Journal of Policy Research, 7(2), 43-50.
http://rfh.org.pk/jur/magazine-category/jpr

The Role of Vocational Education in Determining the Economic Growth of Pakistan

Atif Khan Jadoon[1]

Abstract
Vocational training improves productivity and enhances the efficiency of labor for better participation in economic development. The objective of this study is to determine the impact of vocational education on the economic growth of Pakistan. The study finds the impact of public investment in vocational education and the availability of teachers in vocational education. This study uses time series data for empirical analysis. The findings of the study show that there is a positive relationship between vocational education and economic growth. Better vocational education improves the efficiency and productivity of the labor force which further enhances economic development. It is suggested that the existing vocational education system should be upgraded. The shortage of teachers in technical institutions should be fulfilled and proper training should be provided to teachers.

Keywords: vocational education, labor productivity, economic growth, Pakistan
JEL Codes: A20, J1, O

1. Introduction

Human Capital is considered an essential determinant of economic growth. It comprises different factors like education, health, vocational training, and skill development is among one of them. Vocational education refers to the education that prepares people for the job and makes them more productive and enhances human potential and diversifies their choices to promote self-employment. It is a fact that technical education and vocational training can help individuals to generate income and contribute to the economic growth and social development of a country. The trained labor force is considered an important factor for development (Mustafa, 2005). The demand for vocational education and training is increasing as we move towards industrialization and modernization. Vocational education and training are indispensable instruments for improving labor mobility, adaptability, and productivity. Economic development and technological advancement cannot be attained without the general status of technical and vocational competency embodied in its workforce (Khilji, 2012) Enrollment of teachers in vocational institutions play a very important role. The most cost-effective use of public resources is to improve the productivity of the workforce. The developments of occupational skills lead to technological advancement that ensures optimum utilization of resources and enhanced productivity. Vocational education is different from general education. Vocational education improves the skill of the workforce and affects economic growth and helps to reduce unemployment. Skilled worker enhances the quality and efficiency of production. Better training and education would refine the skills of workers which leads to a higher income and better living standard. It enables the worker to earn themselves and create self-satisfaction. It protects people from unemployment. Vocational graduates are well prepared to enter the competitive workforce. It reduces gender difference, migration, and dependency ratio. Young people with experience can find a better job easily. Investment in the priority areas of education becomes very necessary for reducing the gap between skilled and unskilled workers. Spending on the education sector by the government helps in increasing the productivity of the workers. Rapid technological progress changes the production methods now individuals can learn new skills and improve labor productivity. The level of the technological capacity of society has a direct link with its educational system. The youth population must be trained in the different professions of its choice. This process enables them to start a business and it is possible only through vocational education and training.

In Pakistan, vocational education institutes offer courses that vary from three months to two months after 8 grade. Vocational education is provided through polytechnic, vocational centers, and apprenticeships. Over the past few years Government of Pakistan has improved the vocational education system. But still, the country is lagging in vocational education and training. The quality of teachers is not good and the learning material is outdated. Pakistan's workforce is characterized as having low skills and being poorly prepared to compete in the globalized world (Kazmi, 2007).

Pakistan is a developing country with higher population growth and the youth population appeared to be the major portion of the population (Economics survey of Pakistan, 2014) With the fast-growing youth population, the vocational education sector's capacity for delivering training services for increasing the workforce abilities is skills remain insufficient to meet the modern labor market challenges Many countries leading in global workforce have

[1] Assistant Professor: Department of Economics, University of Punjab, Lahore, Pakistan

heavily invested on skills development. Investment in physical and human capital leads to the development of the services sector, which invariably follows industrialization and modernization.

The current structure of vocational education in Pakistan is complex and consists of many agencies and levels. Government vocational education institutes are administered by the provincial education department. Training of various skills in Pakistan is imparted through polytechnic, vocational training centers, apprenticeship departments, and commercial and training institutions. Before the establishment of technical and vocational education in Pakistan, there was a lack of responsiveness and flexibility in the training system in meeting the demands of the industry. The link between industry and training institutions was weak. There were few funds to purchase new machinery to replace the old one. The institutions were increasingly becoming supply-driven instead of demand-driven (Kazmi, 2007).

The real challenge is to establish institutions that recognize the value of investing in people and provide dignity and a fair deal for working men and women with a well-educated and skilled labor force. The most important outcome of an effective human resource development system is that it opens up decent employment opportunities by enhancing workers' abilities to secure and retain jobs. In this way, they survive in the competitive conditions of the new global economy, and technical vocational education must break out of the low-level skills trap. It is essential to visualize the need for vocational training to fulfill the immediate market demand (Khilji,2012). Because of globalization and technological changes, there is a need for vocational education and the upgradation of existing technical institutions. This is the era of large-scale industries and large-scale factories are necessary for economic development. Vocational education and training programs could serve the purpose of providing marketable skills to individuals. The old structure of Pakistan's domestic economy has failed to produce a skilled labor force, which enhances the quality and productivity of industries. It is necessary to invest in vocational education to enhance the productivity of workers. This study has provided a brief picture of how vocational education affects economic growth in Pakistan. This study is a healthy contribution to the respective literature.

2. Literature Review

Kazmi (2007) studied that developing countries face many challenges in the labor market to compete for the required skills and technological innovation. Skills requirements are not only growing but also changing constantly. Labour with knowledge and skill in the occupation determined the growth pattern of the nation. Vocational education at school and secondary level are necessary to fulfill the requirement of existing job opportunities. The quality of teachers and limited supplies of skilleded workers affect vocational education. This study finds that Pakistan needs to improve its vocational education system. Pakistan's workforce is described as low-skilled and poorly prepared to compete in the globalized world. There is a direct need to invest in vocational education.

Inamullah et al, (2009) study the present profile of technical vocational education in NWFP in Pakistan. The main objective of the study is to explore the perception of teachers and students regarding the physical and academic facilities of technical education in NWFP. There is a lack of technological changes and physical facilities. A questionnaire is designed for this purpose, Total Design Method (TDM) is used for empirical analysis. The results show that the facilities of laboratory and computer are sufficient while building, transport, first aid, hostel, fire-fighting facilities, latest reading material, online research facilities, and budget are not sufficient in the institutions of technical education. It is revealed that the overall physical facilities are not satisfactory.

Shah et al., (2011) examine the situations of vocational training and technical education in Punjab. Technical education and vocational training can help individuals to generate income and contribute to the economic growth and social development of a country with knowledge and skills. The objective of this study is to explore the perceptions of the teachers regarding the effectiveness of vocational education and technical training. This study also examines the effects of teacher training courses. A questionnaire consisting of 15 items is used to collect primary data. OLS technique is used for empirical analysis. The finding shows that the curriculum of TEVT is good but its linkage with industry is weak and internship is not properly managed. In Punjab, it is also found that outgoing students are not ready for the job market. Teachers have faced the problems of housing and a lack of incentives for better performance.

Khilji et al, (2012) conduct a study for examining the impact of vocational education on economic growth. They find that vocational education is an essential determinant of economic growth. It enhances the efficiency of labor This Study shows that government spending on education increases the productivity of the labor force. This study is based on time series data. It is found that vocational education needs to be refocused so the labor force contributes toward growth by providing vocational education, it is necessary to improve the quality of education.

Mustafa et al, (2005) investigate the demand for vocational education in this industrialization and modernization era. They discuss the role of vocational education in the productivity of workers and the unemployment rate. The skill and quality of the labor force have allowed us to compete with other countries. The main sources of data for empirical

analysis are various issues of "The labor Force Survey" published by the Federal Bureau of Statistics Division of the Government of Pakistan. They find that when people acquire skills they become more adaptable. It will improve their lives as well as contribute to economic growth. Pakistan needs to upgrade its technical education and must plan some strategies, for making its labor more productive.

Agrawal (2013) studies the role of the vocational education system in Asian countries. The VET system has played a major role in the economic development of South Asian countries, especially in the case of Afghanistan, Bangladesh, India, and Pakistan. Governments of these countries have paid more attention to this sector in the past few years but outcomes are still poor. The VET system is facing several challenges like the quality of institutions and fewer linkages between VET providers and industries. South Asian counties are expanding the VET system but this system has not responded very well in this region.

Ajmal et al., (2011) compare the vocational training structure of Pakistan with the British & German models. They propose a vocational and technical education and training model for Pakistan. The data was collected through interviews and surveys. Dual systems of training are introduced in Pakistan, the UK, and Germany. This system is functionally well in Great Britain and Germany but there is several weaknesses in Pakistan. The training system does not meet the requirement of industries in the case of Pakistan. It was found that the dual systems of vocational training do not work well in Pakistan as compared to UK and Germany.

Ansari et al., (2013) study that Technical and vocational education plays an important role in the socio-economic development of a country. This work aims to highlight the development phases of Pakistan's technical vocational education. The efforts for reforming this sector are mainly focused on the proposed Skilling Pakistan reforms outlined in NSS. Quantitative information is collected from published literature and reports. The study shows that numerous efforts are made to promote technical education in Pakistan since 1947. But no such tangible progress is recorded as compared to other developing countries. Consequently, Pakistan faces a serious skills gap which ultimately put immense pressure on labor productivity in both domestic and foreign labor markets.

Mohammad (2006) examines the current situation of the vocational education system. He highlights the challenges that the technical vocational education system is facing and the quality of the technical vocational education system in developing countries. For a successful Technical vocational education training System, it is important to ensure positive social attitudes towards training. It is needed for new development patterns Moreover, policies and practices of TVE in the Developing Countries must have their foundations in this pattern. It will reduce the wastage of resources; improve the relevance and retention of training personnel in the country. It finds that the technical and vocational education system in developing countries faces several limitations that this sector is facing

Javied (2009) studies the role of training in the determination of labor wages. Quality of training plays a very important role. It is needed to train the workers and provide them with vocational technical education to increase the productivity of workers. The least square technique is used for empirical analysis. Schooling and other demographic variables have expected signs and magnitudes. This study shows that training is insignificant in the determination of wages. Technical education should be encouraged to promote the capacity of skilled manpower to adjust to changes in Labour demand.

3. Theoretical Framework

Vocational education and training are based on human capital theory (HTC). The human capital theory (Becker, 1981) asserts that additional education or training increases an individual's useful knowledge and technical skill which eventually level so that it eventually increases an individual's productivity and lifelong income. The effect of training may differ on gender, age, duration, and cost of training. Human capital theory (Becker, 1993) assumes a positive relationship between education, training, and workers' productivity. This study shows that an individual's education and training have a positive impact on economic growth. The decision to invest in training and education is dependent on the cost and future profit. According to previous literature it never always guarantees positive results. Under the human capital theory, job selection is affected by the amount of education that the workers receive when the labor market is a perfectly competitive market. Therefore, an increase in the investment of human capital increases expected profit. Further, human capital theory considers human capital as a primary source of economic growth and labor productivity & quality could be increased as a result of investment in human resources.

The essential role of vocational education is to facilitate and construct knowledge through experiential, contextual, and social methods in the environment of the real world. The conceptualization of human capital was propounded by Smith and expanded by Becker (1962). It suggests that human beings can be improved using education, training, or other activities that raise their future income and hence their lifetime earnings. Human beings are considered assets that will generate income in the future and are referred to as capital. Smith (1776) mentions that education helps to increase the productive capacity of workers in the same way as new machinery or other forms of physical capital

increase the productive capacity of a factory or other functional enterprises. Human Capital Theory refers to both the mental and physical abilities (skills, acquired knowledge, and dexterity) of the human component of a society which can enhance productivity. The theory tries to explain and indeed established a link relationship between the development of human resources and growth in national output. According to Baldwin (1991) training participation in human development is conceptualized as a multi-dimensional phenomenon that leaves different forms (1997). There is a positive relationship with the rate of participation in training activities (Nie and Wilk, 1993).

Skinner's school of thought is a more acceptable ideology that supports positive reinforcement and discourages traditional teaching tools which are not user-friendly. It mentions that the role of the learners or the trainees is vital as they are the main stakeholders in the whole process of learning. The Theory of Learning (Stromsforfer, 1972) refers to the technology of vocational training that encompasses the training organization, pedagogy, instructional strategies, management, and monitoring procedures. Lillis and Hogan (1983) and Grubb (1985) regard vocational education as the solution to an enrolment problem of public education policies. Chung (1995) reports higher returns for vocational education than for general secondary education.

The Millennium Development Goals (MDGs) are the central piece of development efforts of the government of Pakistan. There are some goals (MDGs) regarding education like expanding and improving comprehensive early childhood care and education. The learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programs and by improving all aspects of the quality of education. It ensures the excellence of all so that measurable learning outcomes are achieved by all. Especially in literacy and essential life skills and enhancing the capacity of the people through human development programs in education, health, population welfare, and skill development. Enrolling children in school can change the statistic ratio and may also help us to raise the Status on a global platform and it cannot change the challenges faced by Pakistan. Only practical education is the tool that can lead Pakistan towards success. Hiring of trained teachers, providing basic facilities to the students, good attendance rates, timely progression through grades, and mastery of basic cognitive skills are a few of the elements, we need to consider. We must enhance the quality of schooling and ensures they can achieve their full potential.

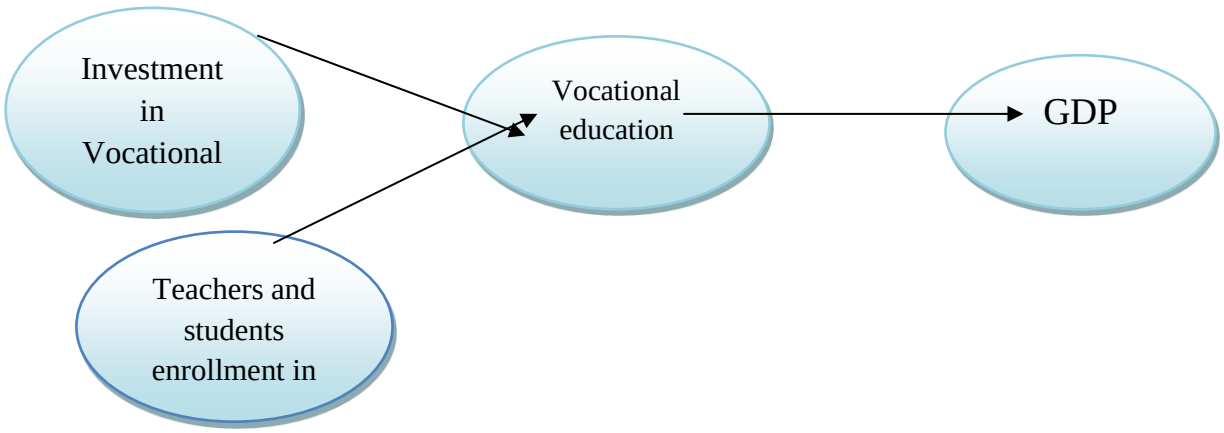
4. The Conceptual Model

This study is based on secondary time series data. Data used in this study has been obtained from various sources of the Economic Survey of Pakistan (Education). Higher economic growth is the ultimate objective of every economy (Ali, 2015; Ali, 2018; Ali and Bibi, 2017; Ali and Ahmad, 2014; Ali and Audi, 2016; Ali and Audi, 2018; Ali and Rehman, 2015; Ali and Senturk, 2019; Ali and Zulfiqar, 2018; Ali et al., 2016; Ali et al., 2021; Ali et al., 2021; Ali et al., 2015; Arshad and Ali, 2016; Ashraf and Ali, 2018). The main objective of this study is to see the impact of vocational education on the economic growth of Pakistan and to identify how investment and enrolment of teachers in vocational institutional affect economic growth. Mustafa (2005) uses the ordinary least square method to examine the effect of the rate and variability of increase in institutions, enrolment, and teachers on output growth. Khiliji (2012) uses time series data to test the relationship between labor stock and capital stock and economic growth. ADF unit root test is used for this purpose after determining the order of integration co-integration test and the error correction model is used to determine the long run and the short run relationship between the variables. Shah (2011) uses a questionnaire containing 15 items for the target group. A questionnaire is addressed to the teachers of the TEVTA institutions and sought information about the effectiveness of training Programs, teacher training courses physical facilities.

Economic growth = f **(**Investment in vocational education, teachers enrolment, students enrolment**)**

Variable description

Independent variable Dependent variable



5. Results and Discussion

Investment in vocational education plays an important role in determining the scope of vocational training and the best indicators of the performance of the output in producing good quality labor and positively affects economic growth. Investment in vocational education and skill development become important for reducing the gap between skilled and unskilled labor forces. Investing in vocational education leads to technological advancement that ensures optimum utilization of resources and leads to enhanced productivity and thereby increasing the level of growth. Enrolment of Teachers and students also plays a significant role in determining output growth. Because teachers are the key actors in maintaining and improving the quality of education and training systems Enrolment of trained teachers is one of the many factors that may influence student learning.

Table 1

Expenditure on Education (Rs. million)					(Rs million)
Years		Current Expenditure	Development Expenditure	Total Expenditure	As % of GDP
2010-11	Fedral	44,023	15,963	59,986	
	Punjab	133,283	10,214	143,497	
	Sindh	64,370	7,925	72,295	
	Khyber Pakhtunkhwa	16,080	10,826	26,906	**1.8**
	Balochistan	18,483	1,644	20,127	
	Pakistan	**276,239**	**46,572**	**322,811**	
2011-12	Fedral	45,278	12,521	57,799	
	Punjab	151,474	22,578	174,052	
	Sindh	57,758	10,810	68,568	
	Khyber Pakhtunkhwa	53,429	14,255	67,684	
	Balochistan	22,289	3,131	25,420	**2.0**
	Pakistan	**330,228**	**63,295**	**393,523**	
2012-13	Fedral	57,027	14,686	71,713	
	Punjab	186,763	9,323	196,086	
	Sindh	92,697	5,728	98,425	
	Khyber Pakhtunkhwa	65,856	18,602	84,458	**2.1**
	Balochistan	26,601	2,570	29,171	
	Pakistan	**428,944**	**50,909**	**479,853**	
2013-14	Federal	65,497	21,554	87,051	
	Punjab	187,556	30,485	218,038	
	Sindh	99,756	6,157	106,093	
	Khyber Pakhtunkhwa	7,048	18,756	89,704	
	Balochistan	29,978	6,911	36,889	**2.1**
	Pakistan	**453,735**	**83,863**	**537,598**	
2014-15	Fedral	73,322	27,969	101,291	
	Punjab	201,882	25,208	227,090	
	Sindh	109,274	7,847	117,121	
	Khyber Pakhtunkhwa	83,205	28,506	111,711	
	Balochistan	32,299	8,803	41,102	**2.2**
	Pakistan	**499,982**	**98,333**	**598,315**	
2015-16	Federal	33,005	14,541	47,546	
	Punjab	100,842	9,511	110,353	
	Sindh	57,986	2,148	60,134	
	Khyber Pakhtunkhwa	22,767	3,700	6,467	
	Balochistan	16,280	2,923	19,203	-
	Pakistan	**230,880**	**32,823**	**263,703**	

*July-December (Provisional)

Source: PRSP Budgetary Expenditures, External Finance Policy Wing, Finance Division, Islamabad

This study supports the null hypotheses. There is a positive relationship between investment and enrollment of trained teachers in vocational education and economic growth. And vocational education has a significant impact on economic growth. If there is an increase in the expenditure on vocational education it will maintain the infrastructure and provide facilities to the teachers as well as students to learn in more productive ways. It also leads to technological advancement which is very necessary for a country. The perception of the vocational education system as being low 'status' in Pakistan can cause two problems it can lead to a selection of lower quality teachers and deter the brighter student even if they are interested and have the talent for a particular vocational career. There should be an increase in trained teachers because it will influence the students learning.

6. Technical and Vocational Education

National Vocational and Technical Training Commission (NAVTTC) is an apex body and a national regulatory authority to address the challenges of the Technical and Vocational stream in the country. It is involved in policy-making, strategy formulation, and regulation & revamping of the TVET system. The Commission is establishing and promoting linkages among various stakeholders at the national as well as international levels. During FY2016, the federal government allocated and released Rs. 349.822 million for NAVTTC to its ongoing sub-projects throughout the country.

Table 2

Profile of Prime Minister's Youth Skill Development Program (Phase-I, II& III) (Rs. million)				
S#	Features	(Phase-I) 2014-15 & 2015-16	(Phase-II) 2015-16	(Phase-III) 2016-17 & 2017-18
1	Block Allocation outside PSDP	800.00	1178.00	2630.00
2	Target trainees	25,000 24,834 (pass-outs)	25,000 (training completed)	50,000 (in two batches)
3	Male /Female ratio	66/34	61.18/ 38.82	75/25 (at least)
4	No. of target trades	100	195	50 – 70
5	Seat allocation	As per population	As per population	As per population
6	Trades highlighted by	·Prime Minister's Office, · TVET provincial stakeholders	· Prime Minister's Office, · TVET provincial stakeholders, · Commercial welfare attachés	Prime Minister's Office, · TVET provincial stakeholders, · CPEC, · Commercial welfare attachés, · M/o Overseas Pakistanis & HRD
7	Target group	18 to 35 years (Youth) Priority is given to; · Less Educated · Upper age personnel · Lower class (Economically) · Disabled · Eunuchs · Sportsman	18 to 35 years (Youth) Priority is given to; · Less Educated · Upper-age personnel · Lower class (Economically) · Disabled · Eunuchs · Sportsman, Hafiz e Quran & madaris students · Widows	18 to 40 years (Youth) Priority is given to; · Less Educated · Upper-age personnel · Lower class (Economically) · Disabled · Eunuchs · Sportsman, Hafiz e Quran & madaris students · Widows

7. Prime Minister's Youth Skill Development Program (Phase-III)

Prime Minister's Youth Skill Development Program was launched under the directives of the Prime Minister for unemployed and less educated youth. National Vocational Technical Training Commission (NAVTTC) in collaboration with Provincial TEVTAs including Azad Jammu & Kashmir, Gilgit-Baltistan, FATA, and other Government/Private Sector Skill Training Institutes executed the phase-I of this program, in which 24,834 individuals were equipped with hand-on skills. After the successful execution of PMYSDP (Phase-II), NAVTTC launched PMYSDP (Phase-II) for more than 25,000 trainees and catered to 195 demand-driven trades. Detail profile of the Prime Minister's Youth Skill Development Program is given in Table-10.6 below.

The ultimate objective of PMYSDP is to create a competent, motivated, entrepreneurial, adaptable, creative, and well-trained / skilled workforce for the local and international markets. Better earning and livelihood will help in building the mindset of positive and creative activities.

8. Conclusions

Vocational education is an essential determinant of economic growth. It enhances the efficiency of the labor force. It can help labor to generate income and contribute to economic growth and social development of a country by acquiring knowledge and skills. Education with training is a prime ingredient not only in the process of creating jobs but also helps in increasing economic growth. Vocational education increases the productivity of workers and plays an important role in sustaining the current pace of growth through enhanced productivity of workers. The results show that there is a positive relationship between vocational education and economic growth. Better standards of vocational education improve the efficiency and productivity of the labor force. But in Pakistan, there is a lack of investment in vocational education which disturbed the productivity of labor. The public expenditure on vocational must be increased to fulfill the gap between the skilled and unskilled workforce and to compete with other countries. For the solution to the problem, the government must plan some strategies to fulfill the gap between the skilled and unskilled workforce by investing in vocational education. The shortage of teachers at institutions should be fulfilled by filling the sanctioned posts of a teacher who have the latest skills. Upgrade the existing vocational education system in terms of syllabus and facilities to meet the modern challenges. This will also contribute toward poverty reduction, and social and economic developments through facilitating demand-driven, high-quality technical and vocational training.

References

Aftab, R. (1962). Public Policies and Governance Perspective in Education Sector-Pakistan , Islamabad, Pakistan (Technical and Vocational).

Agrawal, T. (2013). Vocational education and training programs (VET): An *Asian perspective Asia-Pacific. Journal of Cooperative Education*, 14(1), 15-26.

Ajmal, M. Shah, H. I. (2011). A Comparative Study on Vocational Training Structure of Pakistan with British and German Mode. *International journal of business and social science*, 2(1), 980-984.

Ali, A. (2015). *The impact of macroeconomic instability on social progress: an empirical analysis of Pakistan*. (Doctoral dissertation, National College of Business Administration & Economics Lahore).

Ali, A. (2018). Issue of Income Inequality Under the Perceptive of Macroeconomic Instability: An Empirical Analysis of Pakistan. *Pakistan Economic and Social Review*, 56(1), 121-155.

Ali, A. and Bibi, C. (2017). Determinants of Social Progress and its Scenarios under the role of Macroeconomic Instability: Empirics from Pakistan. *Pakistan Economic and Social Review* 55 (2), 505-540.

Ali, A., & Ahmad, K. (2014). The Impact of Socio-Economic Factors on Life Expectancy in Sultanate of Oman: An Empirical Analysis. *Middle-East Journal of Scientific Research*, 22(2), 218-224.

Ali, A., & Audi, M. (2016). The Impact of Income Inequality, Environmental Degradation and Globalization on Life Expectancy in Pakistan: An Empirical Analysis. *International Journal of Economics and Empirical Research*, 4 (4), 182-193.

Ali, A., & Audi, M. (2018). Macroeconomic Environment and Taxes Revenues in Pakistan: An Application of ARDL Approach. *Bulletin of Business and Economics* (BBE), 7(1), 30-39.

Ali, A., & Rehman, H. U. (2015). Macroeconomic instability and its impact on the gross domestic product: an empirical analysis of Pakistan. *Pakistan Economic and Social Review*, 285-316.

Ali, A., & Şenturk, I. (2019). Justifying the Impact of Economic Deprivation, Maternal Status and Health infrastructure on Under-Five Child Mortality in Pakistan: An Empirical Analysis. *Bulletin of Business and Economics*, 8(3), 140-154.

Ali, A., & Zulfiqar, K. (2018). An Assessment of Association between Natural Resources Agglomeration and Unemployment in Pakistan. *Pakistan Vision*, 19(1), 110-126.

Ali, A., Ahmed, F., & Rahman, F. U. (2016). Impact of Government Borrowing on Financial Development (A case study of Pakistan). *Bulletin of Business and Economics* (BBE), 5(3), 135-143.

Ali, A., Audi, M., & Roussel, Y. (2021). Natural Resources Depletion, Renewable Energy Consumption and Environmental Degradation: A Comparative Analysis of Developed and Developing World. *International Journal of Energy Economics and Policy*, *11*(3), 251-260.

Ali, A., Audi, M., Bibi, C., & Roussel, Y. (2021). The Impact of Gender Inequality and Environmental Degradation on Human Well-being in the Case of Pakistan: A Time Series Analysis. *International Journal of Economics and Financial Issues*, *11*(2), 92-99.

Ali, A., Mujahid, N., Rashid, Y., & Shahbaz, M. (2015). Human capital outflow and economic misery: Fresh evidence for Pakistan. *Social Indicators Research*, *124*(3), 747-764.

Ansari, B. and Xueping, W. (2013). Development of Pakistan technical and vocational education and training : as an analyses of skilling Pakistan reforms. *Journal of Technical Education and Training*, 5(2).

Arshad, S., & Ali, A. (2016). Trade-off between Inflation, Interest and Unemployment Rate of Pakistan: Revisited. *Bulletin of Business and Economics (BBE)*, *5*(4), 193-209.

Ashraf, I., & Ali, A. (2018). Socio-Economic Well-Being and Women Status in Pakistan: An Empirical Analysis. *Bulletin of Business and Economics (BBE)*, 7(2), 46-58.

Government of Pakistan, Ministry of finance, Economic survey of Pakistan 2011 to 2012, education

Hoeckel, K. (2007). Key evidence on vocational education and training from previous OECD works, 6/ANN1.

Inamullah, H. M. Husain, I. and Shah, I. (2009). The development of technical education in Pakistan. *International Business & Economics Research Journal*, 8(1), 52-64.

Javied, Z. and Hyder, A. (2009). Impact of training on earning (evidence from Pakistan industries). *Asian Social Science*, 5(11), 76-85.

Kazmi, S. W. (2007). Vocational education and skill development a case of Pakistan. *SAARC Journal of Human Resource Development*, 3(1), 162-169.

Khilji, B. A Kaker, Z. K. and Subhan, S. (2012) . Impact of vocational training and skill development on economic growth in Pakistan. *World Applied Sciences Journal*, 17(10), 1298-1302.

Mohammad, M. and Wahba, M. (2006). Technical and vocational education challenges and priorities in developing countries.

Mustafa, U . Abbas, K. and Saeed, A. (2005). Enhancing vocational training for economic growth in pakistan. *The Pakistan Development Review*, 44(4), 567–584.

Shah, I. H. Rehman, F. Ajmal, M. and Hamidullah, H. M. (2011). Situation analysis of technical education training a case study from Pakistan. 3(1) , 162-169.