IMPACT OF FOREIGN INVESTMENT, LABOR FORCE AND INTEREST RATE ON ECONOMIC GROWTH: A CASE OF PAKISTAN (Under CPEC Project Contribution Countries)

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ABSTRACT

Belt and Road Initiative appears as a worldwide investment of China. CPEC is fundamental part of BRI worldwide project. Labor market is demand for specialized human skill of expanding the investment activity for Pakistan under CPEC project little part of BRI project. This paper explores the relation between foreign direct investment, labor force, interest rate, terrorism, export and economic growth over using time series data from 1985 to 2016. Economic growth used as dependent variable and FDI, Labor and interest rate terrorism and trade used as an explanatory variable. Here utilized ADF test, unit root test, Johansen co-integration and Granger causality methods were utilized shows that the relationships between the variables in long run time period. The Error Correction Model has been utilized to explore the relationship between the labor market independent variable and economic growth dependent variable. The consequence of different procedures demonstrates that labor market has measurable critical effect on gross economic growth. The interest in China Pakistan Economic Corridor will required more dexterous, specialized and non-specialized work drive in this manner to include that labor wages as of late are more imperative for growth of Pakistan economy. On the other hand, the analytical result documented to all the characterize variables in our model boosts economic growth so work constrain for growth of Pakistan economy in short run is more essential contributing growth.

1. INTRODUCTION

"China Pakistan Economic corridor" is a critical part of China BRI project "Belt and Road initiative" activity (Atri, 2019). The Belt Road activity is a regional improvement system of Chinese government (Huang, 2016) which centers to connect China with rest of world particularly developing economies; as under developing economies confronting numerous issues like lack of foundation, rail-road and road-, assembling and substantial technology plants and so on. Under the BRI project, it is task taking put quickly and interest for a few sorts of specialized and
non-specialized occupations are expanding in the country of the investment activities. The inadequacy of Human capital is the long run issue of developing nations (Duval and Maisonneuve, 2010; Hanushek, 2013); BRI project will cover the universe in the future, the project will solve problems like human capital improvement and economic growth of one country. Along these lines, Belt Road activity of Chinese govt is the most important activity to solve such sort of these issue ways (Lo, 2015; Casarini, 2016; Lee et al., 2016; Barisitz and Radzyner, 2017; Das, 2017; Huang et al., 2017; Wang and Li, 2017; Li et al., 2018; Wang et al., 2018).

The China’s Belt and Road Initiative (BRI) project arranged geologically under six corridors (Lopes and Pautasso, 2016; Villafuerte et al., 2016; Hanjra et al., 2017; Iqbal, 2018; Manzoor and Wei, 2018; Bhatti and Hanjra, 2019) among which China Pakistan Economic Corridor is arranged (Hali et al., 2015; Irshad, 2015; Mirza, 2016) This project on one side connect South Asia with central and west Asia. On the other hand, it associates focal Asia with 7 Gulf Cooperation Council (GCC) countries (Makhdoom et al., 2018).

This investigation identified with a one country Pakistan to address this issue in some perspective, that how it will influence the activities of this task in future; the investigation too intends to additionally give some profitable recommendations to make strides for the arrangement of this issue. The effective and reasonable labor market of a county can assume a critical job in the economic growth of host nation. Each nation defrayment a considerable little bit of their national remuneration for the advance of human effectiveness to extend the worth of the talent.

The talented and specialized labor constrain pulling in financial specialists for new investment, making new business openings expanded efficiency. A functioning labor market and other explanatory variables can bring advancement in standard living in labor estimated by the per capital income, quickening GDP of country, increments saving for future and something aside for the growth of one nation economy. Pakistan is the sixth most crowded developing nation in the world. It has one of the biggest labors constrain economy in the world, where 63% of population comprises of labor sector. The labor sector adds up to in Pakistan was accounted for at 67918996 in 2016 year. The World Bank reported that gathering of improvement markers, accumulated from formally perceived sources. A substantial part of labor force take part in rural and modern divisions.

Pakistan sends out quite a bit of its specialized and non-specialized labor to Middle East and Western Europe, whose contributes a colossal measure of FDI saves for the economy. The human capital of Pakistan is thinking about a key injector for the economy in 21th century.

The Pakistan has a high amount and versatile labor market compel that can react rapidly to changing business wants. Be that as it may here an inquiry emerging that as these labor force will qualify the applicable interest of developing and advance market which as of late occurring in the nation particularly in china Pakistan Economic corridor. The reason and reply of this inquiry have diverse angles. The universal MNCs required are not the same as nation to nation. On the Other hand, this inquiry is identified with expertise of new world-wide innovation which totally unique in relation to conventional and developing nations technologies. Along these lines this investigation as a strong piece of Human capital issue for growth of Pakistan economy to additionally examine experimentally the effect of human capital on economic growth of Pakistan.

In short, the target of this paper is:

a) To discover the Impact of CPEC investment on Pakistan economy.

b) To explore the relation between net export and economic growth.

c) To discover that is labor market will satisfy the interest of China Pakistan Economic Corridor.

d) To discover the impact of FDI on Pakistan economy under CPEC.

Further there are four sections of this paper, 2nd section of this paper contributes as a literature review, 3rd part explore to data and methodology by using econometric tools and 4th section show to analysis and result and at the end part conclusion of the paper.
2. LITERATURE REVIEW

Many literatures documented to the effects of labor force on economic growth of Pakistan. The impact of labor force on growth of economy accomplished a great consideration of specialist, economically analyst furthermore, population master in couple of years. Many researchers investigated to discover an extraordinary relation between economic growth and labor force while other gathering giving less significance to relationship contrasts and variables.

Louër (2008) says that the results re-location have been the extending of state society’s struggle, the dependable components of low and moved human capital in the present age are the frail approaches of state for overseeing and controlling the unemployment ratio in developing economies by giving an appropriate business openings market to use the ability for the economy improvement rather than moving to abroad market from the crane showcase.

Maitra (2016) discovered that investment in human capital and labor added to growth of economy in Singapore. The utilizing test Johansen co-combination and time series data for period of time from 1981-2010 and fined long time period relationship among growth of economy, investment in Human capital and utilized the labor force. Clark et al. (2010) investigated that the effect of statistic trend on the dimension of employment rate and growth of Japan’s economy for the period of time from 1969-1998 by utilizing Nihon University Population Research Institute (NUPRI) macro reproduction Model and discover that the economy effect of these statistic substances relies upon managers, people, what's more, government reaction to a declining population rate and the extreme decrease in the measure of the economy. Robert came about that work will influence Japan’s economy in not so distant future.

Jeong et al. (2015) investigated that, world is becoming littler with trend update technologies, finding required work around the planet has turned out to be a lot simpler than at before. In the planet where on one side adroit labor can discover effortlessly by some cordiality businesses yet on another side it makes issues of deficiency in the host market for skilled labor. The fundamental thought is the specialized value included costs which low or developing economies can't manage the cost of it along these lines deficiency of development human capital are as yet the issue of developing countries.

Heintz and Pollin (2003) explained that the relate between the ascent of in formalization and the comparing domination of neo-liberal arrangements in developing nations, concentrating specifically on how decrease in normal per capital Gross domestic product development related with neo-liberalism has encouraged in formalization. For the quicker growth of economy a progressed work compels are so imperative commitment injectors in developing economies. Shaikh et al. (2016) indicates that work compel is a critical supporter of national quickening process. National pay can increment by considerably more occasions with the help of productive and dexterous work drive. The vagrant process and issues have been referenced. The vagrant can relocate from the developing economies issues like political, labor law and sparing low wage issues are the fundamental issues which can force the work for relocation.

Rawski (2003) inspected the dimension and pattern of success in the period before the Civil War has been of long-standing intrigue. Counterparts were obviously worried about their economy status and its vulnerability, and also the way that lay ahead. Since the period was pivotal to the long-term improvement of the United States, numerous researchers have analyzed it, some planning to reveal the determinants of the economic change, others wishing just to better under-stand the history of countries. Labor force of china has been expanded amid couple of decades and work level goes up in current decade yet the issue which confronting the fabricating office are the decay of employment open doors for which the general population of rustic regions moved to urban areas and towns.

Clapp (2002) suggested that the best single issue confronting the economies of the Middle East and North Africa is the test of utilizing its kind in steady employments. While the area is heterogeneous as far as
advancements in the work showcase, most of the district has been described by large amounts of joblessness, and in a few cases by declining genuine wages, too. The issue of employment creation for the MENA area is amazing. 

Kabeer (2012) utilized board information to research experimentally the effect of female work constrains on Indian economy and locate that female work constrain has no productive impact on Indian economy. To additionally enhance their instruction and expertise level they can influence the development dimension of India. The fast-developing economy of India for such kind of interest of female work power can get changes financial developments which are the need of developing business sector as well as essential for the standard existence of Indian lady's work compel. A few cross-country and inside nation contemplates propose female work drive support will in general decay at first with monetary advancement, levels at a specific phase of improvement before rising once more. 

Abraham et al. (2017) upheld that, efficiency has been declined barely from the 2005 figures; instruction remains the critical factor deciding ladies' support in the formal area. A strikingly 91 percent of the FLFP are occupied with the casual area of the Ghanaian economy, an area with a low commitment for every head. The commitment of man not exclusively is the discourse subject for development area however the offer of female work constrain are moreover imperative at a similar dimension. In this way commitment of female and male both are examine in this investigation. 

Galor and Tsiddon (1997) depicted that immediate proportion of work constrain quality from universal arithmetic and science test scores are unequivocally identified with development. Aberrant determination tests are commonly steady with a causal connection. The connection between nature of human capital and financial development are solid and long run. The variety in nature of human capital is the primary discussion of current administrative master to take care of the issue in like manner. With the advancement of capital arrangement and venture from abroad can bring specialized effectiveness which expanding knows how of the current host nation Human capital and henceforth the economy working with full profitable limit. 

Siddiqui and Rehman (2017) Indicate that financial development is needy for the most part on ability instruction though tertiary and professional training additionally critical and can assume same job in the advancement of financial development. The essential contrast between the east and south Asia financial development are the consumption on professional and ability instruction. The advancement advances in development of East Asia for the most part relied upon training movement. 

Van et al. (2010) investigated that in developing nations like Pakistan with three segments utilization products, innovation, and instruction, the profitability of the utilization merchandise relies upon innovation and talented work. The developing nations attempting profoundly to consume their item advertise from import to send out areas. Subsequently the nation must import capital and put resources into the preparing and instruction to propel the aptitude and data of human inside the nation. 

Maitra (2016) stated that constrained work may improve the blessing of untalented work. It would thus be able to be required to enhance near favorable position in incompetent work concentrated product items where the effect of constrained work is probably going to be felt generally emphatically. Conversely, foreign investment is adversely connected with constrained work. This result indeed, even holds for generally poor developing nations. The above writing shed lights on different parts of work drive. Some analyst demonstrates positive effect and some show negative effects of human capital on monetary development, the specialist, applying different information and test for various locales and countries. Among the above writing the majority of them are concur that monetary development profoundly associated with capable and specialized work power of the host nation. These two parts of the economy are important to advance the economic growth. This investigation led by change of contemplates.
3. DATA AND METHODOLOGY

3.1. Data

In this research article used time series data from 1985-2016. Author collected secondary data in yearly form of Labor Force, FDI, Interest Rate, Terrorism, Export, CPEC, OBOR, GDP from international and nation sources namely; WB(World bank), ESP (Economic survey of Pakistan), Pakistan board of Investment, Central revenue board of Pakistan and PBS (Pakistan Bureau of Statistic). Real GDP taken as dependent variable and other five variables highlight as independent variables. In investigation used ADF and unit root test with ECM (Error correlation model). ADF show the time series data is stationary or non-stationary.

3.2. Model Specification

\[ y = f (\text{Labor Force}, \text{FDI}, \text{Interest Rate}, \text{Terrorism}, \text{Export}) \]

\[ Y = f (LF, FDI, i, T, EXP) \]

Model:

\[ Y_t = \beta_0 + \beta_1 LF_t + \beta_2 FDI_t + \beta_3 i_t + \beta_4 T_t + \beta_5 EXP_t + \epsilon_t \]

Where,

- \( Y = \) Real GDP
- \( t = \) data is time series
- \( LF = \) Labor Force
- \( FDI = \) Foreign investment
- \( T = \) Terrorism attack
- \( i = \) Interest rate
- \( EXP = \) Export
- \( \epsilon = \) Error term

4. ANALYSIS AND P VALUE

The famous strategy, ADF test, is utilized to check the unit root properties of the factors. The after effects of ADF test are given in Table 1:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intercept</th>
<th>Trend with intercept</th>
<th>None</th>
<th>Intercept</th>
<th>Trend with intercept</th>
<th>None</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>0.0966</td>
<td>0.0514</td>
<td>0.7238</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1st difference at stationary</td>
</tr>
<tr>
<td>GDP</td>
<td>0.0764</td>
<td>0.231</td>
<td>0.4209</td>
<td>0.0001</td>
<td>0.0009</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I</td>
<td>0.5962</td>
<td>0.5438</td>
<td>0.49</td>
<td>0.0002</td>
<td>0.0015</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>T</td>
<td>0.6027</td>
<td>0.8553</td>
<td>0.515</td>
<td>0.0015</td>
<td>0.0075</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>EXP</td>
<td>0.8693</td>
<td>0.6356</td>
<td>0.3104</td>
<td>0.0002</td>
<td>0.0003</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LF</td>
<td>0.7052</td>
<td>0.4535</td>
<td>0.8496</td>
<td>0.0001</td>
<td>0.0014</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The Table 1 which contains variables in the principal sections, ADF estimation at level contains three sub segments which is intercept, trend with intercept, and non-segments. At first contrast contains additionally three sub sections same like a dimension which is intercept, trend with intercept, and non-segments. The aftereffects of unit root examination are given in Table 1 which demonstrates that all the arrangement stationary at first contrast. This examination appears that no information arrangement is stationary at level yet stationary at first differentiated; in this manner, these factors may contain long run relationship among existing factors. Keeping this view, we apply Johansen co-combination way to deal with find long run connection. Table 1 results of ADF unit root tests.
4.1. Cointegration Test

The table shows Co-combination result, however before to apply JJ strategy we should need to discover the applicable. The utilization of Johansen co integration test, it is vital to discover the slack length of the VAR through some slack determination criteria so as to have closefisted model. The quantities of slack choice criteria can take autonomously in the referenced consequence of slack length criteria. In the wake of finding out slack length, we apply Johansen co integration test and the consequences of this test are given at Table 2 and 3.

Table 2 demonstrates the aftereffects of follow measurement while Table 3 introduces the consequences of greatest. Follow insights and most extreme Eigen measurements esteems help to discover the rank(s) which demonstrates the quantity of vector(s) containing long run relations. It is clear from Table 2 that the invalid speculation of no rank is rejected at 1 percent critical dimension. In addition, the aftereffects of Table 3 uncover that invalid theory of no rank was additionally dismissed at 1% dimension of noteworthiness. In this manner, the aftereffects of both follow and max-Eigen insights affirm that one co-combination vector exists in the model. It implies long run relationship wins among the factors. Table 2: Johansen co-reconciliation test; aftereffects of follow detail esteem.

4.1.1. Co-integration Outcomes

Table 2. Trace value and max. eigen statistics (co-integration test).

<table>
<thead>
<tr>
<th>Lags interval: 1-1</th>
<th>Series: GDP, Labor Force, FDI, Interest Rate, Terrorism, Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumption Trend: Linear deterministic trend</td>
<td></td>
</tr>
<tr>
<td>UCR Test (unrestricted Co-integration Rank Test) Trace</td>
<td></td>
</tr>
<tr>
<td>Hypothesis</td>
<td>Eigen Statistic</td>
</tr>
<tr>
<td>No of CE(s)</td>
<td>Eigen-value</td>
</tr>
<tr>
<td>None*</td>
<td>0.7437</td>
</tr>
<tr>
<td>1*</td>
<td>0.6316</td>
</tr>
<tr>
<td>2*</td>
<td>0.6066</td>
</tr>
<tr>
<td>3*</td>
<td>0.4552</td>
</tr>
<tr>
<td>4*</td>
<td>0.2536</td>
</tr>
<tr>
<td>5*</td>
<td>0.1597</td>
</tr>
</tbody>
</table>

Note: Trace test indicator significant co-integrating eqn(s) at the level of value 0.05. * Highlight the rejection of the hypothesis testing at the level of 0.05 value. ** Probability-values.

4.1.2. Unrestricted Co-integration Rank Test

Table 3. UCR test (unrestricted co-integration rank test).

| UCR Test (unrestricted Co-integration Rank Test) |
| Hypothesized | Max-Eigen statistics | P-value** |
| No of CE(s) | Eigen-value | Significant value | |
| non* | 0.7537 | 42.0375 | 0.0776 | 0.0297 |
| 1* | 0.6517 | 31.638 | 33.8769 | 0.0508 |
| 2* | 0.5067 | 21.1961 | 27.5843 | 0.0021 |
| 3* | 0.3953 | 15.0895 | 21.1316 | 0.0334 |
| 4* | 0.1981 | 6.6212 | 14.2646 | 0.0257 |
| 5* | 0.0011 | 0.0923 | 3.8415 | 0.063 |

Note: Trace test indicator significant co-integrating eqn(s) at the level of value 0.05. * Highlight the rejection of the hypothesis testing at the level of 0.05 value. ** Probability-values.

Table 3 highlights estimations of co integration: it contains sub two table one follow measurements and other maximal Eigen value measurements. Both measurements are assessed through maximal probability technique; these measurements are tried against their applicable basic qualities; the co integration demonstrates presence of five
integration vectors maximal Eigen values and follow measurements. This demonstrates all variables have long run relationship and decide one another.

4.2 Testing Granger Causality

The Granger causality outcomes demonstrates bivariate causality among Gross domestic product and different other variables. It infers that Export, FDI (Foreign investment), LF (Labor Force), Rate of Interest (i) and Terrorism (T) causes GDP; a case of Pakistan. Here our objective variable LF (Labor Force) additionally indicates important changes in Pakistan Gross domestic products (GDP). The important cause demonstrates that as human capital of Pakistan country builds it influences GDP at more elevated amount. The contrast and other factors aside from Terrorism which influencing GDP conversely. The creation of GDP additionally requires higher human capital that causes the monetary development and generation.

Causal linkage between total output of country (GDP) and labor force (LF) is assessed. As of now clarified, every one of the factors are incorporated at first request and slacks length of the factors is one according to various slack length determination criteria. The aftereffects of the causality are exhibited in Table 4 which demonstrates that labor force (LF) causes total national output in Pakistan because the invalid theory is dismiss at 5 percent critical dimension. Switch causality from total national output to work constrain additionally exists and the invalid speculation of this case is likewise dismissed at 5% dimension of importance. It implies that both GDP and work drive cause each other in Pakistan.

This investigation uncovers that, there is unidirectional causality from work power to monetary development for Pakistan. Notwithstanding that, there is unidirectional causality from economic development to work drive since invalid theory of this case is likewise dismissed at (10%) noteworthy dimension. To finish up, this investigation found bidirectional causal relationship between total national output and work constrain though work compel causes growth of output and growth of output causes Export in Pakistan.

4.3 ECM Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>S.E</th>
<th>t-Stat</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.0015</td>
<td>0.08131</td>
<td>0.0193</td>
<td>0.0221</td>
</tr>
<tr>
<td>FDI</td>
<td>0.0225</td>
<td>0.02101</td>
<td>0.06223</td>
<td>0.00415</td>
</tr>
<tr>
<td>EXP</td>
<td>2.7231</td>
<td>36.2877</td>
<td>0.0747</td>
<td>0.01876</td>
</tr>
<tr>
<td>LF</td>
<td>1.0142</td>
<td>36.3521</td>
<td>0.0866</td>
<td>0.0034</td>
</tr>
<tr>
<td>i</td>
<td>2.6511</td>
<td>0.5677</td>
<td>0.1871</td>
<td>0.0401</td>
</tr>
<tr>
<td>T</td>
<td>0.453</td>
<td>0.3238</td>
<td>0.186</td>
<td>0.761</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.3304</td>
<td>Mean</td>
<td>0.0759</td>
<td></td>
</tr>
<tr>
<td>Adjust-R²</td>
<td>0.2140</td>
<td>S.D.</td>
<td>0.7686</td>
<td></td>
</tr>
<tr>
<td>Regression S.E</td>
<td>0.8989</td>
<td>Akaike info criterion</td>
<td>2.894</td>
<td></td>
</tr>
<tr>
<td>Squared residual aggregate</td>
<td>10.5160</td>
<td>Schwarz criterion</td>
<td>3.2426</td>
<td></td>
</tr>
<tr>
<td>Likelihood log</td>
<td>-21.9400</td>
<td>Hannan-Quinn criterion</td>
<td>2.9621</td>
<td></td>
</tr>
<tr>
<td>F-stat</td>
<td>11.4237</td>
<td>Durbin-Watson stat-value</td>
<td>2.018</td>
<td></td>
</tr>
<tr>
<td>P-Value</td>
<td>0.0451</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. CONCLUSION

Belt and Road Initiative appears as a worldwide investment of China. CPEC is fundamental part of BRI worldwide project. Labor market is demand for specialized human skill of expanding the investment activity for Pakistan under CPEC project little part of BRI project. This paper explores the relation between foreign direct investment, labor force, interest rate, terrorism, export and economic growth over using time series data from 1985 to 2016. Economic growth used as dependent variable and FDI, Labor and interest rate terrorism and trade used as
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**Funding:** This study received no specific financial support.

**Competing Interests:** The authors declare that they have no competing interests.

**Acknowledgement:** All authors contributed equally to the conception and design of the study.

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