs. The authors employed primary and secondary data for analysis. The findings showed that SMEs have played a vital role in developing economic growth, the accumulation of capital, employment generation and poverty reduction.

According to Gamage [40], the SME is the backbone of all developing and developed economies through generating employment, reducing poverty and contributing to the growth of GDP. For developing nations, it is very important to focus on the establishment of SMEs to increase their economies. The author argues that if countries do not realize the importance of SMEs at the early stage, then they leave behind the developed economies and have to give additional effort and time to improve their SME sector to accomplish the goals of employment, alleviating poverty, raising their productivity level and developing economic growth. In Sri Lanka, efforts have been started earlier but they are not sufficient. They need to make infrastructural and institutional arrangements for the development of the SME sector for youth and output levels.

Vijayakumar [15] analyzed the impact of SMEs in economic growth and poverty reduction in Sri Lanka. Secondary data has been used as a source of information. The finding showed that the impact of SMEs on economic growth and poverty alleviation is statistically insignificant. For reducing poverty, the government should do an effective move for the promotion of SMEs and thereby boost economic growth.

Previous literature showed conflicting results [32]. Thus, the purpose of this study is to find further accurate results regarding SMEs and poverty alleviation in the SAARC region.

3. Materials and Methods

3.1. Data and Choice of Variables

To examine the effects of the SME on the eradication of poverty in the SAARC region, quantitative research methodology was used which reflects the positivist research philosophy. In this study, the unit of analysis contains a group of firms or SMEs which are contributing to manufacturing items and services. SME growth was measured through the SME share in GDP in respective countries. Poverty was measured on the basis of the study of Beck and Kunt (2005) which measured poverty through the poverty gap, headcount ratio, public expenditure on the poorest 20% as a percentage of GDP, the poorest 20% income holders as a percentage of GDP and the severity of poverty [41]. In a recent document, "Poverty and Shared Prosperity" (2018), published by the World Bank, certain measures of poverty have been discussed such as consumption and income-based measures of well beings and the multidimensional poverty index. These measures are focusing on income availability for an individual to become free from poverty. In the present study, the income holders of the poorest 20% as a percentage of GDP (YP) in the respective countries was used as a proxy for poverty. This is one of the income-based measures of well being. It has been also used in previous studies, such as [4,42]. The main rationale behind this variable is that when the poorest 20 percent income increases due to growth in SMEs, then it reflects that poverty has reduced in the respective countries. Other economic variables like the openness index, high tech exports as a percentage of GDP, the human development index (HDI) and the growth rate per capita were included, making a comprehensive analysis.

For data collection, various sources were used. The main sources of information were the world development indicators (WDI), the publication of the SAARC Secretariat and economic surveys of the respective countries. A set of a balanced panel of data was developed to see the impact of the SME on poverty in the SAARC region.

3.2. Data Analysis

In the present study, two research methods were used. Firstly, the fixed effect method was used to obtain the objectives of the study and secondly, multiple regression models were further used. The main justification for using these two techniques is the nature of the data and their outcomes. In the present study, the nature of the data is a panel which is a composition of cross sections (number of countries) and time series (1990 to 2015). If the data consists of time series and cross-sections, the panel dataset would be an appropriate method for making an analysis [43]. In static panel data set, there is no need to check the stationarity of data. There are two situations when we check it; If we are doing cointegration analysis for time series data or we are analyzing dynamic panel, in which generalized method of moments (GMM) technique was used [44]. For the static panel data set, two estimation methods were used, the fixed effect method and the random effect method. In the preset study, the balanced panel data set was used for which the fixed effect method has been recommended in the literature [45]. To cross check the effects of the SME on poverty at a country level, a multiple regression analysis was performed. The results of a regression analysis has been discussed separately with a time series data of the respective countries.

The fixed effect method was used because of the significant value of the Housman Test. The Housman test stat for the present study is (7.16) with a P-value (0.001) which reflects that the fixed effect method is justified for the static panel data set. The fixed effect model was developed in Equation (1). A software; E. Views-10 has been used to analyze the data.

The results of the panel study are discussed in Table 1. Keeping in view the fixed effect results, it was observed that the results were misleading and contradicting with the theory due to the variation in the scale and size of the SMEs in the respective countries. To check the effects of SME growth on poverty in the countries exclusively, multiple regression models were established for three countries: Pakistan, Sri Lanka and India. The results of these regression equations have been explained in Tables 2–4 respectively.

There are three sets of regression equations in which the effects of SME growth on poverty in the respective countries were examined. It has been discussed that poverty is measured based on the study of [41] with the poorest 20% income holder (YP). The main rationale behind this measure is that if the poorest 20 percent income is increasing due to SME growth, it reflects that poverty has reduced within the country. The regression Equations (2), (3) and (4) are presented as follows.

Fixed Effect Model for SAARC Region:

$$YP_{it} = \alpha_{0it} + \alpha_1 SMEG_{it} + \alpha_2 OPI_{it} + \alpha_3 HTXG_{it} + \alpha_4 GRPC_{it} + \varepsilon_{it} \tag{1}$$

where i: 1, 2, 3, 4, 5 (number of countries); t: 26 (Time period), YP: Poorest 20% Income holder of population, SMEG: Share of SME as a percentage of GDP; OPI: Openness Index; HTXG: High Tech Exports as Percentage of GDP; GRPC: Growth Rate Per Capita; HDI: Human Development Index

Regression Model for Pakistan:

$$YP = \alpha_0 + \alpha_1 SMEG + \alpha_2 OPI + \alpha_3 HDI + \alpha_4 GRPC + \varepsilon_1 \tag{2}$$

Regression Model for Sri Lanka:

$$YP = \alpha_0 + \alpha_1 SMEG + \alpha_2 OPI + \alpha_3 HTXG + \alpha_4 GRPC + \varepsilon_2 \tag{3}$$

Regression Model for India:

$$YP = \alpha_0 + \alpha_1 SMEG + \alpha_2 OPI + \alpha_3 HDI + \alpha_4 HTXG + \varepsilon_3 \tag{4}$$

4. Empirical Results and Discussion

In the following Tables 1–4, the results of the fixed-effect model and multiple regression models have been discussed.

Table 1. Results of the fixed effect method for the poorest 20% income holder in the SAARC region.

Dependent Variable: YP				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
SMEG	0.306809	0.078495	3.908627	0.0002
OPI	−0.025127	0.006905	−3.639124	0.0004
HTXG	−0.056173	0.046758	−1.201359	0.2319
GRPC	0.367810	0.054255	6.779253	0.0000
C	5.738266	0.461967	12.42138	0.0000
R-squared	0.371517	Durbin-Watson stat		1.779941
F-statistic	18.47287	Prob. (F-statistic)		0.000000

Table 2. Regression results for Pakistan for the poorest 20 % income holders.

Dependent Variable: DLOG(YP)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
DLOG(SMEG)	−0.206458	0.049608	−4.161790	0.0007
DLOG(OPI)	0.426179	0.100426	4.243731	0.0006
DLOG(HDI)	0.300255	0.118555	2.532626	0.0222
DLOG(GRPC)	0.010984	0.008675	1.266161	0.2236
C	−0.008478	0.005555	−1.526209	0.1465
R-squared	0.661042	Durbin-Watson stat		2.356236
F-statistic	7.800872	Prob. (F-statistic)		0.001096

Table 3. Regression results for Sri Lanka for the poorest 20 % income holders.

Dependent Variable: LOG(YP)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
SMEG	−0.001199	0.002975	−0.403018	0.6914
OPI	−0.000649	0.000557	−1.163792	0.2589
HTXG	0.001589	0.002972	0.534829	0.5990
GRPC	0.003807	0.000922	4.128014	0.0006
C	2.199393	0.041396	53.13080	0.0000
AR(1)	0.869476	0.048266	18.01417	0.0000
R-squared	0.959887	Durbin-Watson stat		1.897930
F-statistic	90.93315	Prob(F-statistic)		0.000000

Table 4. Regression results for India for the poorest 20 % income holders.

Dependent Variable: YP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
SMEG	0.171264	0.037308	4.590600	0.0002
OPI	0.047044	0.008212	5.728544	0.0000
HDI	5.913797	1.209333	4.890130	0.0001
HTXG	−0.063745	0.038746	−1.645188	0.1148
C	7.182311	0.489129	14.68387	0.0000
R-squared	0.820041	Durbin-Watson stat		1.105174
F-statistic	23.92327	Prob (F-statistic)		0.000000

In Table 1, the results show that growth in the SME has a positive and significant effect on poverty. The P-value is less than 0.05 and the T-value is above the threshold which shows the significance of the results [46] which implies that SME growth is inevitable to alleviate the poverty in the SAARC region. Another important result is about trade openness. The T-Stat of the openness index indicates that there is a significant effect on the poorest 20% income holder. It means that more of an inclination towards trade promotion has positive significant effects on poverty. In other words, the SAARC countries must promote bilateral trade and intra-trade relations among member countries to alleviate poverty. Here, the sign is negative which is navigating from trade theory. It means that when trade openness improves, the share of the poorest 20 percent income holder would decrease which is misleading.

Normally, if trade openness improves, it leads to amplifying economic activities. To meet the increase in demand for goods, more labor is required which leads to improvement in employment. When employment increases, it directly hammers poverty. In the authors' opinion, it is because of a variation in the magnitude of trade in the respective countries. One of the important results of the study is that the per capita income growth rate has positive and highly significant effects on poor people of the region. The value of P is less than 0.05 and T- value is 6.77 which is above the cutoff point [47]. There are two methods to increase per capita income: First is to increase national income and second is to control the population growth rate. In other words, if the population growth rate is less than the growth in national income, then per capita income would increase. If the growth in per capita income increases then the poverty level would reduce significantly. Another significant result that T- statistic for high tech exports as a percentage of GDP (−1.20) is depicting insignificant effects on poverty in the region. The overall significance of the model has judged through F-stat (18.47) which explains that the model is significant. In panel studies, the significance of the value of R-square is minimal. The value of D.W Stat (1.77) represents that there is almost no autocorrelation. Our findings are consistent with the previous research results of Eneh [48], Agyapong [49] and Aina [50].

Table 2 explains the empirical results of the regression analysis. There are three variables (SMEG, OPI, and HDI) for which the P-Value is less than 0.05 and the value of T is above the threshold which shows the significance of the results [51]. These variables show a highly significant impact on poverty

in the respective countries. In other words, the respective region must focus on three main sectors of the economy to culminate at the grass-root level: the SME sector, the external sector and the social sector. SMEs play an important role in alleviating all types of poverty, which is one of the major problems in the SAARC region. The government may focus on conducive public policies for the promotion of the SME sector in the respective region. Secondly, the external sector is one of the key sectors to promote economic activities.

The key element, which is essential to reduce poverty, is the promotion of trade. The increase in trade volume may amplify the labor demand. Any activity which is resulting in generating the employment opportunities is essential for reducing poverty. The third important sector, which is neglected by almost all the countries in the SAARC region, is the social sector. The human development index (HDI) is the composition of three main components: life expectancy, literacy rate and real GDP per capita. The results of the present study also focus on the importance of HDI for poverty alleviation. The T-Stat of HDI (2.53) shows a positive and significant effect on poverty. These results are in line with the previous study of Ali [32] and Wijesinghe et al [52].

The current phase of political instability in Pakistan has further aggravated the economic situation. All the leaders of political parties are striving their best to convince the general public with hollow slogans. The political maturity in the people is very minimal. The people are emotionally attached to their respective political parties based on their castes, races and regions but not with the national interest. In this scenario, any type of planning, either short term or long term, for the social sector is next to impossible. However, the hope for a better future is a key to progress. Further, it depends on the next government on how they prioritize their line of actions for economic and social sector developments.

Table 3 depicts the impact of growth in the SME on poverty alleviation in Sri Lanka. The results show that the growth rate in per capita (GRPC) has a high positive significant impact on the poorest 20 percent income holders with a P-value of 0.000, which is more or less than 0.05. In other words, if the governments of SAARC countries become successful in increasing their national income, then poverty would drastically reduce. Further, if they are becoming successful in reducing their population growth, then poverty may also decrease. The second important result is that SME growth, OPI and HTXG, have an insignificant impact on the poverty level in Sri Lanka. These results are consistent with prior studies, such as [53]. From the results, it has been observed that there is a problem of autocorrelation because of the low value of D.W. value. To resolve this problem, the auto-regressive (AR-1) method was used. The results show that there is almost no autocorrelation because the value of D.W (1.89) is closer to 2.

Table 4 explains the impact of growth in the SME on poverty alleviation in India. The empirical results show that SMEG, OPI and HDI have a high positive significant impact on the poorest 20 percent income holders in India. The P-value of these variables is less than 0.05, which shows a significant effect [54]. One of the important results is the high importance of the openness index (OPI) which consists of imports and exports of a country. The T- Stat of OPI is 5.72 which indicates the significant and positive impact on the dependent variable (YP) which is a proxy for poverty. It reflects that progress in the external sector is a powerful tool to reduce the intensity of poverty in the country. The results further describe that there is a positive and significant impact of the human development index (HDI) on poverty in India. The HDI covers the social and economic parameters of the country. The results indicate that the improvement in social and economic indicators, such as the literacy rate, life expectancy and GDP per capita have a positive significant role in reducing poverty. The government of India must focus on economic and social parameters to reduce poverty.

Similarly, the growth in SMEs has a positive and significant impact on poverty in India. The T-Stat of SMEG (4.59) shows its high positive and significant impact on poverty. These results are consistent with prior studies like [41]. It means that growth in the SME is a backbone for improvement in economic and social indicators by reducing poverty. The small enterprises require less expertise and less capital to start the businesses which create new employment opportunities in the country. To promote small businesses, the role of the banking sector is also inevitable which is beyond the scope of this study.

If the credit facility by the commercial banks is friendly and conducive for small entrepreneurs, then the pace of SME growth may amplify with drastic magnitude. Briefly speaking, the government of India must focus on the improvement of SME growth to reduce poverty in the country.

The results further explain that high tech exports as a percentage of GDP (HTXG) has an insignificant effect on poverty in India. The T- Stat of HTXG (−1.64) indicates that there is high potential to improve the exports of semi-manufactured goods to reduce poverty in the country. In this regard, the provision of basic infrastructure is a prerequisite for improving high tech exports. There is an immense need to commence new programs for improving technical skills, export incentives, industrial structure and innovative methods of production. R-Square represents the goodness of fit which lies between 0 and 1. The value of R-square is 0.82 which indicates that 82 percent is explained by the model. The overall significance of the model can be judged by F-Stat. The probability value is less than 0.05, which indicates that the model is significant [55]. Our results are compatible with the previous research findings by Shrestha [56], which was conducted in Nepal regarding SMEs and poverty.

5. Conclusions, Recommendation and Future Research

The SME plays a notable role in the economic growth of both developed and developing nations. In developing countries, SMEs contribute towards achieving sustainable development goals (SDGs) by generating employment opportunities, fostering innovation, promoting sustainable industrialization and reducing income inequalities. SMEs provide employment opportunities to many segments of society across different sectors and geographical areas, such as low-skilled labor in rural areas and, hence, provide opportunities for skill development [57]. SMEs become one of the key instruments that drive a country's financial, economic, political and social growth, and the main source of poverty alleviation in developing nations [58]. The essential role of SMEs toward overall economic growth has been documented extensively in the literature [59]. According to the authors' knowledge, very limited studies have been conducted in developing countries, like the SAARC region. Therefore, this study focused on examining the impact of SME's growth on poverty alleviation in the SAARC region. To achieve the prescribed objective, certain economic and social variables were selected based on prior studies, like [60]. Two methods were used to make an empirical analysis: first, the fixed-effect method and second are multiple regression models. The period of analysis consists of 26 years (1990 to 2015). The main results of the study are in favor of the positive and significant impact of SME growth in poverty alleviation. There are three main factors which are playing a pivotal role in reducing poverty in the SAARC region: SME growth, openness of trade and social sector development. All these factors are inevitable to reduce poverty in the region. The overall findings of our study are consistent with the previous research results [28].

The current study contributes to the literature on SMEs and expands the knowledge by illustrating the role of SMEs in poverty reduction. This study concentrates on the issue of poverty which is one of the burning issues in SAARC region. Due to economic and social hardships, the inhabitants of this region are having lack of job opportunities. The severity of poverty can be mitigated through the promotion of SME sector and through bilateral trade among member countries. The findings of this study showed the worth of SMEs in alleviating poverty in developing countries, especially in the SAARC region. Another contribution is to spotlight main issues of the SAARC region and their possible solution for the prosperity of regional countries. This study provides an understanding that through collective efforts of member countries, the respective economies may transform to a prosperous region. There are certain prerequisites which are essential for seeing the impact of the SME on poverty alleviation. For instance, the regional economies must focus on the solution of regional ties, trade ties and promote bilateral relationships. The findings of the present research are providing future directions for policy makers to emphasize the promotion of the SME sector in the SAARC region for the eradication of poverty. Secondly, macroeconomic issues like unemployment, poverty, income inequalities and slow economic development may be resolved with collective efforts, coordination

among the member countries and the k, promotion of trade volumes as it is evident from developed countries regional blocks.

Therefore, it is the responsibility of respective governments to draft those policies which are in favor of public interests and promote the welfare of people in the SAARC region. The government of the respective countries should concentrate on the promotion of sustainable economic growth, price stability, and employment generation to control poverty. The development of the SME sector is a shortcut to alleviating poverty as it has been proved from the present study.

Keeping in view the results of the present study, there are certain areas that are suggested for future research. For instance, to explore the area of expertise of human capital that is essential to commence their small businesses. Similarly, the role of the banking sector in the promotion of SMEs can be analyzed in future research. The future research studies may be conducted on the cost of doing small businesses in developing countries, and to identify the main impediments and their proposed solutions in the SAARC region.

References

1. Singh, R. Regional Cooperation in South Asia: Problems and Prospects. *Pak. Horiz.* **2010**, *63*, 51–66.
2. Mahanti, T.K. SMEs are Turning into a Big Growth Driver in SAARC Countries. Available online: http://businesseconomics.in/smes-are-turning-big-growth-driver-saarc-countries (accessed on 13 October 2019).
3. Mangi, A.Q. Prospects of Social Charter among SAARC Countries. *Pak. Horiz.* **2005**, *58*, 61–76.
4. Subhan, Q.A. Role of small and medium enterprises (SME's) in poverty alleviation in SAARC countries (an econometric approach). *Glob. Rev. Bus. Econ. Res.* **2010**, *6*, 67–82.
5. Maksimov, V.; Wang, S.L.; Luo, Y. Reducing poverty in the least developed countries: The role of small and medium enterprises. *J. World Bus.* **2017**, *52*, 244–257. [CrossRef]
6. UNCTD. World Investment Report: Investing in a Low-Carbon Economy. Available online: https://unctad.org/en/Docs/wir2010_en.pdf (accessed on 13 October 2019).
7. Khoury, T.A.; Prasad, A. Entrepreneurship amid concurrent institutional constraints in less developed countries. *Bus. Soc.* **2016**, *55*, 934–969. [CrossRef]
8. Grimm, M.; Knorringa, P.; Lay, J. *Constrained Gazelles: High Potentials in West. Africa's Informal Economy*; World Bank: Washington, DC, USA, 2012.
9. Mair, J.; Marti, I. Entrepreneurship in and around institutional voids: A case study from Bangladesh. *J. Bus. Ventur.* **2009**, *24*, 419–435. [CrossRef]
10. Bhandari, M. South Asian Association for Regional Cooperation. In *The Wiley-Blackwell Encyclopedia of Globalization*; Wiley-Blackwell: Hoboken, NJ, USA, 2012.
11. Saha, S.C. South Asian Association for Regional Cooperation (SAARC) and Social Development in South Asia: A Study of Some Successful Experiences. *Indian J. Asian Aff.* **2005**, *18*, 1–44.
12. Mojsoska Blazevski, N.; Petreski, M.; Ristovska, M. Breaking Up the Vicious Cycle of Poverty: How Can the School Performance of Children from Low-Income Households in Macedonia Be Improved? *Croat. Econ. Surv.* **2017**, *19*, 5–46. [CrossRef]
13. Hassan, M.K. Trade relations with SAARC countries and trade policies of Bangladesh. *J. Econ. Coop.* **2000**, *21*, 99–151.
14. Ahmed, V.; Wahab, M.A.; Mahmood, H. Effectiveness of HRD for Developing SMEs in South Asia. Available online: https://mpra.ub.uni-muenchen.de/30780/ (accessed on 13 October 2019).
15. Vijayakumar, S. An Empirical Investigation on the Association between Small and Medium Enterprises and the Economic Growth of Sri Lanka. *Trends Econ. Manag.* **2013**, *7*, 82–91.
16. Okpara, J.O.; Kabongo, J.D. An empirical evaluation of barriers hindering the growth of small and medium sized enterprises (SMEs) in a developing economy. *Afr. J. Bus. Econ. Res.* **2009**, *4*, 7–21.
17. Anyanwu, J.C. Poverty in Nigeria: Concepts, measurement and determinants. In *Poverty Alleviation Niger*; Nigerian Economic Society: FCT Abuja, Nigeria, 1997.

18. Van Stel, A.; Carree, M.; Thurik, R. The effect of entrepreneurial activity on national economic growth. *Small Bus. Econ.* **2005**, *24*, 311–321. [CrossRef]

19. Zafar, A.; Mustafa, S. SMEs and its role in economic and socio-economic development of Pakistan. *Int. J. Acad. Res. in Account. Financ. Manag. Sci.* **2017**, *6*, 195–205. [CrossRef]

20. Stefanczyk, D.; Gorfine, D.; Aggarwal, R. The Role of Small and Medium-sized Enterprises in Sustainable Development. In *Sustainable Markets for Sustainable Business*; Routledge: Abingdon, UK, 2016; pp. 139–158.

21. Mailo, G.M.; Halepoto, A.H.; Shah, A.S. Time Series Analysis of Micro Credit and its impact on SMEs business Growth and Alleviating Poverty in Rural Sindh. *Romanian Statist. Rev. Suppl.* **2014**, *62*, 65–72.

22. Ravallion, M.; Chen, S. *When Economic Reform Is Faster than Statistical Reform: Measuring and Explaining Inequality in Rural China*; The World Bank: Washington, DC, USA, 1999. [CrossRef]

23. Akeredolu-Ale, E.O. Private foreign investment and the underdevelopment of indigenous entrepreneurship in Nigeria. In *Nigeria: Economy and Society*; Rex Collings: London, UK, 1976.

24. Bronfenbrenner, M. *Income Distribution Theory*; Routledge: Abingdon, UK, 2017.

25. Hartog, J. *Personal Income Distribution: A Multicapability Theory*; Springer Science & Business Media: Berlin, Germany, 2012.

26. Moseley, F. Mankiw's attempted resurrection of marginal productivity theory. *Real World Econ. Rev.* **2012**, *61*, 115–124.

27. AKINBOBOLA*, T.; Saibu, M. Income inequality, unemployment, and poverty in Nigeria: A vector autoregressive approach. *J. Policy Reform* **2004**, *7*, 175–183. [CrossRef]

28. Sanusi, A.S.; Hamza, S.M. Impact of sme's on economic development of asian countries. Available online: http://www.ftms.edu.my/journals/pdf/IJABM/Nov2017/170-183.pdf (accessed on 13 October 2019).

29. Edom, G.O.; Inah, E.U.; Emori, E.G. Small and medium enterprises financing and poverty reduction in Nigeria: An empirical analysis. *Small* **2015**, *6*, 56–67.

30. Kowo, S.; Adenuga, O.; Sabitu, O. The role of SMEs development on poverty alleviation in Nigeria. *Insights Reg. Develop.* **2019**, *1*, 214–226. [CrossRef]

31. UN. *State of the Least Developed Countries. Special Theme Extreme Poverty Eradication in the Least Developed Countries and the Post-Development Agenda*; UN: New York, NY, USA, 2014.

32. Ali, S. The small and medium enterprises and poverty in Pakistan: An empirical analysis. *Eur. J. Bus. Econ.* **2013**, *8*, 25–30. [CrossRef]

33. Hassaas, M. The effect of small and medium enterprises on poverty reduction in afghansitan. Available online: http://acikarsiv.aydin.edu.tr/handle/11547/2218 (accessed on 13 October 2019).

34. Dar, M.S.; Ahmed, S.; Raziq, A. Small and medium-size enterprises in Pakistan: Definition and critical issues. *Pak. Bus. Rev.* **2017**, *19*, 46–70.

35. Rajeevan, N.; Sulphey, M.; Rajasekar, S. The critical role of micro, small & medium enterprises in employment generation: An Indian experience. *Asian Soc. Sci.* **2015**, *11*, 258.

36. Begum, A.; Abdin, M. Employment Generation and Poverty Alleviation through SME Cluster Development in Bangladesh. *Turkish Econ. Rev.* **2015**, *2*. [CrossRef]

37. Ahmed, K.; Chowdhury, T.A. Performance evaluation of SMEs of Bangladesh. *Int. J. Bus. Manag.* **2009**, *4*, 126. [CrossRef]

38. Moktan, S. Development of small and medium enterprises in Bhutan: Analysing constraints to growth. *South Asian Surv.* **2007**, *14*, 251–282. [CrossRef]

39. Vijayakumar, S.; Brezinova, O.; Marek, S. The Status and Growth of Small and Medium Enterprises in Sri Lanka. Available online: https://www.tvp.zcu.cz/cd/2012/PDF_sbornik/091.pdf (accessed on 13 October 2019).

40. Gamage, A.S. Small and Medium Enterprise Development in Sri Lanka: A Review. Meijo University, Faculty of Business Management, Nagoya, Japan. 2003. Available online: http://wwwbiz.meijo-u.ac.jp/SEBM/ronso/no3_4/aruna.pdf (accessed on 13 October 2019).

41. Beck, T.; Demirguc-Kunt, A.; Levine, R. SMEs, growth, and poverty: Cross-country evidence. *J. Econ. Growth* **2005**, *10*, 199–229. [CrossRef]

42. Saltz, I.S. Income distribution in the Third World: Its estimation via proxy data. *Am. J. Econ. Sociol.* **1995**, *54*, 15–24. [CrossRef]

43. Gujarati, D.N. *Basic Econometrics*; Tata McGraw-Hill Education: New York, NY, USA, 2009.

44. Baltagi, B. *Econometric Analysis of Panel Data*; John Wiley & Sons: Hoboken, NJ, USA, 2008.

45. Asteriou, D.; Hall, S. *Applied Econometrics*; Palgrave Macmillan: London, UK, 2011.

46. Qing, M.; Asif, M.; Hussain, A.; Jameel, A. Exploring the impact of ethical leadership on job satisfaction and organizational commitment in public sector organizations: The mediating role of psychological empowerment. In *Review of Managerial Science*; Springer: Heidelberg, Germany, 2019.

47. Manzoor, F.; Wei, L.; Bányai, T.; Nurunnabi, M.; Subhan, Q.A. An Examination of Sustainable HRM Practices on Job Performance: An Application of Training as a Moderator. *Sustainability* **2019**, *11*, 2263. [CrossRef]

48. Eneh, O.C. Growth and development of sustainable micro, small and medium enterprises sector as a veritable factor for poverty reduction in developing countries. *Pref. and Acknowledgements* **2017**, *6*, 149.

49. Agyapong, D. Micro, small and medium enterprises' activities, income level and poverty reduction in ghana-A synthesis of related literature. *Int. J. Bus. Manag.* **2010**, *5*, 196. [CrossRef]

50. Aina, O.; RTP, A. The role of SMEs in poverty alleviation in Nigeria. *J. Land Use and Dev. Stud.* **2007**, *3*, 124–131.

51. Asif, M.; Jameel, A.; Sahito, N.; Hwang, J.; Hussain, A.; Manzoor, F. Can leadership enhance patient satisfaction? Assessing the role of administrative and medical quality. *Int. J. Environ. Res. Public Health* **2019**, *16*, 3212. [CrossRef] [PubMed]

52. Wijesinghe, J.; Foreman, J.; Elijido-Ten, E. Conducting Research in South Asian Small and Medium Enterprises: Questions about Methods. Available online: http://repository.kln.ac.lk/handle/123456789/4553 (accessed on 13 October 2019).

53. Kakwani, N.; Son, H.H. Income inequality and social well-being. In *Social Welfare Functions and Development*; Springer: Berlin, Germany, 2016; pp. 139–190.

54. Asif, M.; Jameel, A.; Hussain, A.; Hwang, J.; Sahito, N. Linking Transformational Leadership with Nurse-Assessed Adverse Patient Outcomes and the Quality of Care: Assessing the Role of Job Satisfaction and Structural Empowerment. *Int. J. Environ. Res. Public Health* **2019**, *16*, 2381. [CrossRef]

55. Asif, M.; Qing, M.; Hwang, J.; Shi, H. Ethical leadership, affective commitment, work engagement, and creativity: Testing a multiple mediation approach. *Sustainability* **2019**, *11*, 4489. [CrossRef]

56. Shrestha, B.K. SME Promotion Strategies and Poverty Alleviation in Nepal. In *Private Sector Development and Poverty Reduction: Experiences from Developing Countries*; Universität Leipzig: Leipzig, Germany, 2005.

57. Manzoor, F.; Wei, L.; Nurunnabi, M.; Subhan, Q.A.; Shah, S.I.A.; Fallatah, S. The impact of transformational leadership on job performance and CSR as mediator in SMEs. *Sustainability* **2019**, *11*, 436. [CrossRef]

58. Etuk, R.U.; Etuk, G.R.; Michael, B. Small and medium scale enterprises (SMEs) and Nigeria's economic development. *Mediterr. J. Soc. Sci.* **2014**, *5*, 656. [CrossRef]

59. Oyelana, A.A.; Adu, E.O. Small and medium enterprises (SMEs) as a means of creating employment and poverty reduction in Fort Beaufort, Eastern Cape Province of South Africa. *J. Soc. Sci.* **2015**, *45*, 8–15. [CrossRef]

60. Mehrara, M.; Seijani, S.; Karsalari, A.R. Determinants of high-tech export in developing countries based on Bayesian model averaging. *J. Econ. Bus.* **2017**, *35*, 199–215. [CrossRef]