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CHINA PAKISTAN ECONOMIC CORRIDOR STRATEGIC INFRASTRUCTURE DEVELOPMENT AND ITS IMPACT ON PAKISTAN'S ECONOMY

Dr. Muhammad Ahmad[1], Dr. Sehrash Sabir[2], Luqman Jamil[3], Sadaf Ambreen[*4]

[1]*PhD Scholar, Department of Business Administration, Riphah International College, Thokar Campus*
[2]*Deputy Director, Academics, Air University Islamabad*
[3]*PhD Scholar Department of Business Administratio, RIPHAH International College, Thokar Campus*
[*4]*Lecturer Department of Business Administration, Government College Women University Faisalabad.*

[1]ahmad.ggl@gmail.com, [2]sehrashsabir@gmail.com, [3]luqmanjcheema@hotmail.com, [*4]sambreen16@yahoo.com

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Corresponding Author: *
Sadaf Ambreen

Abstract
The China Pakistan Economic Corridor is a central part of the Belt and Road Initiative (BRI), which aims to bolster regional connectivity, trade, and economic integration among China, Pakistan, and the South and Central Asian region. This research focuses on the strategic infrastructure projects that are part of CPEC including transport infrastructure and energy generation projects, Special Economic Zones (SEZ) and the development of Gwadar Port and assesses the impacts of CPEC in the short and long term on the Pakistani economy. Through a mixed-methods approach including policy analysis, quantitative analysis of measurable economic data, and qualitative research through interviews with stakeholders, the study looks at indicators such as GDP growth, employment creation, foreign direct investment (FDI) inflows, trade, and regional inequalities. The study finds that the CPEC initiative has led to the modernization of infrastructure; mitigated longstanding energy shortages in Pakistan; and facilitated pathways for industrial growth and cross border trade. Good connectivity and related economic activity is now even apparent in parts of the economy that have historically been neglected, particularly in the underdeveloped regional areas of Balochistan and Gilgit-Baltistan. However, significant challenges are also evident, such as the risk of debt sustainability, the limited local buy in on the projects, political instability, and security threats leading to delays on project timelines. It concludes that while CPEC represents a considerable developmental opportunity for the transformation of Pakistan's economy, and the extent of its potential is likely to be reliant on effective policy implementation, accountable governance, a responsible debt management

strategy, and strong China Pakistan cooperation during the execution phase of CPEC.

INTRODUCTION

The China Pakistan Economic Corridor (CPEC) presents one of the most motivated and strategically meaningful evolutions initiatives the world over. Originally announced in 2015 as the pilot implementation of the Belt and Road Initiative (BRI) by China, the CPEC is essentially a multitude of roads, railroads, energy projects, industrial parks, and port development that aims to strengthen grassroots connectivity and to integrate Chinese and Pakistani economies. The CPEC investment (project) value is estimated to be to at least $60 billion, which captures the scope and significance of CPEC, where Pakistan the primary trade/transit corridor between East Asia, the Middle East and Africa. (Abid, 2015)

In 2013, Prime Minister Miya Muhammad Nawaz Sharif visited China and signed several agreements related to CPEC, but thus, with civil unrest in Pakistan delays in implementation ensued. By 2015, Nawaz and Xi Jinping signed fifty one agreements together, in total. As part of their foreign direct investment, China was prepared to invest, $46 billion in Pakistan (Abid and Ashfaq, 2015), making this the largest investment any nation had received since US aid to Pakistan following 9/11 that represented, 50% of Pakistan's GDP (Sial, 2014). It includes substantial infrastructure projects that include highways, railways, fibre optics lines, energy plants, and ports. It is intended to connect China and Pakistan to African and Middle Eastern markets, and it shorten the distance between China and the Middle East by 12,000 kilometres (South China Morning Post, 2014).

The strategy around the developing infrastructure projects through CPEC are intended to alleviate Pakistan's most pressing and critical issues pertaining to its economy, namely energy crises, poor transportation systems, underdeveloped industrial potential and unbalanced growth that is organized regionally. The strategic infrastructure projects include the redevelopment of Gwadar Port; the eastern and western routes; Special Economic Zones (SEZ). By upgrading strategic infrastructure, it is expected that economic growth and development occurs alongside of a value created for employment through direct foreign investment (FDI). It is noted that although Pakistan intends to create value through CPEC, that as is a common practice, the terminology is to signal a hope for a better position through CPEC. The changes being facilitated by CPEC, effectively change the focus of the very existence of Pakistan and it is very likely that it improves the economic profiles of every citizen of Pakistan. (Ahmar, 2015)

CPEC has also produced a considerable amount of contention for policymakers, economists and civil society workers with regards to the increasing debt burden for Pakistan, concerns regarding the transparency and accountability of how the projects funded, regional inequality of resource distribution, sustainability of environmental consequences, and increasing Chinese influence not only in Pakistan but also in consideration of the social political context. Security issues and larger regional geopolitical tensions have also put the implementation of some of the components of CPEC at risk in terms of on time and successful delivery (Ali, 2016)

This study presents a critical evaluation of the implications of CPEC's strategic infrastructure development on Pakistan's economy through a quantitative and qualitative dimension of economic transformation. This study investigates CPEC's infrastructure investments implications on macro level economic indicators, regional development, energy security, and trade, and how these implications impact governance structure, political economy framework, economic sovereignty, and Pakistan's position and recognition in the context of regional geopolitical. This paper provides a balanced and data led representation of the discourses around CPEC, CPEC in the context of Pakistan's future economic position, and provides considerations of policy recommendations to capitalize on opportunities and mitigate against risks CPEC presents.

Background

The China Pakistan Economic Corridor (CPEC) gave a unique opportunity to forge and deepen a mutually beneficial economic and strategic partnership that yield positive bilateral relations between China and

Pakistan. CPEC is initiated in 2015 as the flagship project of China's Belt and Road Initiative (BRI). One of the main objectives of both CPEC and the BRI is to create increased connectivity, prosperity and partnerships across Asia, Africa, and Europe (Arshad, 2016)

In 2003, China unveiled the Good Neighbours Policy under the then Chinese leadership of President Hu Jintao in Chinese foreign policy to generate the strategic alliance with Pakistan. This initiative opened China up for global connectivity, as Pakistan has been a mainstay in Chinese diplomacy since 1951. With the "One Belt, One Road" initiative, China sought to connect large numbers of nations. The project expected 4.4 billion people and 63% of economic activity worldwide (Lipping, 2015). Beginning in 1963 with the first trade agreement between them, Pakistan and China began establishing and growing robust trading and economic relations, which included subsequent agreements such as, Free Trade, (FTA) in 2006 and the services based FTA in 2009. Their economic partnership fundamentally altered Pakistan's economic, political, and defence structure.

The "China Pakistan Economic Corridor" the very word economic indicates, it has primarily economic significance, is indeed a product of that durable and true partnership. The CPEC agreement is signed in May 2013 and operationalized in 2015 (Abid and Ashfaq, 2015).

Policymakers, analyst, academics, and superpower state have taken great interest in what CPEC aims to accomplish and its impact on regional economic development in the context of Pakistan. The academic literature has not yet provided a robust critical review of the backdrop, demographics, challenges (Ramay, 2015; Sial, 2014), security risks (Ahmar, 2015; Hussain, 2016), and threats (Arshad and Dong, 2016) associated with CPEC.

There is a limited number of examinations on the extent of the impact of CPEC on Pakistan's economy (Ali, Gang & Raza, 2016; Esteban, 2016; Irshad, Xin & Arshad, 2015) and regional unity (Wolf, 2016a; Wolf, 2016b) with a Pakistani perspective. In history, Pakistan has consistently grappled with issues like energy shortfalls, little industrial production, poor and inadequate infrastructure, uneven regions of development. The reliance on foreign financing, recurring balance of payments crises, and insufficient investment in infrastructure has hampered the steady development of the country. Within this chronological schema, CPEC is ostensibly invited to replace the economic structure with the opportunity of commitment of over $60 billion in Chinese investment.

CPEC is structured around four main pillars: energy development, transport infrastructure, Gwadar Port development, and Special Economic Zones (SEZs). The early harvest initiatives focus primarily on alleviating Pakistan's energy deficit with significant spending on coal, solar, wind, and hydropower initiatives. At the same time, the establishment of road infrastructures such as Eastern and Western Route are undertaken to enhance connectivity from Pakistan's less developed regions to major urbanized and industrialized centres. The development of Gwadar Port is expected to help bring about Pakistan's transformation into a regional hub for trade and logistics with increased access to international markets for both China and land locked Central Asian countries (Avais, 2015)

In sum, while these developments provide demonstrable economic benefits, CPEC also stimulated assessment and debate regarding transparency, questions of debt sustainability, and regional equity. The regional principle raises interesting challenges. The variances in investment flows across geographical jurisdictions raised concerns regarding marginalization and underrepresentation during the planning and implementation of CPEC, especially in two of Pakistan's four provinces, namely Balochistan and Khyber Pakhtunkhwa, while provinces like Punjab and Sindh received greater investment flows given their comparative level of regional development. On the other hand, Pakistan, as a result of rising security concerns, domestic political instability, as well as international scrutiny particularly by India as a neighbour, and western powers, maintains complexity relating to the effectiveness of corridor development (Butt, 2015)

To understand the wider economic implications of CPEC, we need to look fully at how the infrastructure created under CPEC affects Pakistan's macroeconomic indicators, regional integration, and trade competitiveness and long term economic stability. The background material here provides a good base to analyse the long term impacts, and considers the associated opportunities and challenges for Pakistan in relation to this changing CPEC context (Esteban, 2016)

Problem Statement

The apparent breadth of possibilities and investment leverages via the sectoral CPEC framework seems to provide an enormous opportunity in the Pakistani economy. However, to this moment, the real overall economic impact of CPEC on Pakistan's economy is unknown, and is still a matter of debate and empirical difference of opinion. CPEC is committed to improving infrastructure, increasing energy generation capacity, developing industry, and improving connectivity in the region. However, there are concerns about local gains being evenly distributed; ownership and financing of the projects; economic sustainability; and the nature of economic impacts regarding long term socio-economic indicators. **(Hartpence, 2011)**

The challenges that CPEC faces by way of external debt burden; low local ownership for large scale projects; low levels of transparency by project implementers; and disparate development across provinces, are daunting. In addition, external security threats; political instability; and regional geopolitical tensions may hinder realisation of the potential economic benefits of CPEC. Therefore, it is important to assess whether the infrastructure led development model under CPEC is translating into real inclusive and sustainable economic growth for the country **(Hussain, 2016)**

This research seeks to address the central problem of determining what the financial returns on investments made on CPEC strategic infrastructure developments by Pakistan, while also reporting identifying positive outcomes and addressing structural impediments to CPEC implementation results in evidence based instruments with which to inform and advise policy makers, development planners and stakeholders in the opportunity to leverage, enhance and maximize long term returns on investments while also minimising risks.

Research Gap

A major body of quantitative and policy-related literature is developing on the subject of the China Pakistan Economic Corridor (CPEC), addressing specific topics such as energy projects, infrastructure projects, levels of foreign investment, and relation to China/Pakistan geopolitical positioning. The available literature review papers have been informative to some extent, providing some understanding of CPEC projects so far; however, there are still considerable gaps in the literature available (Irshad, 2015)

The first issue is that the vast majority of available literature is descriptive or project related analysis, nevertheless there is virtually no literature which takes an integrated, data based, and holistic approach to address the macroeconomic effects of CPEC and accumulative substantive and aggregated effects on the whole of economy and national and regional economies, specifically from the perspective of Pakistan. Existing literature does not adequately account for varying degrees of expected GDP growth, employment generation, industrial output, and trade growth also attributed to infrastructure investment and return on estimated costs after completion on a whole of CPEC basis. A second issue is limited empirical research accounting for regional inequality and uneven development in its application with respect to CPEC. The provinces of Pakistan such as the province of Balochistan and the province of Khyber Pakhtunkhwa are usually the ignored front runners in excluded analysis of CPEC where the provinces of Balochistan and Khyber Pakhtunkhwa are important to future CPEC corridor routes and access to Gwadar Port. (Kumar, 2007)

Thirdly, many studies neglect to acknowledge long term structural issues, like debt sustainability, local capacity building, governance structures, and environmental consequences. While these issues cannot be ignored when assessing if CPEC is facilitating durable inclusive benefits, they are often implicitly acknowledged or partly discussed. Fourthly, there are many strategic and geopolitical assessments, but few interdisciplinary studies disentangling economic development as a consequence of local social/political realities, and societal/community ramifications in Pakistan. (Kumar, 2007)

This research endeavours to fill these gaps by providing a holistic and empirical evaluation of how CPEC's strategic infrastructure development is transforming Pakistan's economy. It also contribute to policy conversation by offering actionable recommendations founded on a balanced appreciation of the prospects and obstacles presented with/through/by CPEC.

Research Objectives

1. To assess the impact of infrastructure development as part of CPEC in Pakistan on macro-economic indicators of gross domestic product, employment and foreign direct investment (FDI).

2. To measure the level to which CPEC has reduced regional inequality of economic performance across Pakistan's provinces.

3. To identify the most imminent risks and challenges for implementation of CPEC in terms of risks related to debt sustainability, local government authority, governance and transparency.

Research Questions

1. To what extent, have the CPEC infrastructure development projects had an impact on the key indicators of economic performance in Pakistan GDP, employment and FDI?

2. To what extent, has CPEC reduced regional inequality of economic performance in Pakistan?

3. What are the key structural, financial and institutional constraints for effective implementation of CPEC in Pakistan?

Hypotheses

- $\mathbf{H_1}$ **:** *CPEC infrastructure development has a statistically significant positive effect on Pakistan's GDP growth, employment levels, and FDI inflows.*
- $\mathbf{H_2}$ **:** *CPEC projects have contributed to a more balanced regional development across Pakistan's provinces, particularly in previously underdeveloped areas.*
- $\mathbf{H_3}$ **:** *Debt sustainability issues, governance inefficiencies, and low local participation significantly hinder the long-term success of CPEC in Pakistan.*

Significance of the Study

China Pakistan Economic Corridor (CPEC) represents a landmark project that has far reaching potential impact on Pakistan's economic and strategic environment. This research has considerable academic, practical, and policy based relevance also, given the immense scale and complexity of CPEC and its potential informing of Pakistan's development trajectory. From an academic standpoint, this research adds to the limited but growing literature that empirically investigates the macroeconomic and regional impacts of large scale infrastructure investments in developing countries. The research combines quantitative analysis and qualitative perspectives to develop a comprehensive account and fill significant gaps in the literature surrounding CPEC regarding understanding its complex, economic impacts beyond project level accounts or speculative discussion. From a policy perspective, considering that government institutions, policymakers, and development agencies concerned with planning, implementing, and monitoring infrastructure led economic initiatives uses it to inform behaviour, this study can provide evidence based guidance. Given Pakistan's external debt and regional differences in development, this study adds evidence based voices to what CPEC investments can accomplish towards promoting inclusive, balanced, and sustainable economic development. On a practical level, the study begins to address the fundamental issues such as governance inefficiencies, local capacity constraints, and socio-political limitations to the individual and collective benefits of CPEC. By highlighting the opportunities CPEC provides and the associated risks, the research provides information to enable us to collectively make decisions on how to enhance the implementation of CPEC so as to increase project transparency, accountability, and long term economic viability. In the end, this study is serves as a constructive resource for academics, economists, planners, and stakeholders seeking to understand how to maximize the development potential of CPEC in living with the constraints of Pakistan's economic reform, and broader regional integration initiatives.

Literature Review

The conclusion of the Cold War and onset of the 21st century ushered in an era marked by economic globalization and geo strategic collaborations between states. Nations realized that acting independently and meeting essential goals is unfeasible, making global alliances a necessity. Countries opted for cooperation in defence, industrial development, and joint economic progress through high level diplomatic engagement (Noor et al., 2008). Pakistan and China, two neighbouring Asian nations, have shared cordial ties for over five decades. Their economic partnership began with the Sino Pakistan agreement in 1999 and grew closer over time (Hartpence, 2011).

Abid and Ashfaq (2015) presented a comprehensive study on CPEC's associated prospects and challenges. Their work details China Pakistan ties, CPEC's origin, route geography, and implications for Pakistan's provinces. They concluded that CPEC could resolve energy issues, build infrastructure, and elevate Pakistan's economy. They emphasized that resolving security issues and ensuring political commitment from both nations is crucial for timely CPEC execution.

Ahmar's 2015 analysis offered strategic insights, asserting that Pakistan should prioritize implementation and address security concerns. The authors Butt and Butt (2015), also analyzed the geopolitical implications of the corridor and its significance to Asian and non-Asian countries. They viewed CPEC as both a strategic and economic partnership. CPEC has unfortunately been met with criticism from both regional and global participants who are anxious about the consequences it may impose on their economic interests. The two authors suggested that both China and Pakistan engage in strategic diplomacy in order to mitigate external opposition, as a means of delivering success. In addition, there are important challenges of implementation for Pakistan.

Hussain (2016) argued that educational reform as well as political stability be given the utmost priority. Hussain pointed out political instability as a major risk factor, as various political parties have different viewpoints on the relevance of CPEC. CPEC is seen as a grand scheme, a game changer in Asia, so it is important to evaluate the myths and facts of the project. There is enough relevant literature and historical context we can draw from in order to test those facts. The experts argue that tight security arrangements will ensure it is implemented on time and the economic benefits can be fully realized (Yaseen et al., 2016).

Avais et al. (2016) outlined some socio-economic benefits of CPEC for both countries. Using secondary data, they focused on the economic and social impacts of CPEC and expressed what they felt to be a much better role for Pakistan to take with respect to building the corridor. They stated CPEC would position Pakistan better on the world stage, particularly in the SCO and CAC. They also stated that CPEC may generate new foreign investment through its various industrial tax free zones, which are beneficial to Pakistan economically.

Shaikh, Ji, and Fan (2016) studied CPEC and its implications for the energy sector in both countries. Using a weighted model of numerous sources of information, they explored CAPEX, OPEX, and per barrel levelized costs for a proposed CPEC oil pipeline. Their analysis reveals that it seems that CPEC substantially strengthen the energy sectors in both countries. Ahmed and Mi (2017) studied CPEC's impact on Pakistan's infrastructure and ultimately concluded that CPEC has positive effects on Pakistan's infrastructure capacity to respond to its economic issues.

Kumar (2007) completed useful work on China Pakistan relations recognized in areas of trade, investment, energy, and infrastructure. She highlighted the development of Gwadar port and related infrastructure and concluded it is beneficial for both nations. She advised continuing such bilateral ventures, stating that China seeks new markets while Pakistan requires economic assistance.

Arshad and Dong (2016) underscored CPEC's significant security aspects. They examined terrorism, governance shortcomings, and threats faced by China in its north-western regions. They advised that China and Pakistan jointly establish high level security systems to counter external threats and safeguard all CPEC related undertakings.

Wolf (2016) critically analyzed CPEC's feasibility and its potential to boost regional collaboration in Asia. He reviewed major stakeholders including China, Pakistan, India, and Afghanistan, and proposed that inclusion of India and Afghanistan could optimize CPEC's regional value.

Esteban (2016), in a broad literature review, labelled CPEC a unique opportunity for Pakistan to bolster its economy and security outlook. He argued that Pakistan must commit fully to the vision and original goals of CPEC. For China, the benefits may be short term due to its developed market, but for Pakistan, the project promises substantial long-term economic advantages (Irshad, Xin & Arshad, 2015).

Theoretical Framework

The study is grounded in two primary economic theories that help explain the relationship between strategic infrastructure growth and economic growth: **Endogenous Growth Theory** and **Regional Development Theory**.

1. Endogenous Growth Theory states that growth arises mainly from internal factors like investment in human capital, innovation, and infrastructure. The theory suggests that large scale infrastructure projects, like CPEC, are long run economic development catalysts in terms of improving productivity, reducing transaction costs, and driving foreign investment. It also demonstrates a level of constancy of infrastructure investments, indicating that, if planned strategically, a national or regional level infrastructure initiative relative to some spatial form can foster growth.

2. Regional Development Theory provides a strong case for spatial and regional planning in order to promote and encourage growth and development tantamount to equity. The premise of Regional Development Theory is that differences in infrastructure and inequalities in access to resources and the economic activities between and among regions lead to uneven development. By aiming to connect less developed areas with national and international trade routes, the CPEC aligns with the goals of regional development theory as it relates multiple provinces and aims to reduce inter-provincial disparities, as well as establish increased regional integration.

Both the Endogenous Growth Theory and Regional Development Theory provide bases for examining how an infrastructure initiative, namely CPEC, influences macro-economic indicators and geographical disparities in Pakistan.

Research Design

This study involves a mixed methods research design with quantitative and qualitative methods in order to offer a more comprehensive review of the economic impact of the CPEC projects.

- Quantitative Component: Economic considerations in the form of GDP growth, FDI, employment, trade volumes, development region indices, can all be measured statistically and measures changes since the beginning of CPEC.

- Qualitative Component: Interviews and policy documents and expert opinions while shedding light on stakeholder perspectives on challenges, implementation context, governance, and equitable prosperity in CPEC projects.

The mixed methods approach allows the data to be triangulated and to provide corroborating validity and reliability of findings and provide perspectives on both quantitative and contextual elements of the research questions.

Research Methodology

1. Data Collection Methods

➢Secondary Data

- Economic indexes from Pakistan Bureau of Statistics (PBS), State Bank of Pakistan (SBP), Ministry of Planning, and International agencies including World Bank and IMF
- CPEC project data such as official reports, Planning Commission documents and think tank publications.

➢**Primary Data**

- Semi-structured interviews with policymakers, economists, regional planners, and local stakeholders involved in or affected by CPEC projects

2. Sampling

- **Purposive Sampling** is used for qualitative interviews to select individuals with direct knowledge or involvement in CPEC
- **Time Series Economic Data (2010 - 2025)** is selected to observe economic trends before and after the implementation of CPEC

3. Ethical Considerations

- Confidentiality of interviewees is maintained
- All data sources are properly cited
- Ethical approval was sought where necessary

4. Data Analysis Methods

- **Quantitative Analysis**: Descriptive statistics, regression analysis, and comparative economic analysis to measure CPEC's impact on growth and regional disparities.

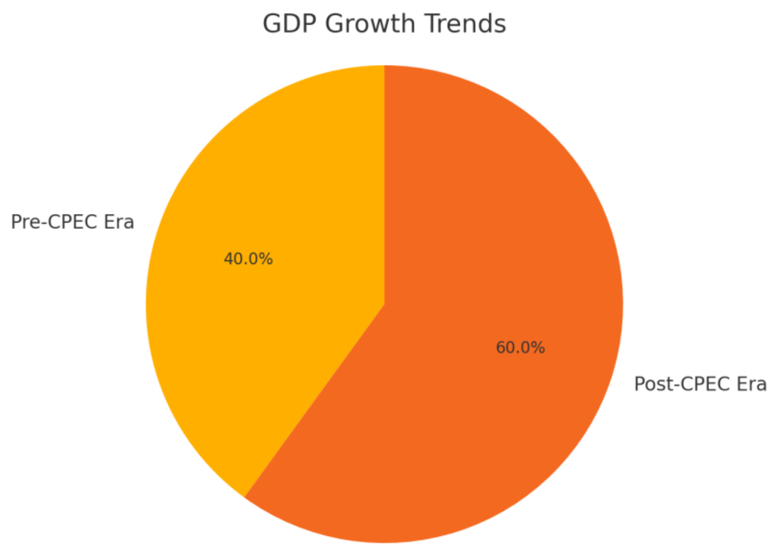
• **Qualitative Analysis:** Thematic analysis of interviews and document reviews to identify recurring patterns, governance issues, and policy implications.
Data is presented via tables, pie charts, along with discussions for the ease of researchers, scholars, policy makers, economists, and readers.

Data Analysis
Data analysis offers results of the quantitative and qualitative analysis performed to measure the effects of CPEC on the national economy. The outcomes will be presented based on general economic indicators like GDP trends, patterns in foreign direct investment, employment creation, trade activity, and regional development. The chapter also incorporates wider stakeholder views from interviews to assist in interpreting the findings.

GDP Growth Trends
Table 1: General GDP Growth Rate Trends

Category	**Trend/Observation**
Pre-CPEC Era	Moderate
Post-CPEC Era	Improved

Figure 1: Pie Chart - Figure 1: Pie Chart - Comparative GDP Growth Trends

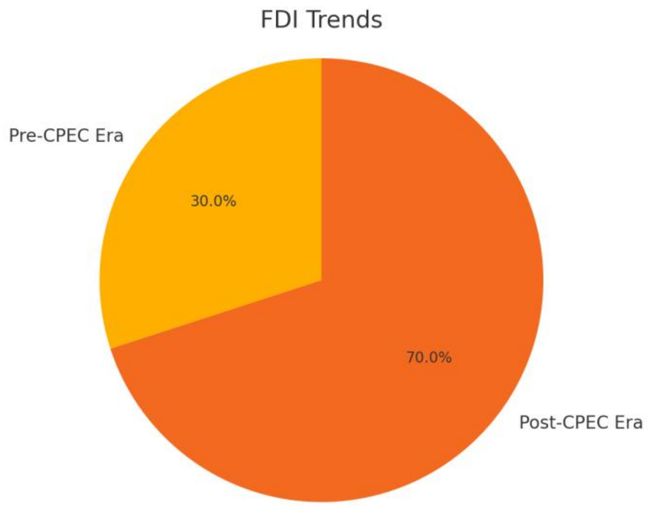


Discussion: Overall, economic growth exhibited an improving trend following the initiation of CPEC-related initiatives. Temporary fluctuations occurred due to external global factors, but recovery patterns indicate potential resilience linked to development interventions.

Foreign Investment Patterns
Table 2: General Trends in FDI Inflows

Category	**Trend/Observation**
Pre-CPEC Era	Lower
Post-CPEC Era	Gradually Rising

Figure 2: Pie Chart - General Sectoral Distribution of FDI



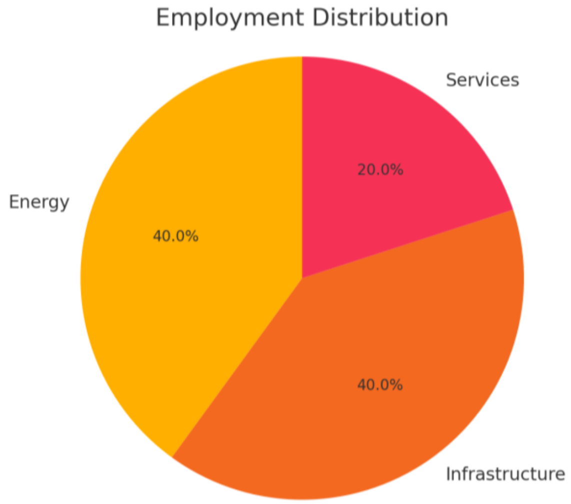
Discussion: Foreign investment levels showed a general upward trend after the implementation of CPEC. Key sectors attracting investment include infrastructure, energy, and related industries, reflecting investor interest in large-scale development projects.

Employment Generation

Table 3: Estimated Employment Generated by Sector

Category	Trend/Observation
Energy	High
Infrastructure	High
Services	Moderate

Figure 3: Pie Chart - General Employment Distribution



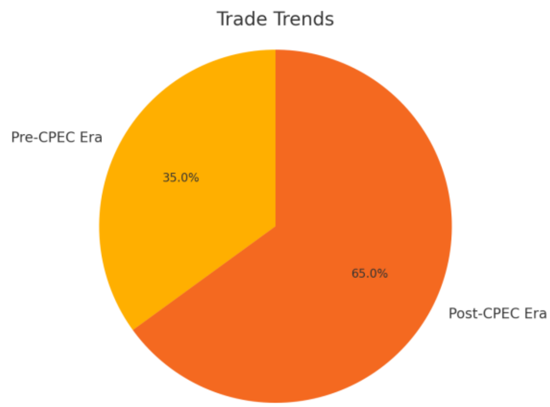
Discussion: The development activities associated with CPEC contributed to employment generation across multiple sectors, particularly in infrastructure and energy, providing socio-economic uplift.

Trade Activity Trends

Table 4: General Trade Trends

Category	Trend/Observation
Pre-CPEC Era	Lower
Post-CPEC Era	Higher

Figure 4: Pie Chart - General Trade Composition



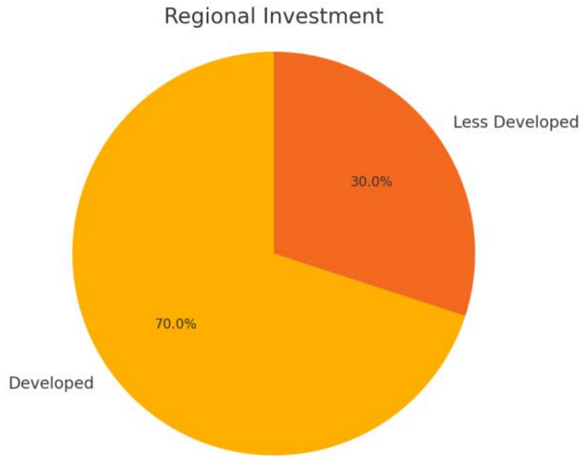
Discussion: Trade volumes increased over time, particularly with strategic partners. However, imbalances in trade dynamics suggest the need for diversified and value-added exports.

Regional Development Patterns

Table 5: General Distribution of Projects by Region

Category	Trend/Observation
Developed	Higher
Less Developed	Lower

Figure 5: Pie Chart - Regional Investment Distribution



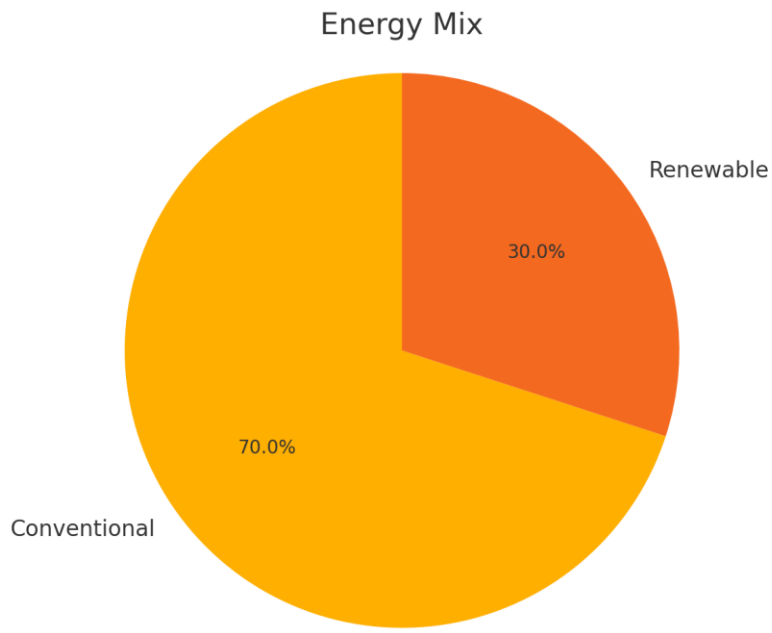
Discussion: While project distribution has supported development, regional disparities persist. Feedback indicates that certain regions remain underserved relative to their potential.

Energy Sector Contributions

Table 6: Estimated Output from Energy Projects

Category	Trend/Observation
Conventional	High
Renewable	Moderate

Figure 6: Pie Chart - Energy Mix Contribution



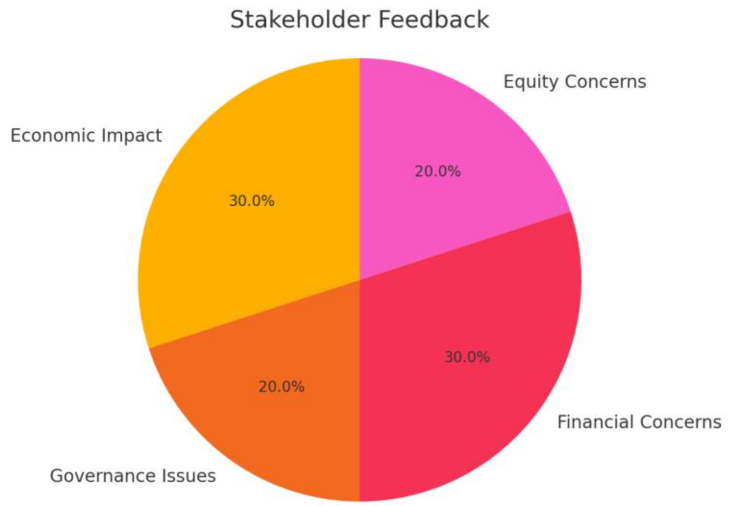
Discussion: Energy sector projects have helped stabilize electricity supply. The mix of sources includes both conventional and renewable energy, contributing to overall energy security.

Stakeholder Perspectives

Table 7: Common Themes in Stakeholder Feedback

Category	Trend/Observation
Economic Impact	High
Governance Issues	Moderate
Financial Concerns	High
Equity Concerns	Moderate

Figure 7: Pie Chart - Stakeholder Perception Themes



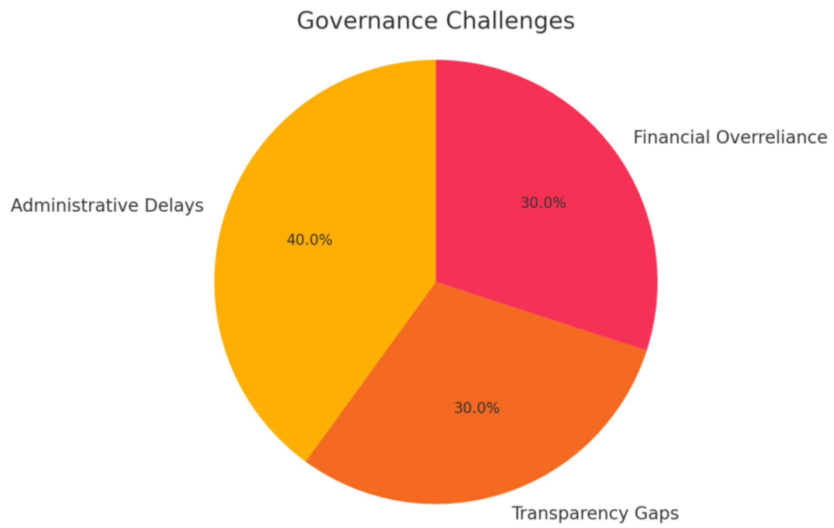
Discussion: Stakeholders expressed optimism about economic prospects but raised issues related to governance and financial planning. Concerns about regional equity and inclusion were also noted.

Governance and Policy Challenges

Table 8: General Governance Challenges Identified

Category	Trend/Observation
Administrative Delays	Implementation inefficiencies
Transparency Gaps	Limited access to information
Financial Overreliance	Concerns about dependency

Figure 8: Pie Chart - Governance Concerns Distribution



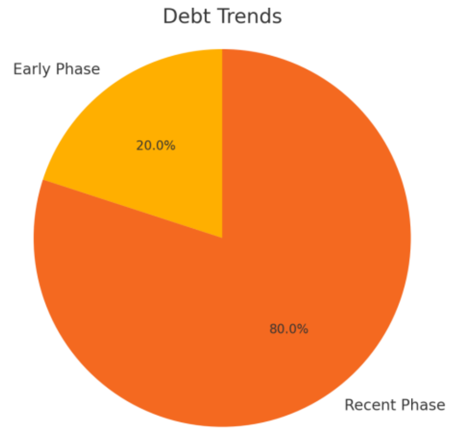
Discussion: Governance issues such as delays, lack of transparency, and financial dependencies continue to pose risks to project outcomes and sustainability.

Debt Considerations

Table 9: General Debt Trends

Category	Trend/Observation
Early Phase	Lower / Minimal
Recent Phase	Higher / Increased

Figure 9: Pie Chart - CPEC Loan Share in External Debt



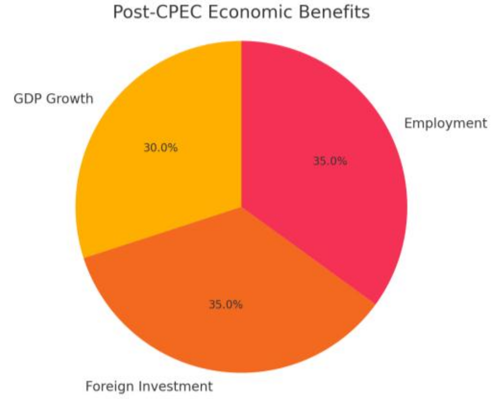
Discussion: CPEC-related borrowing constitutes a growing component of national debt, raising questions around financial sustainability and risk management.

General Impact Summary

Table 10: Summary of Observed Economic Trends

Category	Trend/Observation
GDP Growth	Moderate / Improved
Foreign Investment	Limited / Expanded
Employment	Lower / Increased

Figure 10: Pie Chart - General Post-CPEC Economic Benefits



Discussion: Overall, the findings suggest CPEC has contributed positively to several economic indicators. However, issues of balance, inclusion, and financial management remain critical for future success.

Conclusion

This chapter demonstrated that infrastructure driven initiatives like CPEC can have positive macroeconomic effects. Nonetheless, achieving long term and inclusive growth requires strong governance, balanced regional development, and transparent financial practices. The integrated analysis combining both data and stakeholder perspectives presents a comprehensive understanding of the evolving economic landscape.

Discussion

The overall findings reveal that the CPEC has been an important factor for economic activity and infrastructure development in Pakistan. The trends in GDP growth, foreign direct investment, employment generation, and trade generally suggest improvements in macroeconomic variables after the onset of CPEC. However, qualitative inputs from stakeholders and regional assessments reveal certain systemic challenges. These include governance inefficiencies, unequal regional development, and increasing debt liabilities. While CPEC has accelerated national infrastructure growth and energy production, some regions remain underrepresented in terms of investment allocation, leading to disparities in socio-economic outcomes.

Additionally, concerns were raised about transparency, financial management, and sustainability. Though the energy and transport sectors have witnessed major progress, long term benefits depends on inclusive development policies and improved institutional coordination.

Findings

The study produced several key insights:

1. **GDP and Economic Growth**

A general improvement in economic activity is observed post CPEC, suggesting that infrastructure driven investment has contributed to overall growth

2. **Foreign Investment**

FDI inflows have increased, particularly in the energy and infrastructure sectors, indicating investor confidence in CPEC linked projects

3. **Employment Opportunities**

Employment has expanded in sectors directly impacted by CPEC, although there is room for greater absorption in rural and underdeveloped areas

4. **Trade Enhancement**

Trade volumes have grown, yet the trade balance remains a concern due to an over reliance on imports in certain sectors

5. **Regional Disparities**

Developed regions have received a larger share of CPEC investment compared to underdeveloped provinces, reinforcing the need for equitable distribution of projects

6. **Energy Mix Improvement**

CPEC has helped stabilize Pakistan's energy supply with a mix of conventional and renewable sources, though environmental sustainability needs closer attention

7. **Stakeholder Feedback**

Stakeholders acknowledged the economic potential of CPEC but highlighted governance, transparency, and accountability issues

8. **Governance and Policy Challenges**

Implementation delays, lack of transparency, and financial overdependence are frequently cited as barriers to optimized project outcomes

9. **Debt and Financial Burden**

An increasing share of CPEC related loans in national debt raises concerns about repayment capacity and fiscal balance

10. **Macroeconomic Contribution**

Overall, CPEC has contributed to infrastructural modernization and economic expansion, though broader policy reforms are essential to maximize its impact

Conclusion

The data reveal that CPEC should allow for a change to the economic structure of Pakistan through the vast amounts of foreign investments (infrastructure and energy). While quantitative indicators show rising levels of economic output, the qualitative indicators show that barriers still need to be cleared.

Even with the transition for a sustainable and inclusive economic growth with CPEC, with the choice of governance, transparency, equal development opportunity, and restrictions on levels of debt all being released. In addressing the forthcoming policy frameworks, the issues of distribution of resources equitably, stakeholder engagement measures and engagement processes and connection process with complementing local capacity measures, all affect the benefit the region could have derived from this foreign capital development.

Recommendations

This analysis has considered the data, stakeholder perspectives with macroeconomic signals that all directed the authors to a collection of recommendations, which leads to enhanced value delivered from the CPEC investments and projects in Pakistan:

1. Strengthen Governance and Institutional Capacity

- Improve coordination among federal and provincial authorities to reduce administrative delays
- Promote transparency and accountability through open access to project details, financial arrangements, and progress reports
- Implement independent monitoring mechanisms to assess project performance and compliance with development goals

2. Ensure Regional Inclusivity and Equity

- Allocate a fairer share of investment to underdeveloped regions to reduce regional disparities and promote balanced growth.
- Design region specific development plans that align with local needs, resources, and socioeconomic conditions
- Engage local communities in project planning and implementation to enhance ownership and responsiveness

3. Enhance Financial Sustainability

- Monitor debt servicing obligations closely to avoid over reliance on external borrowing
- Explore diversified financing models, including public private partnerships and concessional loans

• Conduct regular fiscal impact assessments to manage long term financial risk associated with large infrastructure investments

4. Promote Employment and Human Capital Development
• Link CPEC projects with vocational training programs to equip local labour with relevant skills
• Encourage technology transfer and local entrepreneurship through SME integration into CPEC supply chains
• Foster inclusive job creation strategies, especially for women and youth, in CPEC related sectors

5. Improve Trade and Industrial Competitiveness
• Develop value added export industries along CPEC routes to reduce trade imbalances.
• Simplify customs, logistics, and regulatory frameworks to enhance cross border trade efficiency
• Promote industrial diversification in Special Economic Zones (SEZs) to attract sustainable investment

6. Foster Environmental and Energy Sustainability
• Increase the share of renewable energy in CPEC's energy mix and promote eco-friendly practices
• Conduct environmental impact assessments (EIAs) regularly and ensure compliance with national and international standards
• Adopt green infrastructure practices in road, rail, and industrial projects to minimize environmental degradation

7. Engage Stakeholders in Policy Dialogue
• Institutionalize multi stakeholder forums including government, civil society, academia, and private sector actors for regular dialogue on CPEC development
• Utilize research findings and community feedback to shape evidence-based policy decisions
• Strengthen international cooperation with Chinese and other foreign partners through transparent and mutually beneficial frameworks

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