

the trickle-down effects of china's belt and road initiative: empirical evidence from china-pakistan economic corridor

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## **The Trickle-down Effects of China's Belt and Road Initiative: Empirical Evidence from China-Pakistan Economic Corridor**

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### **Abstract**

This study aims at examining the trickle-down effects of Belt and Road Initiative, in-contrast to the existing literature focusing on the financial and economic aspects of the Initiative. Taking China-Pakistan Economic Corridor, the flagship project of Belt and Road Initiative, as a case study, a moderation and mediation analysis has been employed to examine the implications. It has been argued that the BRI has created an environment that fostered tourism in the study region that has a 450km alignment along the CPEC route. As a result, the region has witnessed mushrooming of micro and small enterprises. To examine the trickle-down effects, 'tourism' has been used as mediator between China Pakistan Economic Corridor and wellbeing. Relationship between CPEC and tourism, and tourism and wellbeing is significant and positive. Likewise, asset holdings, as a moderator, has significant and positive effect on wellbeing via CPEC and tourism.

**Keywords:** BRI, CPEC, China, Tourism Gilgit-Baltistan, Mediation and Moderation Analysis.

**JEL codes:** H77, H81, L94, O19, O53

### **1. Introduction**

Under the agenda of creating a community of shared properties and future by connecting many countries around the world via land and sea, China has embarked on a venture called Belt and Road initiative (BRI) ---“a project of trans-regional multilayered connectivity aiming to unlock the development potential of the Eurasian continent and its African neighborhood (Andornino, 2017, p. 6). It involves trillions worth of investment over upcoming 30 years, in nearly 70 nations, which covers 60 percent of the population and 33% of the global Gross Domestic Product (GDP) (Hussain, 2018; Zeng, 2019). Under BRI, China Pakistan Economic Corridor (CPEC) is its flagship project connecting Kashgar (China) to Gwadar in Pakistan. It has been argued that the China Pakistan Economic Corridor

(CPEC) --a series of colossal economic activities has the capability to transform the density of Pakistan's upcoming generation (Muzammil and Waqar 2018 Xinhua, 2015a, b). It has further been argued by many studies that this transformation will add over 2 million jobs opportunities which would be a tremendous ratio in generating more employment in Pakistan's economy and will boost the GDP growth by 7.5% till 2030 (Hamid et.al. 2017; Luqman, 2017). While some other, analysts remain skeptical about its positive implications.

Although many existing studies consider CPEC as potential "game-changer" for Pakistan (for instance, Xinhua, 2015a, b; Siddique, 2015; Zaman, 2015), yet some studies cast doubts on CPEC in terms of its potential to create jobs. In particular, Jacob (2017) and Shah (2016) are skeptical about CPEC's capacity to create employment in Gwadar in Baluchistan and argue that Chinese measures in these regions might create counterproductive effects. However, their focus remains on the direct and project related implications of CPEC. Existing literature grossly misses the indirect effects, spill over, and external effects on the well-being of the communities along the alignment of the CPEC route. Likewise, many existing studies have shed light on the potential implications of BRI and CPEC on the economy and development on the macro level (for instance Rana, 2016; Jamal, 2016; Khan et al, 2020). Missing in the existing literature is, however, the examination of linkage between CPEC and well-being on the micro-level. This research aims at filling that gap by taking the case study of Gilgit-Baltistan, an isolated mountainous region in northern Pakistan, which is otherwise the only entry point to the corridor via land and therefore gets the name of "gateway to CPEC". We hypothesize that there are trickle-down implications of CPEC on the communities along the alignment of the CPEC route and there are intervening factors that mediate the relationship between CPEC and Wellbeing. In this research, 'tourism' mediates that relationship.

According to the Asian Development Bank report, the economic corridors link different economic stakeholders along a specific area. They provide crucial connections between economic horizons that are commonly located in urban areas. Although the CPEC project is economic connectivity that will boost international trade yet it also has political, strategic, social and cultural implications (Shaikh, 2018). CPEC will help Pakistan for the alleviation of poverty, resolve unemployment issue and diminish the inequalities of undeveloped areas. Strategically this corridor will help to promote connectivity between far-flung areas, the establishment of economic actors to encourage the process of peace and institutional cooperation (Ahmar, 2015).

As discussed at onset, the region under study is one of the far-flung rural areas in the northern Pakistan. Yet, it is endowed with natural beauty, ecological importance, and presence of some of world's highest peaks, and strategic location, which provides it with enormous potential for attracting tourism. However, the development of transportation and infrastructure is a vital component for growth and development of the tourism industry. These factors are pivotal to put an economy into the trajectory of productive and employment generating process (Khan, 2016). China Pakistan Economic Corridor provides this opportunity to Gilgit-Baltistan. Investments under CPEC have led to improved infrastructure and communication facilities which in turn are facilitating the tourism industry. Tourists' arrivals to the region has increased manifold. Allied industries are flourishing too. According to Aschauer, (1990) infrastructure is an important component of quality life, and the local economic development depends on investment, infrastructure and skills of labor (Pedrana, 2013; Alam et al, 2020).

Tourism provides job opportunities, which leads to income generation, resulting in an increase in the living standards of locals. Tourism also increases the demand of labor also reducing poverty and ensuring income in the tourism industry (Gondos 2014). Likewise, it has been argued that planned tourism minimizes the negative impacts on society and environment (Shapley, & Telfer, 2002). This in the backdrop, the purpose of the current paper is to explore the welfare implications of the BRI using CPEC as a proxy and tourism as a mediator. The argument we are making is the welfare implications of the BRI are mediated by the increase in tourists' arrivals in the region under study. It is expected that the improved infrastructure, security and communication facilities under CPEC in the mountainous Gilgit-Baltistan will help boost tourism and the allied industries, which in turn have positive effects on economic well-being and quality of life in the region.

The data for a sample of 310 was collected by serving closed-end questionnaires to businesses that include hotels, restaurants, tourist spots and general businesses. To measure the economic well-being indicators of household income, household consumption, assets holding, unemployment, and education and health were considered. Findings suggest positive and statistically significant impact of CPEC on tourism and tourism on economic wellbeing in the selected districts of GB. The results found tourism as the significant mediator between CPEC and economic wellbeing. Asset holding was found as a significant moderator with tourism and CPEC to increase economic wellbeing of the respondents.

Rest of the paper is structured as follow; Section 2 presents the related and updated literature. The section three elucidates the methodology and econometric model. This section also presents Piecemeal Approach of mediation and moderation. Section 4 presents the estimated results of mediation moderation models followed by concluding remarks and recommendations.

## **2. Literature Review**

In this part, literatures on the implications of CPEC on well-being and poverty will first be reviewed. And then, related literatures on tourism and well-being will also be reviewed to provide a methodology basis for this research.

### ***2.1. China-Pakistan Economic Corridor and Well-being***

According to the Asian Development Bank, CPEC has an essential role to connect economic agents in Pakistan, China, Middle East, West Asia and Africa that would bring foreign direct investment (FDI) within these countries. CPEC is the series of projects, including infrastructure, communication and technology. Moreover, numerous plans and strategies have been formulated under CPEC to encapsulate major issues of Pakistan's economy. The main features of China Pakistan Economic corridor are: advancement of transportation infrastructure through rehabilitation of railways and roads, managing energy crises, promotion of different sectors like, tourism, agriculture, industry as well as regional connectivity (Rashid, 2018). In addition, this mega project presents tremendous opportunities for Pakistani economy to alleviate poverty, employment generation and significant enhancement of socio-economic development (Ali, 2018).

The CPEC route will connect all the four provinces, AJK, FATA and Gilgit-Baltistan (Abid and Ashfaq 2015). Gilgit-Baltistan will be benefited most by this project. Specifically, the 2<sup>nd</sup> phase of up-

gradation of Karakoram Highway under infrastructure projects of CPEC, hydropower projects and Gilgit-Chitral road is of great importance for Gilgit-Baltistan. An ambassador Yao Jing during his visit to Pakistan said “The Chinese government wishes for the development of residents through trade activities between GB and neighboring Xinjiang province.” (Nagri 2018).

Haq and Farooq (2020) have studied three dimensions of CPEC’s impact on welfare including education, health and housing. Their study indicated that Pakistan’s social welfare will be increased by 5.21% up to 2020. This study forecasts highest growth rate which is 6.4% of social welfare in Baluchistan at provincial level. Additionally, 6.31% in Sindh, 5.19% in KPK and lowest 3.5% in Punjab, respectively. The net impact on three dimensions of social welfare has also been depicted by this study as 3.85% in education, 4.74% in health sector, and 8.6% in housing respectively. They concluded that all those districts which are located on the China-Pakistan economic corridor routes, will significantly increase the quality of life and other dimensions of social welfare. In the line of agreement with arguments by Haq and Farooq (2020), Menhas. et.al (2019) have studied the perceptions on China-Pakistan economic corridor (CPEC) and its socio-economic impacts on Pakistan. The infrastructure development under this multidimensional project has also improved the infrastructure in Pakistan, which helps the recent economic era of Pakistan. This study carried-out how such an infrastructure development leads to increase socio-economic dimensions of Pakistan. For the purpose they collected primary data by 500 respondents from two-node cities of Pakistan. Majority of their respondents agreed that CPEC would also improve the quality of life in Pakistan. In contrast to Menhas et.al (2019) perception’s based study, our study focuses on the objective well-being.

While also incorporating the effects of tourism, Khan *et. al* (2020) suggests that the economic well-being is dependent on investments on infrastructure, energy and other productive dimensions. This opportunity has been provided by the CPEC in Gilgit-Baltistan. It also suggests that sustainable tourism policies in developing countries are required to enhance economic growth and economic well-being. China-Pakistan economic corridor is accelerating economic activities and generates businesses activities in Gilgit-Baltistan as examined by Baig et al (2020) and Baig et al (2019). They have investigated the effects on CPEC on micro and small businesses. Since, the initiation of CPEC, the region has witnessed higher tourist inflow to the region and led to increase in small businesses and economic activities on the route along the alignment of CPEC. The study argues that the activities under CPEC are not only an opportunity for tourism-related businesses but also for medium and large-scale firms.

Finally, a pre and post analysis of CPEC was carried out by Asif *et al* (2019). Their pre-period consists of the studying the impact of Pakistan’s trade with china during 1985-2017. Second phase examines the Pakistan’s trade in line with China-Pakistan Economic corridor during 1990-2017. The results of OLS also indicated that Pakistan’s trade volume with CPEC has significant impact on its inclusive growth in Pakistan.

## **2.2. Tourism and Well-being**

In contrast to the studies relying on perceptions to examine the relationship between CPEC and well-being, the current study uses tourism as mediator to quantify the well-being implications of CPEC.

## the trickle-down effects of china's belt and road initiative: empirical evidence from china-pakistan economic corridor

This subsection on literature presents some of the studies examining the relationship between tourism and well-being. In a recent study, unlike our research, Baig and Zehra (2020) examine the mediating role of the China-Pakistan Economic Corridor while investigating the relationship between governance and tourism. They argue good governance and easy access to a tourist destination have increased the influence on the tourist decision to choose a place to visit the region given the implications of CPEC. The government of Pakistan's Ministry of Planning and Development (2017) has clearly indicated the importance of tourism and its development through China Pakistan Economic Corridor especially along the border areas. It suggests the need for research to indicate the possible outcomes for development of coastal tourism within the China Pakistan Economic Corridor.

While examining the direct relationship between tourism and the well-being, Andereck. *et.al.* (2007) argue that the tourism increases quality life of the host community if tourism industry is well planned. Specifically, few studies have investigated the perception based impact of tourism on quality of life. For instance, Long. *et.al.* (1999) investigate the economic impact of tourism on quality of life and suggest that the infrastructure development and hotel industries generate economic activities. In a similar vein, given the improvements in infrastructure under China-Pakistan Economic Corridor, the region under study has witnessed increase in tourists' arrivals---both domestic and international. A study by Rehman et al. (2013) postulates the potentials and development of domestic and international tourists in GB. They conducted a survey to collect time series data to investigate temporal changes in tourist inflow. Their proposed methodology found that tourist inflow is closely linked with the local and national events as well as law and order situation in the country.

In two different studies Ridderstaat, *et.al.* (2016a, 2016b) investigate the relationship tourism development and the quality of life. In the first study, they suggest a direct two-way direct relationship between quality of life and tourism development. While in their second study, an indicator for economic development was used as a mediator between tourism development and quality of life. Using applied exploratory and confirmatory factor analyses combined with structural equations modeling, they found the tourism has direct as well as indirect impact on quality of life.

Many other studies have examined the impact of tourists' arrivals on well-being. For example Allen (2013), Long et al. (1988) have studied the impact of tourism development on community life by taking seven dimensions of life including citizens; involvement, environment, public services, economic condition, medical services, recreation services and formal education. Their objective was to find which dimension of life is more sensitive to tourism development in their community. They found nonlinearity between tourism development and satisfaction or community importance with involvement of citizen, public services and environment. Likewise, according to Cooke (1982), development of rural communities can increase by promoting of tourism. In a similar study, Zappino (2005) has studied tourism and development in the Caribbean region. Tourism has significantly increased the income levels of the households and it is an important source of income as well as plays a role in reducing poverty by increasing the rate of employment. He has further indicated that in many countries tourism has resulted in the increase of wealth. In his research he has elucidated that tourism can lead to the rapid growth of an economy which is beneficial for the possible sustainable development of that economy including poverty reduction. However, Boukas and Ziakas (2016) are critical about governments 'efforts to consider tourism planning for community development.

Some studies also suggest that the government intervention to promote tourism is imperative. According to Samimi *et al.* (2011), who have examined the long run relationship between tourism development and economic growth in some selected developing countries, . This study also suggested that the significant impact of tourism was increasing in developing countries justifying government intervention as a necessity to promote as well as increase tourism by facilitating and providing better services to the tourists. It has been argued in our study that investments under CPEC have created improvements in the infrastructure in the region under study and 32. Boiko (2013) considers infrastructure of a country and investments to promote tourism may affect the local development. Stephen (2017) arguments that tourism was a potential tool for the development of small businesses, specifically opportunities for the enhancement as well as improvement of entrepreneurs in coastal resorts of UK, are in the line of arguments we are presenting here. However, unlike Stephen (2017), we suggest that tourism mediates between CPEC and wellbeing.

We have presented two streams of literature in the preceding sections. One set of the literature examines the effects of CPEC on development and well-being. However, the studies either rely on perceptions and opinions or concerned with the direct benefits of the CPEC related to projects. The second stream of literature investigates the relationship between tourists' arrivals and wellbeing. It does not take care of the BRI and CPEC related influences. Our study, while agreeing with the arguments of the two streams of literature, presents a more nuanced argument that the CPEC has trickle-down wellbeing implications on the communities along the alignment of the CPEC route, However, we also argue, this relationship is being mediated by 'tourism'.

### **3. Methodology**

#### ***3.1. Study Area***

The region of Gilgit-Baltistan connects China to Pakistan via the famous Karakoram Highway (KKH) and is famously known as the roof of the world on account of joint junction of world's largest mountain series viz Karakoram, Himalaya and Hindu Kush. Gilgit-Baltistan is also home to some of the highest peaks of the world. Three largest glaciers outside poles are situated in this region. More than 200 large and small glaciers feed the downstream water flux of Indus River also located in this region. The world's highest natural lakes can also be found in this region. It is also home to some of the endangered species of flora and fauna. Such diversity makes the region unique among the world ecological locations. It has been witnessed that infrastructure, security and peace under CPEC on this route has attracted tourism to this region.

Beside its ecological uniqueness and beauty, this region also holds a geostrategic importance because of its borders with China and other countries. Gilgit-Baltistan is the gateway for China Pakistan Economic Corridor (CPEC). This mega project seems to boost up the ecotourism industry across 73,000 sq. km area of Gilgit-Baltistan. This multi-faceted mega project will definitely create more job opportunities in GB which would further multiply the earning prospect. Such opportunities would crucially enhance the youth development sector across Gilgit-Baltistan. There are some clear indicators that CPEC projects would develop all sectors including a healthy increase in domestic income and spending per head, reducing unemployment rates, providing quality education and health, enhancing

the trickle-down effects of china's belt and road initiative: empirical evidence from china-pakistan economic corridor

ecotourism industry, etc. Such benefit would not only be harnessed by the people of Gilgit-Baltistan, but it transcends its positive implications equally to other parts of the country.

### **3.2. Research Design, Data and Sample**

The study was carried out in four districts along the CPEC route in Gilgit-Baltistan including Gilgit, Hunza, Nagar and Diamer. These four districts are the main economic hubs on the CPEC route in Gilgit-Baltistan, Pakistan. The sample of 310 includes hotels, guest houses, restaurants and general businesses on the CPEC route. According to Tourism Department of Gilgit-Baltistan, there are 47, 22, 64, and 45 hotels, guest houses, and restaurants in the districts of Gilgit, Nagar, Hunza, and Diamer, respectively. In addition, the number of general businesses on the CPEC route in district Gilgit, Nagar, Hunza and Diamer is 2956, 385, 1261, and 300, respectively. Given that the total number of hotels, guest houses, and restaurants was not very large, we collected the data using census survey method, also called complete enumeration survey method, in which a researcher takes each and every unit of the population. On the other hand, we conducted simple random sampling technique for general businesses on the CPEC route to collect data on a sample size of 132. The questionnaire for the data collection was developed based on tourism theories such as tourism development cycle, exchange theory and sustainable development theory. In addition, we have developed questions on variables by generating their proxies. For instance, for CPEC we have used infrastructure, communication technology, and peace and security as its proxy, while for the economic well-being we used indicators of economic well-being which have been discussed in the section of methodology.

The nature of this study is quantitative and deductive, where mediation and moderation have been applied. In this connection, to test the model, data is collected through a field survey in the four districts of Gilgit-Baltistan, Pakistan that are located along the alignment of CPEC. We developed an English version questionnaire consisting of 32 questions on 'CPEC', 21 questions on 'tourism', 24 questions on 'economic wellbeing' and finally 10 questions on 'assets holdings'. We divided the questionnaire into two sections. For some variables, Likert scale was employed to measure them on a scale ranging from 1-5; where 1 stands for strongly disagree, 2 for disagree, 3 for Neutral, 4 for Agree and finally, 5 for strongly agree. We used Cronbach formula of unknown population to determine the sample size and distributed 310 questionnaires among the respondents of businesses, tourist companies, hotels, restaurants and tourist spots. Before conducting the survey, we trained enumerators for a week and collected the data in ½ months and we collected complete 310 filled questionnaires from the respondents

### **3.3. Operational Definition of Variables**

- 3.3.1. **Economic well-being:** this variable is the "dependent variable" demonstrates positive attributes of quality of life, improvement in economic condition as well as better opportunities that may be created by the activities under CPEC. We used items to measure economic well-being that have also been used by Lee et al. (2018). Further these items have modified and added more relevant items according to the articulation and requirement of the of the current study.
- 3.3.2. **China-Pakistan Economic Corridor:** This variable acts as the "independent variable" and demonstrates the essential activities under CPEC such as infrastructure development, peace

and security and telecommunication in Gilgit-Baltistan, having a significant contribution to tourists’ inflow. We developed the variable as “CPEC” using above three items.

3.3.3. **Tourism:** This variable demonstrates tourism development in this region as mediator between CPEC and economic well-being.

3.3.4. **Assets Holding:** This variable as “moderator” demonstrates the whether assets holding of respondents are their own or rented. We conceptually consider that those having their own assets (Hotels, restaurants, land etc.) would have definitely higher economic well-being compare to those having rented assets on CPEC route.

**4. Construction of the Variables**

To construct the variables, we performed principle component analysis on all the items of CPEC, economic well-being, tourism and assets holding. The principle component analyses extraction method was also used for individual characteristics of all four variables and extracted factor loads and their respective percentages of variance. We considered all those components exceeding an eigenvalue 1. After careful observation of the scree plot the respective factors have been interpreted with a Kaiser Varimax Rotation method of normalization. This method extracted 3 components for tourism, 5 components for CPEC, 2 components for assets holding and 5 components for economic wellbeing, respectively. To construct the component for each variable we multiplied the value factor loads with their respective questions, following the same procedure for every component. Then we first divided the percentage of variance having an eigenvalue greater than 1 by 100 and then multiplying its result by their respective component we constructed the indexes for each variable. Mathematically;

$$Component = Factro\ load\ extracted * each\ item\ extracted..... a$$

$$Index = \frac{percentage\ of\ variance}{100} * each\ component.....b$$

However, we had five Likert scale questions, but the range of index has exceeded 5, because it gives different weights to each item. In such a case the values on index can exceed highest value of Likert scale. furthermore, the minimum and maximum of all indexes as well as the descriptive statistics has been presented in Table B5.

**4.1. Empirical Strategy and Results**

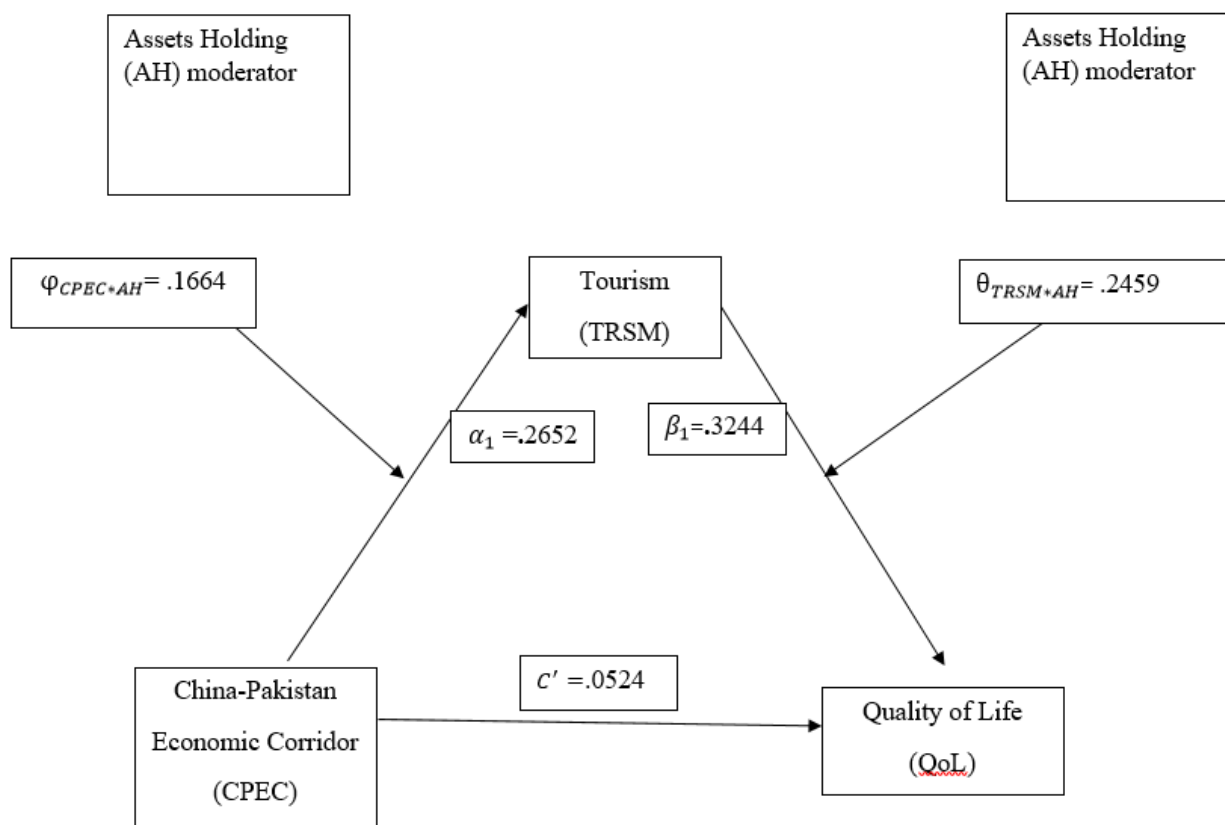
The following are regression models, we followed and analyzed mediation, moderation, direct effect, indirect effect and total effect using process macro developed by Andrew\_F.\_Hayes.

$$TRSM = \alpha_0 + \alpha_1 CPEC + e_{trsm} .....1$$

$$EWB = \beta_0 + \beta_1 Tourism + e_{EW} .....2$$

$$EWB = \alpha_0 + \alpha_1 CPEC + \beta_1 Tourism + \varphi_1 AH * CPEC + \theta_1 AH * Tourism + \varepsilon_t .....3$$





**FIGURE 1.** A statistical diagram of mediation and moderation model for the CPEC, Tourism and Economic well-being

**Table 1: Descriptive statistics of respondent's demographics**

	Marital status	Family type	Number of family members	Years of Education	Self-status	Level of income per month
N	310	310	310	310	310	310
Mean	1.7710	2.0161	2.1452	3.4484	6.0484	2.5645
St. deviation	.42089	.24744	.76422	1.55031	1.72576	1.07066

Table 1 shows the mean and standard deviation of demographic variables. We found higher mean of self-status and years of education. In addition, we also found little variation in marital status, family type and in number of family members, and higher variation in self-status. The values of mean and standard deviation may not clearly be presenting our data, but it may be a bench marks for demographic variables.

**TABLE 2. Summary of Basic Mediation Model**

Model 1: Tourism(TRSM)				Model 2: Economic Well-being		
	$\beta$	t-stats	P-value	$\beta$	t-stats	P-value
CPEC	$\alpha_1$	<b>.2652**</b>	7.4713			
Tourism				$\beta_1$	<b>.3244**</b>	2.5616

Table 2 shows the estimated coefficients of basic mediation when mediator is the dependent variable in model 1 and CPEC is the independent variable. The positive coefficient  $\alpha_1 = .2652^{**}$  indicates that one-unit change in China-Pakistan Economic Corridor tends to increase tourism by 26.52 units. In addition, its t-value and p-value also indicate that effect is statistically significant. On the other hand, in model 2 we treated economic well-being as a dependent variable and regressing with Tourism (mediator) as independent variable. The estimated coefficient of tourism  $\beta_1 = .3244^{**}$  indicates that one unit change in tourism leads to increase in economic well-being by 32.44 units. However, both paths from independent to mediator and to the dependent variable is positive and statistically significant. In order for the mediation effect to be significant we need a criterion that is  $ab = c - c'$ , where  $a$  is a coefficient of independent variable to mediator. While  $b$  is a coefficient of mediator to dependent variable. On the other hand,  $c$  is a coefficient of total effect model and  $c'$  is a coefficient of direct effect model and should be less than  $c$ .

To equate both values of  $(ab = c - c')$  we put their coefficients and found both values equal.

$$.2652 * .3244 = .337 - (-.0524)$$

$$0.0861 = 0.0861$$

**TABLE 3. Moderation Models**

First Moderation Model				Second Moderation Model		
	$\beta$	t-value	P-value	$\beta$	t-value	P-value
CPEC	.0658	1.5413	.1243			
Assets Holding	.0455	1.9724	.0495			
Interaction_1 (CPEC*Assets Holding)	$\varphi_{CPEC*AH}$	.1664	2.5277			
Interaction_2 (Tourism*Assets Holding)	$\theta_{TRSM*AH}$			.2459	1.8404	.0667
R <sup>2</sup>	.2066			R <sup>2</sup>	.2819	
F-value	4.5650			F-value	8.8023	

Table 3 presents regression coefficients for first and second stage moderators on quality of life. The estimated results of First Moderation Model, the coefficients of CPEC and Assets holding are .0658 and .0455, respectively, conditional on, when moderator is equals to zero. The signs of both variables are positive; suggesting CPEC individually has higher impact on quality of life as compared to assets

the trickle-down effects of china’s belt and road initiative: empirical evidence from china-pakistan economic corridor

holdings. On the other hand, the coefficient of first moderation model  $\varphi_{CPEC*AH} = .1664$  is the product of China-Pakistan economic corridor and assets holding that is positive and significant. It clearly indicates the interaction term  $\varphi_{CPEC*AH}$  jointly increase the quality of life in four districts. That suggests the impact of CPEC on quality of life changed by 16.64 units as one unit change in assets holdings. In addition, the regression confidents of second moderation model  $\theta_{TRSM*AH} = .2459$  is the product of tourism and assets holding that is positive and significant. It indicates that the interaction term  $\theta_{TRSM*AH}$  also jointly increase the quality of life in four districts of Gilgit-Baltistan. The impact of assets holdings on quality of life changed by 24.59 units as one unit change in assets holdings. Second moderation model has a higher value on R-Square. Tourism coupled assets holding has a greater impact on quality of life as compared to assets holdings coupled with China-Pakistan economic corridor.

**Table 4. Total, Direct and Indirect Effect Models of CPEC, Tourism and Economic Well-being**

Total Effect Model			Direct Effect Model			Indirect Effect Model		
Effect	t-value	p-value	Effect	t-value	p-value	Effect	BootLLCI	BootULCI
.337	2.4723	.0370	$C'$ .0524	.6642	.5070	.0860**	.0162	.1652

Table 4 presents the estimated results of direct, indirect and total effects of CPEC and tourism on economic wellbeing. Model 3 shows the indirect effect of tourism on economic well-being, Model 4 shows the direct effect of CPEC on economic well-being and Model 5 shows total effect model respectively. The size of the indirect effect is .0860 as presented in Model 3. More importantly, for the purpose of significance, we examine bootstrap lower and upper confidence interval values. The Boot LLCI is .0162 and Boot ULCI is .1652. Both values give us roughly a population value of the indirect effect model. In other words, zero lies between Boot LCI and Boot UCI indicating the significant indirect effect. In addition, the theoretical consideration of direct effect is that it should be insignificant, in case of significance the coefficient should be less than the indirect effect. This is what exactly we have found to be negative and insignificant direct effect of CPEC on economic wellbeing. As its probability, value is greater than 0.05 that is statistically insignificant. On the other hand, the equation of the total effect of CPEC, and tourism on economic well-being is positive. One unit change in interaction of CPEC and tourism leads to change in the wellbeing by .337units, which is statistically significant.

**5. Discussion**

Despite being political consensus in Pakistan on the need and desirability of the investments under China-Pakistan Economic Corridor, many analysts remain skeptical about the positive implications for the people and economy. Some existing studies have suggested counterproductive implications of this mega initiative. However, the existing studies examine the relationship between CPEC and employment generation on project-to-project basis and on macro level. In the current study, we have demonstrated the trickle-down wellbeing implications of CPEC. We suggest that the communities

living along the alignment CPEC route, though not directly related to the project, have also benefited indirectly from the project.

The findings of this study suggest that when infrastructure, telecommunications, and peace and security improve in a community, it generates economic activities--- tourism industry in our case. These activities in turn generate employment opportunities and improve the quality of life of the host community. These results also support the findings of Bohdanowicz and Zientara (2009) that a greater number of hotels have a bigger role to improve the wellbeing of their employees. We found that tourism was highly significant in improving economic wellbeing in Gilgit-Baltistan, because of income and growth of jobs in the tourism industry. The study by Tooman, (1997) also found that tourism development helped increase the growth rates of employment and jobs that led to improved quality of life. Infrastructure, telecommunication, peace, and security under China Pakistan Economic Corridor has made it possible to increase the tourism inflow to Gilgit-Baltistan. The findings further suggest that the impact of China Pakistan Economic Corridor on tourism is enormous and in turn, tourism has significantly increased economic wellbeing. It reveals that tourism inflow into Gilgit-Baltistan is strongly linked with income and employment. The same findings have also been reported by Aref, (2011) in the case of Iran. We found 1% increment in infrastructure, peace and security and telecommunication under CPEC led to increased tourism inflow by 26.52%. Many researchers such as Seetanah. *et.al*, (2011) consider infrastructure development, telecommunication, and peace and security, income of tourists and distance for travelling important factors for attracting tourism to any region.

Asset holdings, on the other hand, plays a pivotal role in increasing economic wellbeing of the communities by supporting tourism sector on the CPEC route. In this connection, we found that ‘asset holdings’ was a significant moderator with both CPEC and tourism. Those who have their own assets including hotels, guesthouses, restaurants and tourists spots along the CPEC route have higher income earnings compared to those who rent. According to Jamieson et al. (2004) improved economic wellbeing is dependent on the generated income and employment by the tourism industry. It creates different employment opportunities to alleviate poverty of the host community. Our positive and statistically significant mediation and moderation regression analysis of CPEC’s impact on tourism and economic wellbeing clearly supports the idea that CPEC has provided the opportunities of income generation and employment, which has the capacity to overcome poverty in this region.

## **6. Conclusion and Policy Recommendations**

China’s Belt and Road Initiative has been considered a game changer for many countries that are now a part of this initiative. Many existing studies have shed light on the financial and economic gains of the Initiative on a macro level. Another strand of literature on BRI and CPEC has examined the benefits associated with the projects. While others study perceptions and opinions on the impacts of BRI and its projects. Unlike the existing literature, the focus of current study is to unravel the trickle down effects of BRI via its projects. As a case study, we consider China-Pakistan Economic Corridor. We hypothesize that wellbeing impact of the CPEC on the communities along the alignment of the CPEC route is mediated by another factor---tourism in our case.

## the trickle-down effects of china's belt and road initiative: empirical evidence from china-pakistan economic corridor

In order to test the hypothesis, we conducted a primary field survey in the four districts of Gilgit-Baltistan, Pakistan. We collected data via a questionnaire that was developed based on the theoretical interpretation of tourism inflow, infrastructure development, telecommunication, peace and security. Before conducting the survey, a pilot survey was conducted and we found that the instrument was reliable and valid with .91 Cronbach's alpha. Based on current literature and theories, we developed a conceptual framework to see whether the infrastructure, telecommunication, peace and security under China Pakistan Economic Corridor increased economic wellbeing significantly in Gilgit-Baltistan or not. In this model we used CPEC as the independent variable, economic wellbeing as the dependent variable and tourism as the mediator between dependent and independent variables. We also used asset holdings on the CPEC route as a moderator. The findings suggest that CPEC under BRI helped the tourism flourish in the region that in turn improved the quality of life of the communities in the region under study. Based on the finding of our study we recommend following policies for the implementation to increase economic wellbeing in Gilgit-Baltistan.

There is need to combine and balance three objectives: more tourists, higher spending of per tourist, and a greater share reaching the poor. For this purpose, government can provide such opportunities by providing concessionary loans to the marginalized communities on the CPEC route, which will let them initiate micro and small businesses. If the overall goal is to make the tourism pro-poor, this can be done via three routes: attracting more tourists, so total tourism spending goes up; each tourist will spend more, so that total tourism spending goes up; and a change in the pattern of tourist expenditure so that the fraction that reaches the poor goes up.

As discussed earlier, the economic well-being of respondents having their own hotels, restaurants and other businesses have better quality of life. CPEC has provided the opportunities for both the governments and the communities. However, making the trickle-down effects long lasting and sustainable, the policymakers must initiate policies to sustain the benefits to the communities promised by the BRI and CPEC.

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