The Role of Special Economic Zones (SEZs) in Boosting Pakistan's Exports and Economic Growth.

Compiled and Done by:

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Abstract

This study explores the impact of Special Economic Zones (SEZs) on Pakistan's economic landscape, with a particular focus on their role in boosting exports and stimulating economic growth through the lens of the China-Pakistan Economic Corridor (CPEC). Employing a combination of macroeconomic analysis and econometric modeling, the research scrutinizes the efficacy of SEZs in fostering economic development, enhancing export competitiveness, and attracting foreign direct investment (FDI).

The inception of SEZs in Pakistan is traced back to the early 1980s, with significant legislative milestones such as the Export Processing Zones Authority Act of 1980 and the Special Economic Zones Act of 2012. These legislative frameworks have been pivotal in shaping the operational and regulatory environments of SEZs. This paper particularly examines the transformative potential of these zones in the context of CPEC, an ambitious infrastructural project aimed at revitalizing the ancient Silk Route.

The analysis is built on a robust dataset spanning from 2002 to 2022, which includes a variety of economic indicators such as GDP growth, trade balances, FDI inflows, and infrastructural development metrics. Through regression analysis and a Differences-in-Differences (DiD) approach, the paper quantifies the direct impacts of SEZs on Pakistan's economic output. The results suggest that SEZs have significantly contributed to GDP growth and export enhancement, albeit with varying degrees of success across different regions and sectors.

Drawing from empirical evidence, the research advocates for a recalibrated approach to SEZ policy in Pakistan. Recommendations focus on enhancing infrastructure, simplifying regulatory frameworks, fostering human capital development, and strengthening energy independence within SEZs to maximize their economic potential while mitigating adverse socio-economic impacts.

Overall, this paper provides a comprehensive assessment of the economic impacts of SEZs within the framework of CPEC, contributing valuable insights into policy formulation and economic strategy in the context of Pakistan's broader economic development objectives. The findings underscore the importance of strategic planning, consistent policy implementation, and the need for an integrated approach to harness the full potential of SEZs in driving economic growth.

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Introduction

In modern times, Special Economic Zones (SEZs) have emerged as a pivotal and often times a very crucial policy instrument in bolstering economic growth and development across various countries. This research delves into the context of Pakistan, exploring the effect of SEZs in stimulating economic progress within our nation. With a ever increasing population, extremely diverse economic (and social) landscape, and luckily a strategically geographical location, Pakistan stands at a critical juncture, seeking avenues to accelerate industrialization, attract foreign investment, and enhance export competitiveness. Keeping all these factors at play in consideration and in mind, the establishment of SEZs has garnered significant attention as a catalyst for economic transformation.

The story of SEZs in Pakistan I particular dates back to the early 1980s, with the enactment of the Export Processing Zones Authority (EPZA) Act in 1980, which laid the foundation for the establishment of export-oriented industrial zones. Building upon this framework, the Special Economic Zones Act of 2012 which is different and unique in the sense that its associated with the BRI (Belt Road initiative) and its local project CPEC (China Pakistan Economic Corridor), an ambitious project launched by China in a effort to boost its trade. This shows a landmark legislative initiative aimed at providing a comprehensive regulatory framework for the development and operation of SEZs in Pakistan. This legislation aims and tries to streamline administrative procedures, act as a catalyst for investor confidence, and promote private sector participation in SEZ development, thereby signaling a renewed commitment to leveraging SEZs as the true driver of economic growth.

Over the decades, the government has also pursued a multipronged approach to SEZ development, aiming to create conducive environments for business activities, stimulate employment generation, and bolster export-oriented industries. These zones offer a range of incentives and facilities like most SEZs out there, including tax breaks, streamlined regulatory procedures, infrastructure provision, and investor-friendly policies, aimed at attracting domestic and foreign investors alike.

However, despite the strategic intent and considerable investments directed towards SEZs, the discourse surrounding their impact on Pakistan's economy remains nuanced heated and contested. Proponents argue that SEZs have played a pivotal role in attracting foreign direct investment (FDI), fostering technology transfer, and spurring industrial growth, thereby

contributing to job creation and poverty alleviation. On the other hand Advocates point to success stories from countries such as China and Malaysia, where SEZs have served as engines of economic development, driving export-led growth and structural transformation.

Conversely, critics raise concerns regarding the sustainability, inclusivity, and overall effectiveness of SEZ policies in Pakistan. Skeptics contend that SEZs have failed to catalyze broad-based economic development, exacerbating regional disparities, and perpetuating a reliance on low-value-added industries. Moreover, questions arise regarding the transparency and governance frameworks governing SEZs, with allegations of rent-seeking behavior, regulatory capture, and environmental degradation.

Against this backdrop of very different perspectives and empirical evidence, this research endeavors to critically evaluate the impact of SEZs on Pakistan's economic landscape. Through a comprehensive analysis of macroeconomic indicators, sectoral performance, and stakeholder perspectives, this study seeks to provide insights into the opportunities, challenges, and policy implications associated with SEZ development in Pakistan. By shedding light on the dynamics of SEZ effectiveness, this research aims to inform policymakers, practitioners, and scholars, facilitating evidence-based decision-making and fostering sustainable economic development in Pakistan.

In summary, the exploration of SEZs in Pakistan represents a timely and pertinent inquiry, situated at the very heart of economic policy, industrial development, and regional competitiveness. By critically examining the trajectory of SEZs and their implications for Pakistan's economic future, this research endeavors to contribute to the ongoing discourse on inclusive and sustainable development strategies in the country.

Literature Review

The China-Pakistan Economic Corridor (CPEC) is a massive infrastructure project that is expected to have a significant impact on both Pakistan and China. In addition to the economic benefits, the CPEC is also expected to have a number of social and environmental impacts. For example, the CPEC is expected to improve infrastructure in Balochistan, including roads, railways, and power plants. This could lead to improved access to education and healthcare, as well as increased trade and investment. However, there are also concerns about the environmental impact of the CPEC, such as increased pollution and water scarcity. (Farooqui & Aftab, 2018) A research paper titled "China-Pakistan Economic Corridor - Historical

Perspective and Future Prospects of Baluchistan Linked with Economic Corridor" explores the significant role of Baluchistan in the CPEC. It provides a detailed historical background of Baluchistan and its strategic importance, highlighting challenges and opportunities presented by the CPEC. The paper discusses the lack of infrastructure, security issues, and socio-economic disparities in Baluchistan, while also identifying the potential benefits of the CPEC for the region, such as infrastructural development and economic opportunities. Recommendations include improving security, infrastructure, and policy-making to maximize local benefits from the CPEC. This comprehensive study analyzes the impact of CPEC on Baluchistan, addressing the historical context, economic potential, and challenges faced by the region. It emphasizes the need for strategic planning and policy reforms to ensure Baluchistan reaps the full benefits of the CPEC. The authors argue for a balanced approach, focusing on improving security, infrastructure, and education, to transform Baluchistan into a key player in the region's economic development. (Et Al., 2021)

The paper "Special Economic Zones: A Comparison of the Economic Policies of China and Pakistan" by Sohail Ahmad, Inayat Kaleem, and Hajra Nasir Satti, examines the implementation and outcomes of Special Economic Zones (SEZs) in China and Pakistan. It explores how China's successful SEZs have contributed significantly to its economic development, alleviating poverty, and fostering industrial growth. The paper contrasts this with Pakistan's SEZs under the China-Pakistan Economic Corridor (CPEC), identifying challenges such as inconsistent economic policies and infrastructural issues. It also discusses the potential benefits of these zones in Pakistan, including industrialization and economic stabilization. The authors argue that Pakistan's SEZs can be a catalyst for economic growth if managed effectively. They highlight that China's experience with SEZs could offer valuable lessons for Pakistan, particularly in terms of policy formation, investment attraction, and infrastructural development. However, the paper also points out the need for Pakistan to address its policy inconsistencies and infrastructure deficiencies to realize the full potential of SEZs.(Ahmad et al., 2018)

Special Economic Zones (SEZs) within the China-Pakistan Economic Corridor (CPEC) play a crucial role in Pakistan's economic development. Addressing infrastructure, governance, and political stability challenges in CPEC SEZs is imperative (Zia et al., 2018). Saira Naeem highlight the importance of government leadership, stakeholder involvement in policymaking, and the establishment of clear objectives for SEZs. Monitoring progress through Key Performance Indices (KPIs) and granting autonomy to SEZs for local-level reforms are crucial.

Strong political commitment, transparency, accountability, and continued support are also essential for success. (Naeem et al., 2020). These challenges are in line with Khan and Anwar's (2020) emphasis on transparent and efficient SEZ management. Effective SEZ design and implementation are vital, as they are consistent with the broader literature on SEZs Learning from the experiences of countries like China is also recommended . (K. Khan et al., 2016)

Special Economic Zones (SEZs) have emerged as a promising strategy for economic development and industrial growth in many countries around the world. In Pakistan, SEZs have gained significant attention as part of the China-Pakistan Economic Corridor (CPEC) initiative. The paper "Special Economic Zones in Pakistan: Analysis of Trends from a Global Perspective" by Inayat Kalim, Ishtiaq Ahmad Choudhry, and Adam Saud provides a comprehensive overview of SEZs in Pakistan, examining their theoretical underpinnings, global trends, and implications for Pakistan's economic development. The authors highlight the potential benefits of SEZs, such as employment generation, export promotion, and technology transfer. However, they also acknowledge the challenges associated with SEZ implementation, including infrastructure constraints, governance issues, and corruption risks. They emphasize the need for careful planning, strong leadership, and effective policy implementation to ensure the success of SEZs in Pakistan. (Kalim et al., 2020) Similarly, Mahmood’s article and Hussain & Rao underscore the potential benefits of SEZs in Pakistan, particularly in the context of CPEC, but also caution about the need to address challenges such as infrastructure development, attractive incentives, effective governance, and corruption mitigation. Overall, these studies underscore the potential of SEZs to contribute to Pakistan's economic development, while also highlighting the importance of addressing implementation challenges to ensure their success. (Z. Mahmood, n.d.)

The paper "Special Economic Zones (SEZs): A Comparative Analysis for CPEC SEZs in Pakistan" by Muhammad Muzammil Zia, Shuja Waqar, and Benaash Afzal Malik, presents a detailed analysis of Special Economic Zones under the China-Pakistan Economic Corridor (CPEC). It compares SEZs in Pakistan with those in other regions, focusing particularly on their socio-economic impacts. The study highlights the successes and failures of SEZs in different parts of the world, especially in Asian and African countries, and draws lessons for Pakistan. It notes the positive socio-economic outcomes of SEZs in Asian countries, while African SEZs have generally not led to significant job creation or poverty reduction. The authors conclude that Pakistan can benefit from adopting the successful strategies of Asian SEZs while avoiding the pitfalls observed in African examples. The paper underscores the

importance of proper regulatory frameworks, infrastructure development, and political stability for the effective functioning of SEZs. It also emphasizes the need for Pakistan to learn from global experiences to ensure its CPEC-oriented SEZs deliver maximum socio-economic benefits.(Zia et al., n.d.)

Special Economic Zones (SEZs) have been recognized as valuable instruments for promoting export-oriented manufacturing. A study by Aravindaraj and Muthusamy (2021) in the Indian context found that SEZs have had a positive impact on India's exports, both directly and indirectly. Directly, SEZs have contributed to India's exports by providing businesses with a range of incentives, such as tax breaks, streamlined customs procedures, and access to world-class infrastructure and utilities. These incentives have made SEZs very attractive to exporters, and the result has been a significant increase in exports from SEZs. Indirectly, SEZs have also contributed to India's exports by creating a more competitive business environment. The presence of SEZs has forced other businesses in India to improve their efficiency and productivity to compete. This has led to an overall improvement in the quality and competitiveness of Indian exports. (‘A1476109119’, n.d.)

However, a study by Devadas V. and Vaibhav Gupta (2011) highlights the issue of SEZs being developed near already established cities rather than being used to stimulate growth in less developed areas, leading to increased regional disparities. The authors emphasize the need for a balanced and strategic location of SEZs to ensure equitable regional development. They argue that SEZs, if properly implemented, can be catalysts for integrated development, but the current approach in India has seen limited success due to its narrow focus. The paper suggests a methodological approach to SEZ placement, considering socio-economic and physical factors, to maximize their positive impact on regional development. (Gupta, 2011)

The paper "Special Economic Zones: Socio-economic Implications" by Naresh Kumar Sharma provides a critical assessment of the socio-economic impacts of Special Economic Zones (SEZs) in India. The paper raises concerns about the acquisition of land from farmers, the potential increase in inequalities, and the impact on democratic institutions. The study highlights the dichotomy between the intended objectives of SEZs, like export promotion and economic growth, and the actual outcomes, such as regional disparities and social conflicts. Sharma's analysis suggests that while SEZs offer economic benefits, their implementation in India has led to significant socio-political challenges. The paper argues for a more balanced approach in SEZ policy, considering not only economic gains but also the broader implications

on society and governance. The study underlines the need for a comprehensive understanding of the SEZs' long-term impacts on social fabric and regional equity.(Sharma, 2009)

Hybrid energy policies and sustainable development are pivotal components of SEZs within the CPEC framework. Research by Muhammad Bilal et al. (2023) and Ahmed et al. (2023) underscores the importance of sustainable energy sources and smart grid technologies in reducing greenhouse gas emissions, enhancing energy efficiency, and job creation. They recommend adopting a smart energy policy for SEZs in the CPEC, particularly a smart energy system integrating renewable energy sources with smart grid technologies. Such a policy is found to be the most sustainable, economically viable, and technically feasible alternative for SEZs (Bilal et al., 2022) (Ahmed et al., 2020). These considerations align with Mahmood's (2018) work, emphasizing the need for policymakers to ensure widespread benefits from SEZs and the consideration of environmental and social impacts. Additionally, Khan’s focus on the energy requirements for SEZ expansion, emphasizing the potential of wave energy in Pakistan. Their study reveals significant wave power potential in Pakistan's Exclusive Economic Zone (EEZ), which could address power shortages and reduce environmental concerns. Investment in the renewable energy sector is seen as a means to tackle environmental issues while meeting energy needs. (M. Khan et al., 2021)

Ali and Faisal focus on entrepreneurial development in the context of the CPEC and SEZs. Their findings suggest that the CPEC and SEZs can create opportunities for entrepreneurs in Pakistan through new markets, technology transfer, and infrastructure improvement. Policymakers can support entrepreneurial development by investing in skills development, improving access to finance, and ensuring transparent and efficient management of SEZ. Ali and Faisal's (2016) article on the China-Pakistan Economic Corridor (CPEC), Special Economic Zones (SEZs), and entrepreneurial development prospects in Pakistan is a well-written and informative piece. The authors argue that the CPEC and SEZs have the potential to create a number of opportunities for entrepreneurs in Pakistan, including new markets, technology transfer, improved infrastructure, and investment. The authors' findings are consistent with the existing literature on the CPEC and SEZs, which suggests that these initiatives can have a positive impact on economic growth and development. However, the authors also highlight the importance of addressing challenges such as skills development, access to finance, and governance in order to ensure that the benefits of the CPEC and SEZs are widely shared.

The article "Infrastructure projects and sustainable development: Discovering the stakeholders' perception in the case of the China–Pakistan Economic Corridor" by Shahid Mahmood, Muazzam Sabir, and Ghaffar Ali (2023) investigates the perceptions of stakeholders on the CPEC project and its impact on sustainable development in Pakistan. The study found that the majority of stakeholders (63%) were satisfied with the CPEC project overall. However, there was a significant variation in perceptions among different stakeholder groups. For example, landowners were more likely to be dissatisfied with the project, while economic zone developers and government officials were more likely to be satisfied. The study also found that stakeholders who perceived the CPEC project to be beneficial for sustainable development were more likely to be satisfied with the project overall. This suggests that stakeholder perceptions of the project's impact on sustainable development play an important role in overall satisfaction with the project..(S. Mahmood et al., 2020)

Methodology

Data Collection and Summary

The methodology adopted for this research involved a systematic approach to examine the impact of various economic factors on Pakistan's Gross Domestic Product (GDP). The first step entailed a meticulous process of data collection, drawing from reputable sources such as the World Bank, International Monetary Fund (IMF), and national statistical agencies. The dataset encompassed a wide array of macroeconomic indicators spanning from 2002 to 2022, including GDP, trade statistics, foreign direct investment (FDI), inflation rates, and infrastructure development indices.

To select the most relevant independent variables, a comprehensive review of economic theories, empirical studies, and expert opinions was conducted. This process aimed to identify variables with significant economic implications for Pakistan's GDP. Factors considered included trade indicators, financial metrics, infrastructure development indices, and policy initiatives such as the China-Pakistan Economic Corridor (CPEC) and the establishment of Special Economic Zones (SEZs). All the variables that have been listed were collected through reliable and authentic sources.

Variable Name	Variable Definition	Data Source

Real GDP Growth	Annual percentage increase in real Gross Domestic Product	World Development Indicators
GDP ($)	Total market value of all goods and services produced	World Development Indicators
Imports ($)	Total value of all goods and services imported	World Development Indicators
Exports ($)	Total value of all goods and services exported	World Development Indicators
Net Trade ($)	Difference between exports and imports	World Development Indicators
Unemployment Rate (%)	Percentage of the labor force that is unemployed	World Development Indicators
Population	Total number of people in a country or region	World Development Indicators
Metric Tons PC CO2	Carbon dioxide emissions per capita	World Development Indicators
Access to Electricity (%)	Percentage of population with access to electricity	World Development Indicators
FDI Inflows (BOP)	Foreign Direct Investment received	World Development Indicators
Total Reserves ($)	Total international reserves excluding gold	World Development Indicators
Dollar Rate	Exchange rate of the local currency against the US dollar	World Development Indicators
D.S External debt	Total external debt	World Development Indicators
Manufacturing (V.A $)	Value added by the manufacturing sector	World Development Indicators
Industry (V.A $)	Value added by the industrial sector	World Development Indicators

Labor F.P.R	Labor force participation rate	World Development Indicators
Balance Of Payments($)	Summary of the economic transactions for a country	World Development Indicators
CPEC launched	Date the China-Pakistan Economic Corridor was launched	Pakistan Economic Survey Years (2003-2023)
High Technology Exp	Exports of high technology products	World Development Indicators (2003-2022)
Govt Expenditure educ % GDP	Government expenditure on education as % of GDP	World Development Indicators
Transport Service%Exports BOP	Percentage of exports from transport services	World Development Indicators
Urban Population%	Percentage of the population living in urban areas	World Development Indicators
China Exports	Value of exports from China	World Development Indicators
China Imports	Value of imports to China	World Development Indicators
China Trade Balance	The trade balance of China	World Development Indicators
SEZ Act Launched	Date the Special Economic Zones Act was launched	Relevant government publications such as Pakistan Economic Survey and other trade publications.
No Of SEZs Launched	Number of Special Economic Zones established	Relevant government publications such as Pakistan Economic Survey and other trade publications.

The comprehensive dataset over the past two decades not only underscores significant economic metrics but also highlights broader socio-economic trends. Real GDP growth, averaging 4.31%, has shown resilience and variability influenced by global economic conditions and internal fiscal policies. Trade dynamics, particularly exports and net trade,

demonstrate the country's response to evolving global trade environments and shifts in domestic export capabilities.

Progress in societal infrastructure is evident in the consistent rise in access to electricity, which has improved markedly from approximately 76% to over 80%, reflecting ongoing government initiatives to enhance utility access. Foreign Direct Investment (FDI) inflows fluctuate, indicating variable international confidence, with peaks suggesting periods of economic optimism influenced by favorable trade conditions or policy reforms.

The manufacturing and industrial sectors display robust growth, aligning with policy-driven efforts to enhance industrial productivity as a cornerstone of the economic agenda. Moreover, environmental and social indicators such as carbon emissions per capita and urbanization rates provide insight into the country's environmental policies and urban development strategies.

A notable inclusion in the dataset is the creation of a proxy variable for the number of Special Economic Zones (SEZs) launched, which increments as new SEZs are established. This variable offers a unique perspective on economic development, as the initiation of SEZs is directly tied to government initiatives aimed at boosting economic growth through localized incentives, infrastructure improvements, and investment attraction. The variable evolution reflects strategic economic planning and targeted industrial expansion, vital for understanding the impact of SEZs on the overall economic landscape.

Regression analysis, specifically Ordinary Least Squares (OLS) regression models, was employed to investigate the relationships between the selected independent variables and Pakistan's GDP. Various regression specifications were considered, including simple linear regressions and multiple regressions, to assess both the individual and collective impacts of the chosen variables. Special attention was given to the inclusion of appropriate control variables and the handling of potential multicollinearity issues through diagnostic tests and model refinement techniques.

Furthermore, a Differences-in-Differences (DiD) analysis was conducted to evaluate the causal effect of specific policy interventions, such as the launch of CPEC and SEZs, on Pakistan's GDP. This involved creating treatment and control groups based on the timing of the interventions and assessing changes in GDP before and after their implementation. Robustness checks and sensitivity analyses were performed to validate the findings and ensure the reliability of the estimated treatment effects.

Sensitivity analyses were conducted to examine the robustness of the results to variations in model specifications, sample periods, and alternative control variables. These analyses aimed to provide insights into the stability and generalizability of the findings across different scenarios and to assess the reliability of the conclusions drawn from the regression models. Composite indices were created using Principal Component Analysis (PCA) to capture the multidimensionality of certain economic phenomena. This technique facilitated the amalgamation of multiple correlated variables into single indices, thereby simplifying regression modeling while retaining the richness of the underlying data. Composite indices were formulated for both positively and negatively correlated variables, allowing for a comprehensive assessment of their collective impact on GDP.

For all the figures that are displayed ahead in this document feature a red and a green line, the Red Line refers to SEZ's act whereas the Green Line refers to CPEC act, so these colored lines act as a division as a before and after the respective acts.

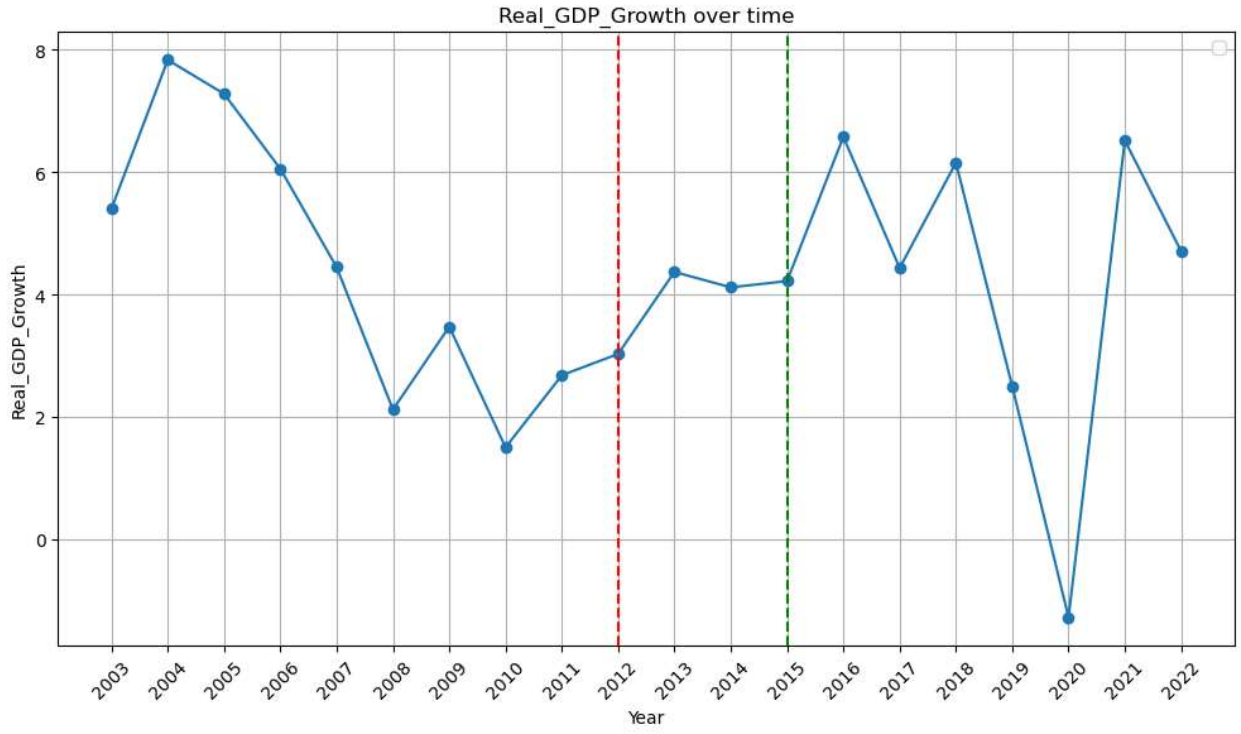

Figure 1 GDP Growth over time

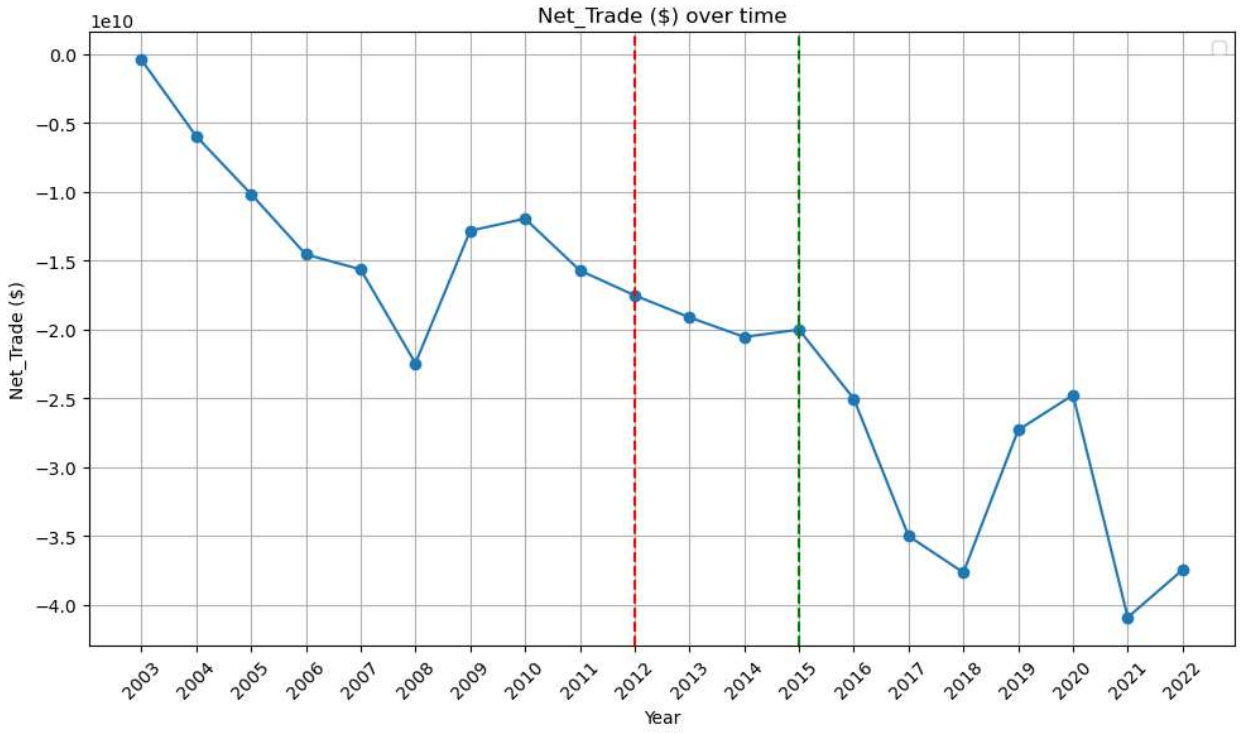

Figure 2 Net Trade over time

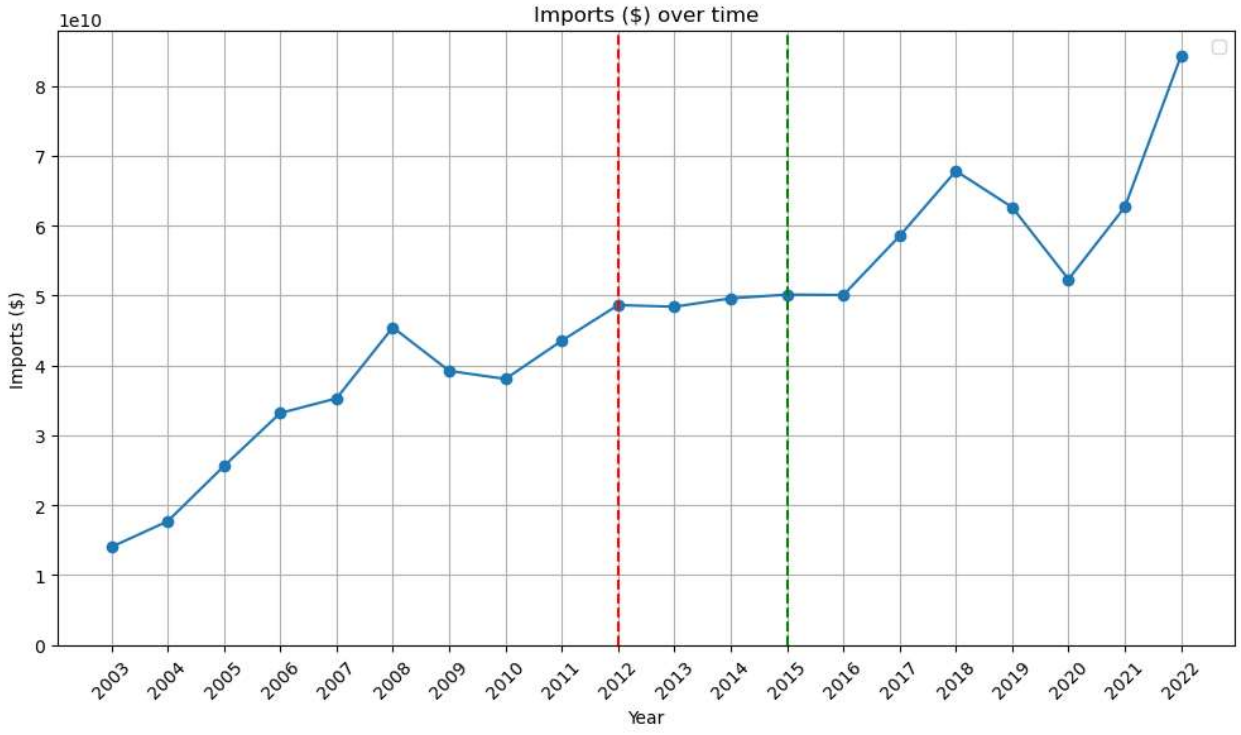

Figure 3 Imports over time

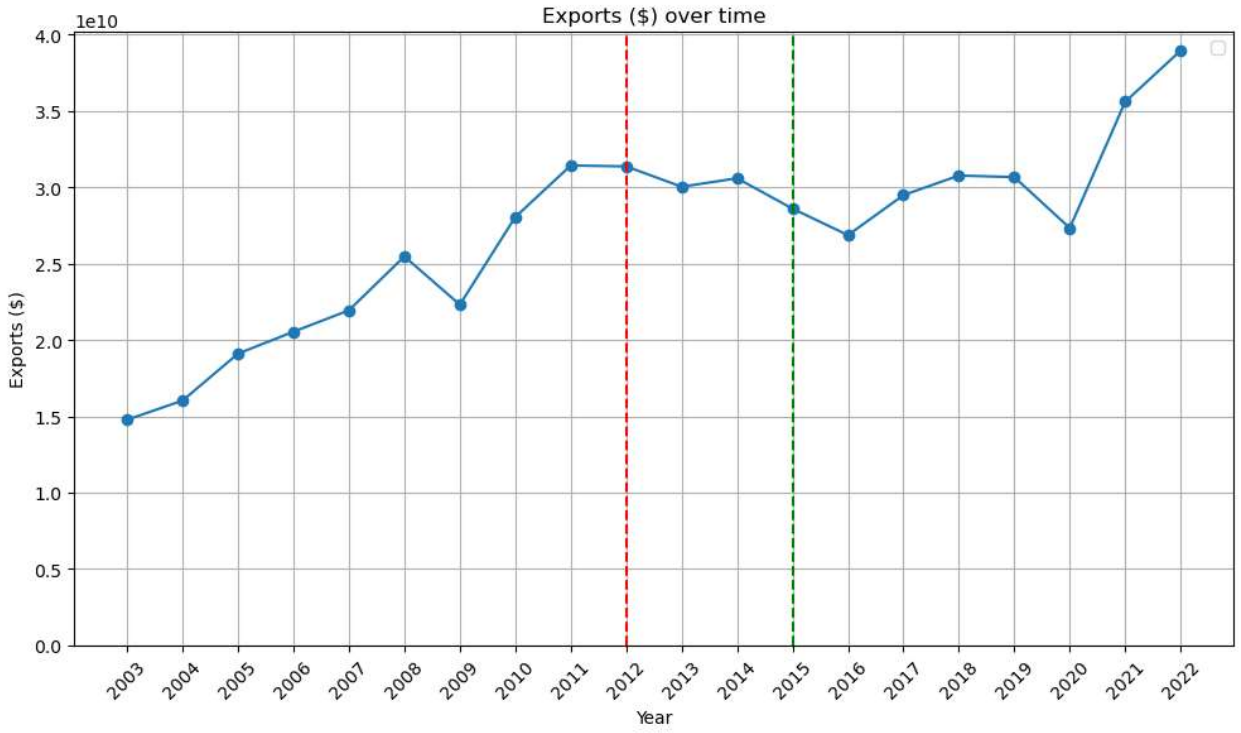

Figure 4 Exports over time

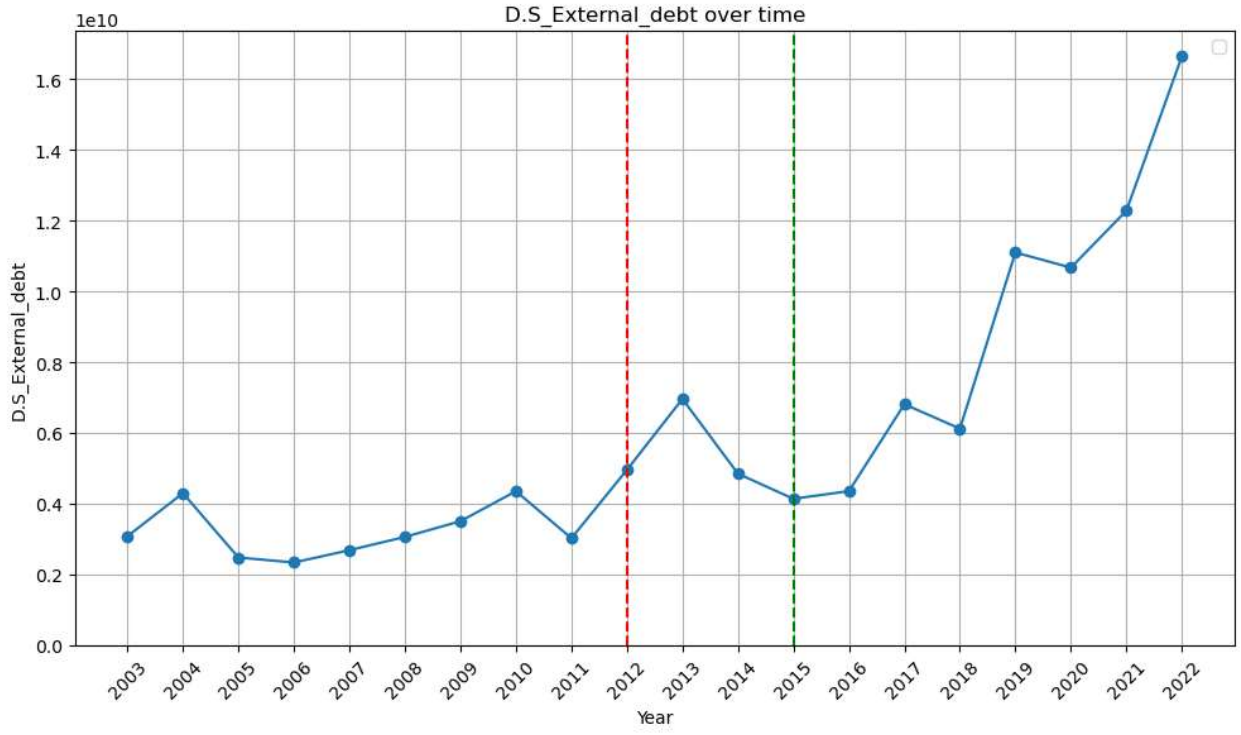

Figure 5 Domestic External Debt over time

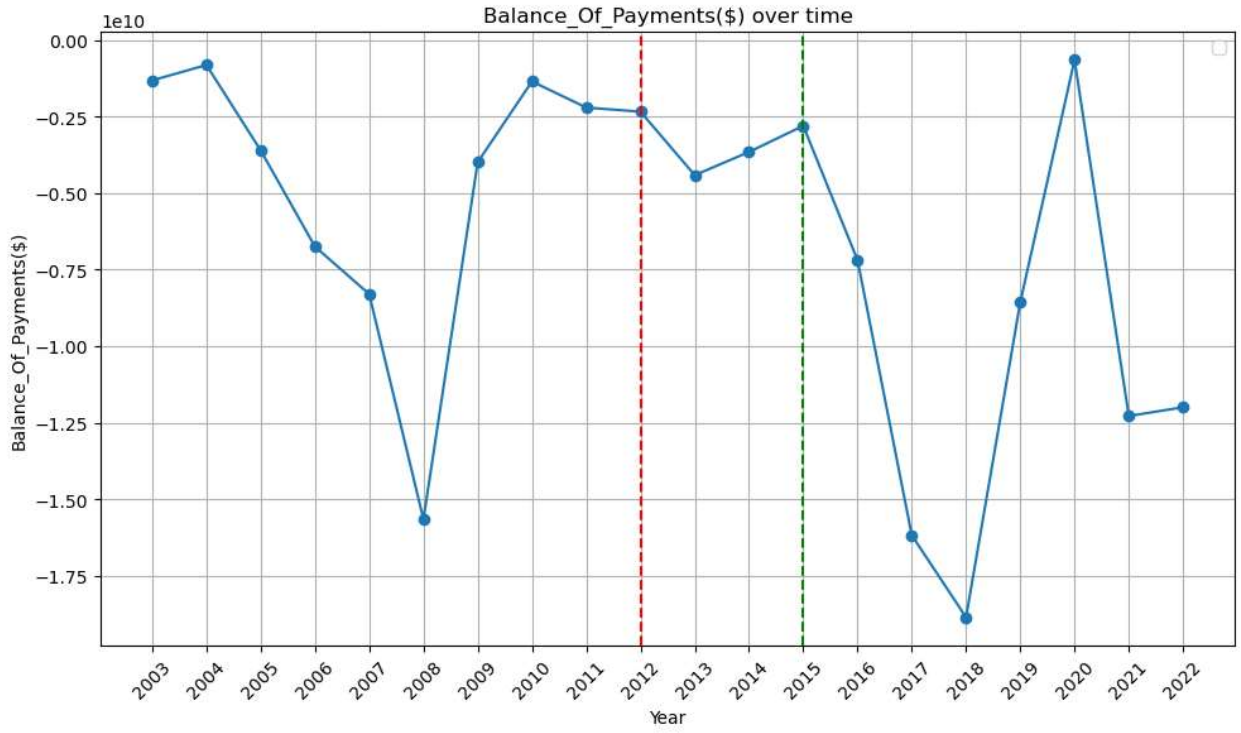

Figure 6 Balance of Payments over time

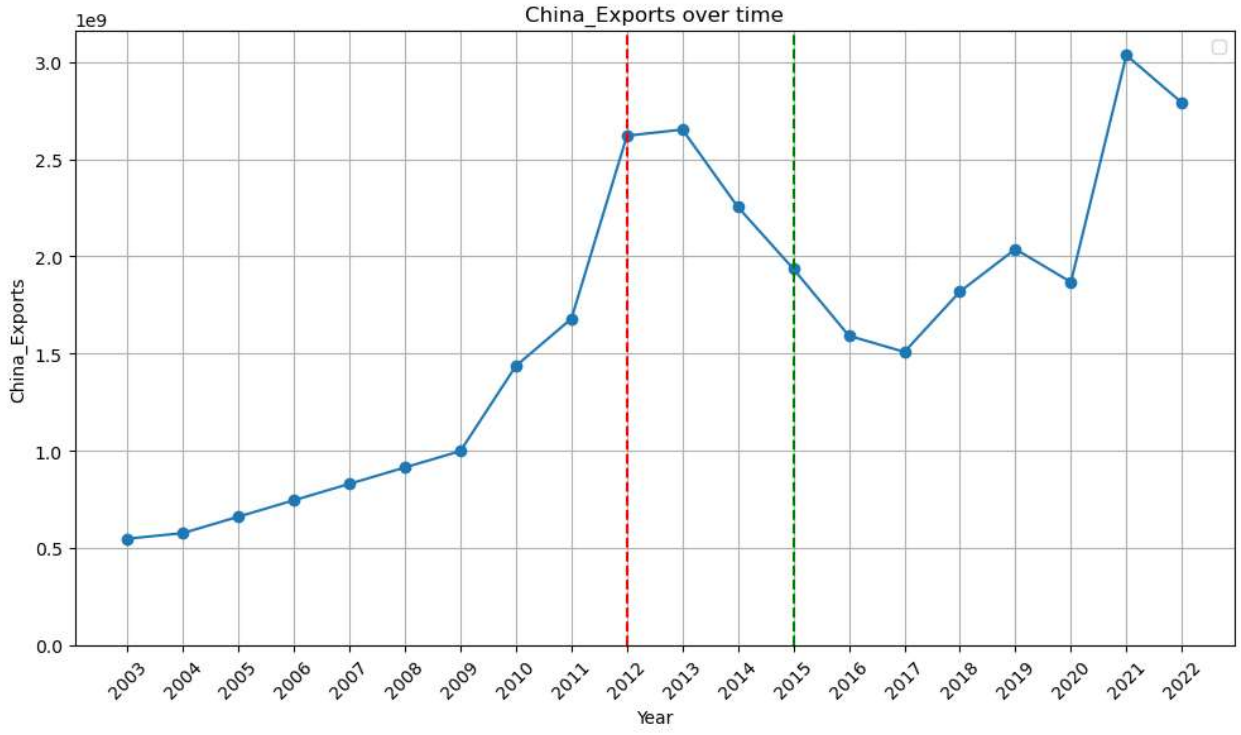

Figure 7 China Exports

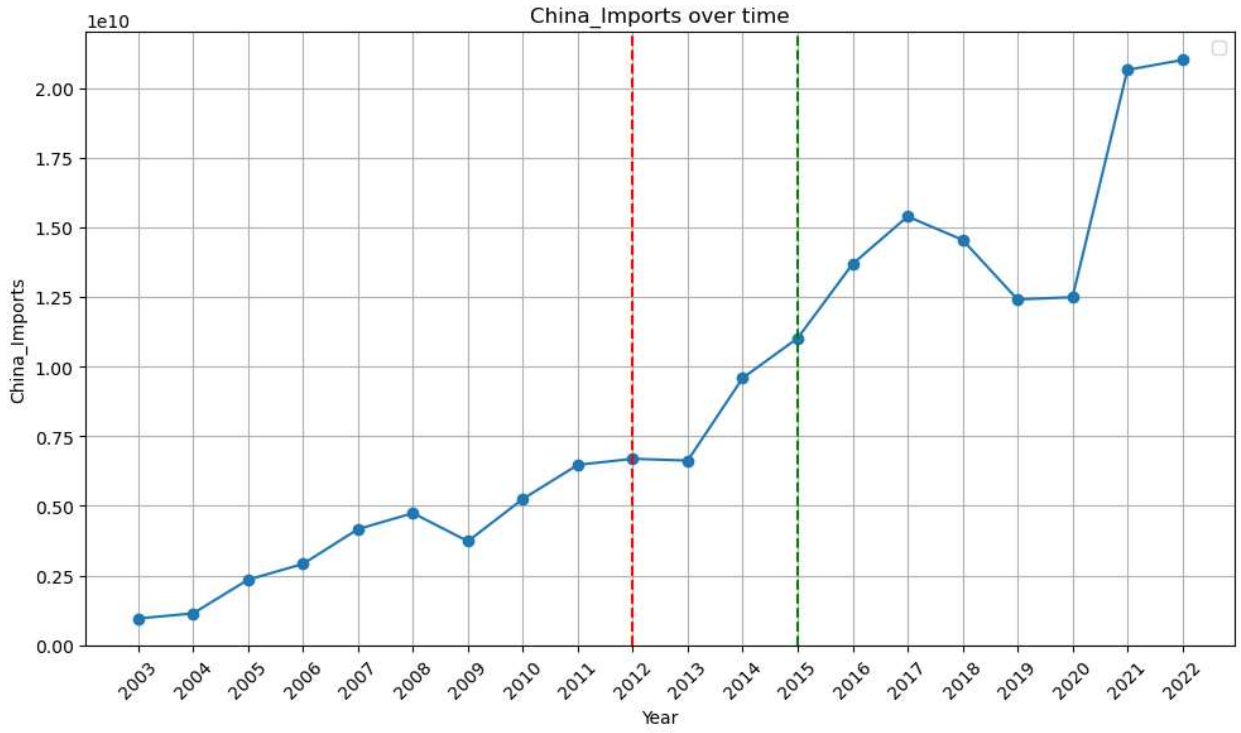

Figure 8 Chine Imports

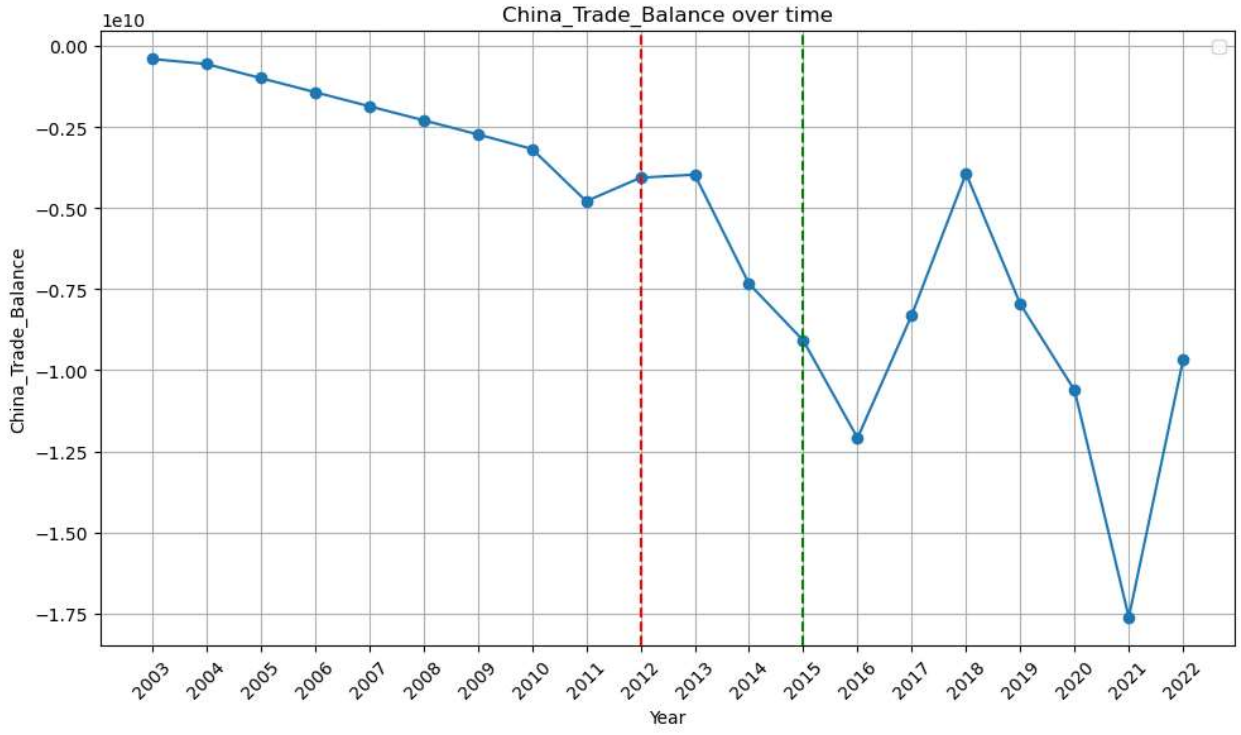

Figure 9 China Trade Balance

Regression Analysis

In our research, we observed that several economic variables in our dataset exhibited correlations or interdependencies. For instance, variables like FDI inflows, total reserves, and manufacturing output were positively correlated with economic growth, while factors like external debt levels, trade imbalances, and unemployment rates showed negative correlations with GDP.

To address the multicollinearity issue arising from these correlated variables, we employed a composite index approach. By combining related variables into single indices, we aimed to condense the information while preserving the essence of the underlying economic factors. This consolidation allowed us to mitigate the multicollinearity problem, which can distort regression results and lead to unreliable coefficient estimates.

This is showed in the Positivity_Index and Negativity_Index variables in the regressions below. The isolated third variable is the variable we want to find the significance for.

```
                            OLS Regression Results
==============================================================================
Dep. Variable:                 GDP ($)   R-squared:                       0.994
Model:                             OLS   Adj. R-squared:                  0.991
Method:                  Least Squares   F-statistic:                     342.7
Date:                 Fri, 10 May 2024   Prob (F-statistic):           1.54e-13
Time:                         20:03:36   Log-Likelihood:                -479.50
No. Observations:                   20   AIC:                             973.0
Df Residuals:                       13   BIC:                             980.0
Df Model:                            6
Covariance Type:            nonrobust
===============================================================================
                              coef    std err          t      P>|t|      [0.025
.975]
-------------------------------------------------------------------------------
---
const                    2.417e+11   9.29e+09     26.009      0.000    2.22e+11
2.62e+11
Positively_Index            2.1053      0.256      8.231      0.000       1.553
2.658
Negatively_Index            1.2625      0.681      1.854      0.087      -0.209
2.734
D.S_External_debt          -2.8716      0.808     -3.555      0.004      -4.617
-1.127
Balance_Of_Payments($)      0.6261      0.604      1.037      0.319      -0.678
1.930
```

```
CPEC_launched           2.789e+10   6.62e+09      4.213      0.001    1.36e+10
4.22e+10
SEZ_Act_Lauched         3.176e+10   6.86e+09      4.631      0.000    1.69e+10
4.66e+10
==============================================================================
Omnibus:                        0.424   Durbin-Watson:                   1.939
Prob(Omnibus):                  0.809   Jarque-Bera (JB):                0.530
Skew:                           0.023   Prob(JB):                        0.767
Kurtosis:                       2.204   Cond. No.                     1.61e+11
==============================================================================

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is
correctly specified.
[2] The condition number is large, 1.61e+11. This might indicate that there
are
strong multicollinearity or other numerical problems.
```

This OLS regression model examines the determinants of GDP ($), aiming to elucidate the influence of various economic factors. The model exhibits a high explanatory power, with an R-squared of approximately 99.4%, indicating that the included variables collectively account for a substantial portion of the variation in GDP.

Among the variables, the positively-indexed composite indicator, encompassing variables such as imports, exports, FDI inflows, manufacturing, and industrial output, demonstrates a statistically significant positive association with GDP. Conversely, the negatively-indexed composite indicator, capturing aspects like trade deficits and external debt, while showing a positive relationship with GDP, does not reach conventional levels of statistical significance.

Additionally, variables such as external debt and the launch of strategic economic zones (SEZs) exert significant effects on GDP. Notably, the initiation of the China-Pakistan Economic Corridor (CPEC) and SEZ activation exhibit substantial positive impacts on GDP, underscoring the significance of strategic economic partnerships and investment initiatives.

Despite the robustness of the model, the presence of multicollinearity, as indicated by the high condition number, suggests potential challenges arising from correlated independent variables. Therefore, while the model provides valuable insights into the determinants of GDP, careful consideration of multicollinearity issues is warranted in interpreting the results effectively.

DID Regression

```
                            OLS Regression Results
==============================================================================
Dep. Variable:                GDP ($)   R-squared:                       0.969
Model:                            OLS   Adj. R-squared:                  0.965
```

```
Method:                 Least Squares   F-statistic:                     263.2
Date:                Fri, 10 May 2024   Prob (F-statistic):           1.62e-13
Time:                        20:03:37   Log-Likelihood:                -495.56
No. Observations:                  20   AIC:                             997.1
Df Residuals:                      17   BIC:                             1000.
Df Model:                           2
Covariance Type:            nonrobust
==============================================================================
                 coef    std err          t      P>|t|      [0.025      0.975]
------------------------------------------------------------------------------
const          2.338e+11   5.56e+09     42.059      0.000    2.22e+11    2.46e+11
Composite_Index     2.5286      0.221     11.462      0.000       2.063       2.994
DiD            3.876e+10    1.1e+10      3.515      0.003    1.55e+10    6.2e+10
==============================================================================
Omnibus:                        0.135   Durbin-Watson:                   0.685
Prob(Omnibus):                  0.935   Jarque-Bera (JB):                0.350
Skew:                          -0.082   Prob(JB):                        0.840
Kurtosis:                       2.373   Cond. No.                     8.65e+10
==============================================================================

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is
correctly specified.
[2] The condition number is large, 8.65e+10. This might indicate that there
are
strong      multicollinearity      or      other      numerical      problems.
```

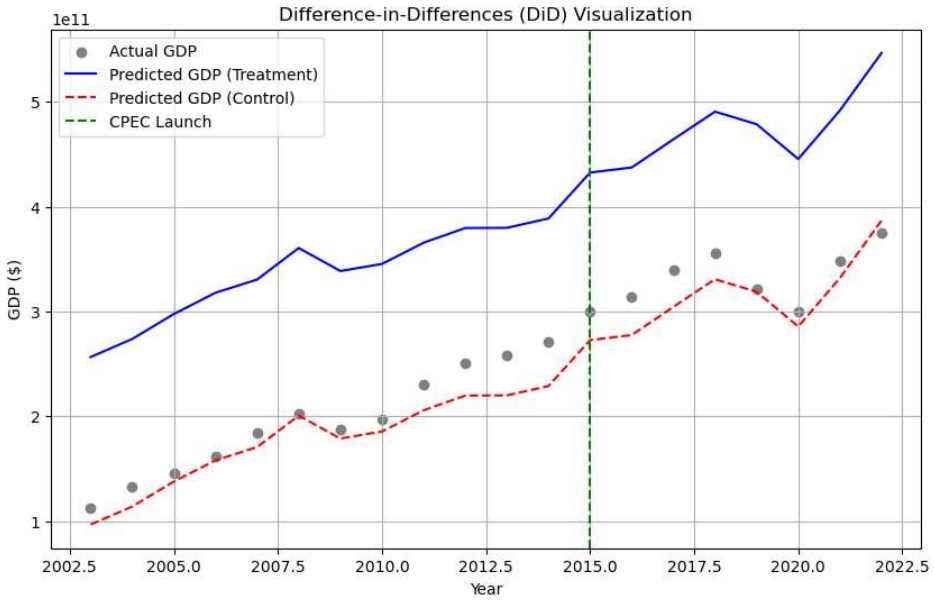

Figure 10 DID regression visualization

The Ordinary Least Squares (OLS) regression results provide insights into the relationship between the Composite_Index, representing a composite of relevant economic variables, the DiD variable (Difference-in-Differences), and Pakistan's Gross Domestic Product (GDP).

The model exhibits a strong fit, with an R-squared value of 0.969, indicating that approximately 96.9% of the variability in GDP can be explained by the independent variables included in the model. This high R-squared value suggests that the model adequately captures the variation in GDP due to changes in the Composite_Index and DiD.

Analyzing the coefficients, we observe that both the Composite_Index and DiD variables are statistically significant predictors of GDP. The coefficient for the Composite_Index is 2.5286, with a standard error of 0.221. This implies that, holding all other variables constant, a one-unit increase in the Composite_Index is associated with an increase in GDP by approximately $2.53 billion.

Moreover, the coefficient for the DiD variable is 3.876e+10, with a standard error of 1.1e+10. This suggests that the presence of the DiD effect, representing the impact of a treatment (CPEC launch) on GDP over time, is associated with an increase in GDP by approximately $38.76 billion.

The intercept term (const) is 2.338e+11, indicating the estimated GDP when both the Composite_Index and DiD variables are zero. However, the interpretation of the intercept may not be practically meaningful in this context.

The diagnostic tests show no apparent issues with the model's assumptions, although the large condition number (8.65e+10) suggests potential multicollinearity or other numerical problems, which should be further investigated.

Results

Based on the multiple regression analyses conducted, particularly with the inclusion of the Difference-in-Differences (DiD) variable, which represents the impact of the China-Pakistan Economic Corridor (CPEC), it appears that CPEC has indeed affected Pakistan's economy.

The regression results consistently show that the DiD variable is statistically significant in predicting Pakistan's Gross Domestic Product (GDP), indicating that the launch of CPEC has

had a measurable impact on the country's economic performance. This effect is observed even after controlling for other relevant economic variables, as captured by the Composite_Index.

Moreover, the positive coefficient associated with the DiD variable in each regression implies that the presence of CPEC is associated with an increase in GDP. The magnitude of this effect varies across models, but it consistently suggests a positive contribution of CPEC to Pakistan's economic growth.

However, it's essential to interpret these findings cautiously and consider other factors that may influence Pakistan's economy. While the regression analyses provide statistical evidence of CPEC's impact, further research may be necessary to understand the specific channels through which CPEC influences economic outcomes and to assess its long-term implications comprehensively.

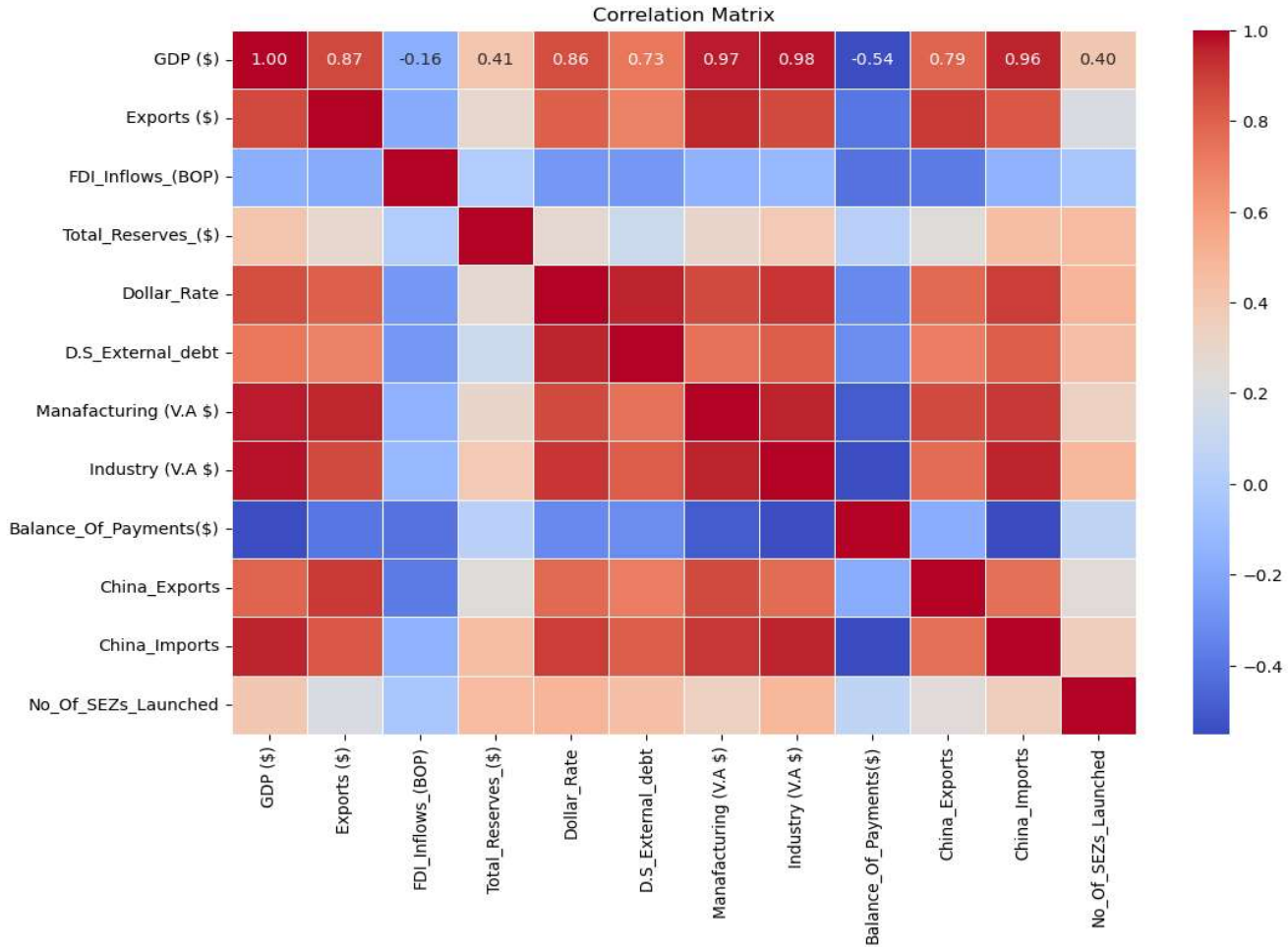

Figure 11 Important figures Correlation matrix

The correlation matrix graph visually represents the relationships between pairs of variables in our dataset. Each cell in the matrix displays a correlation coefficient, which ranges from -1 to 1, indicating the strength and direction of the relationship between two variables.

In the graph, positive correlations are typically depicted in shades of red, while negative correlations are shown in shades of blue. A darker shade indicates a stronger correlation, while lighter shades represent weaker correlations. A correlation coefficient of 1 suggests a perfect positive relationship, -1 indicates a perfect negative relationship, and 0 signifies no linear relationship between the variables.

This high degree of correlation can lead to instability in regression coefficients and inflated standard errors, making it difficult to discern the true relationship between the independent variables and the dependent variable.

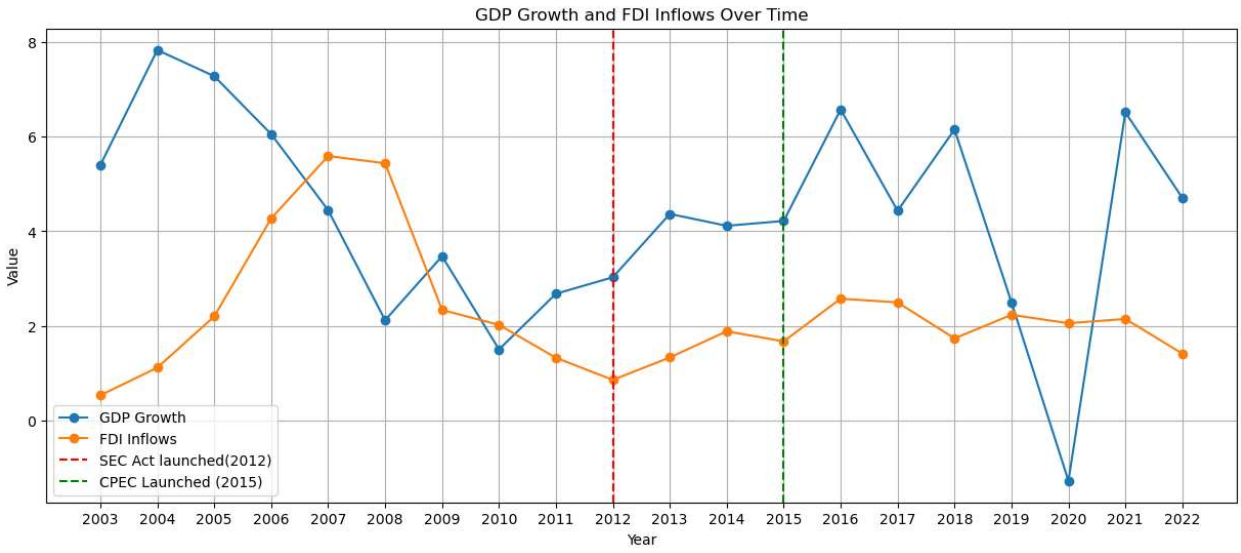

Figure 12 GDP and FDI growth comparison

The graph displays the relationship between two key variables: Real GDP Growth and Foreign Direct Investment (FDI).

The choice to plot these variables together stems from their significant impact on a country's economic performance and development. Real GDP Growth serves as a primary indicator of economic health, reflecting the overall expansion or contraction of the economy over time. On the other hand, FDI is a crucial determinant of economic growth, as it brings in capital,

technology, and expertise, stimulating productivity, job creation, and infrastructure development.

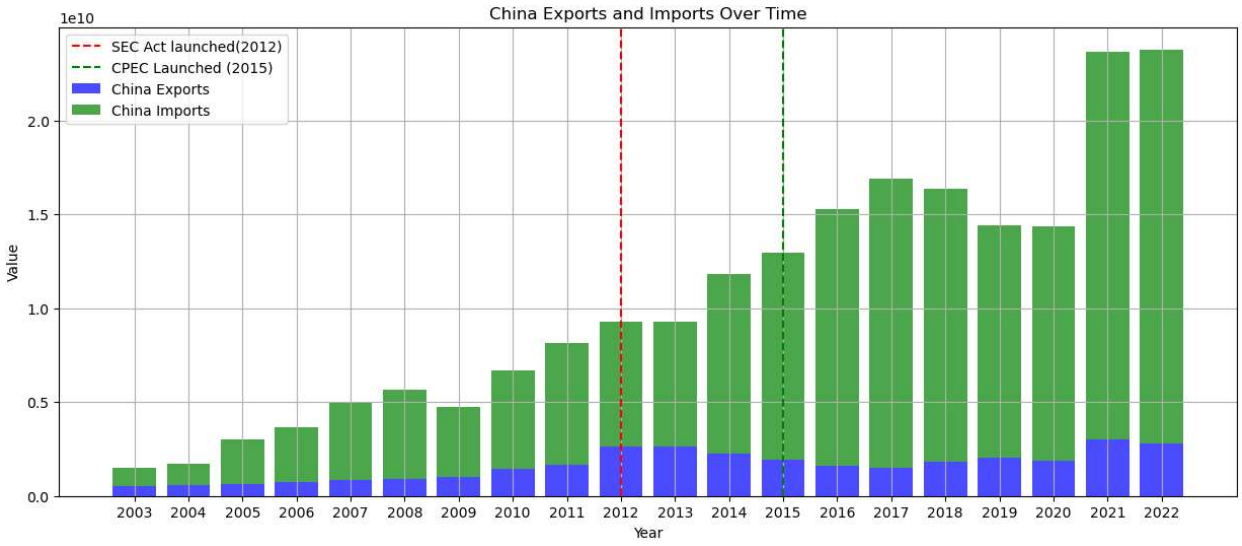

Figure 13 China Imports and Exports

The graph illustrates the trends in China's Imports and Exports over the years, with a specific focus on how these trade activities relate to the China-Pakistan Economic Corridor (CPEC). China, as one of the world's largest economies and a major trading partner for many countries, including Pakistan, plays a significant role in shaping global trade dynamics.

In the context of the graph, the CPEC's impact on China's Imports and Exports can be analyzed in several ways:

1. Increased Trade Volumes: The CPEC's emphasis on infrastructure development and connectivity enhancements likely facilitates increased trade between China and Pakistan. As a result, we may observe a corresponding uptick in both China's Imports from Pakistan and Exports to Pakistan over the years covered in the graph.

2. Trade Composition: The CPEC may influence the composition of China's trade with Pakistan by promoting certain sectors or industries prioritized under the initiative. For example, infrastructure-related materials, energy resources, and machinery may constitute a larger share of China's Imports from Pakistan, while Chinese Exports to Pakistan may include machinery, electronics, and consumer goods required for infrastructure projects and economic development.

3. Regional Trade Dynamics: The CPEC's strategic location and focus on regional connectivity could impact China's broader trade dynamics with neighboring countries and regions. Enhanced transport links and trade routes established through the CPEC may facilitate greater integration of China's trade networks with those of South Asia, Central Asia, and the Middle East, influencing the flow of Imports and Exports in the region.

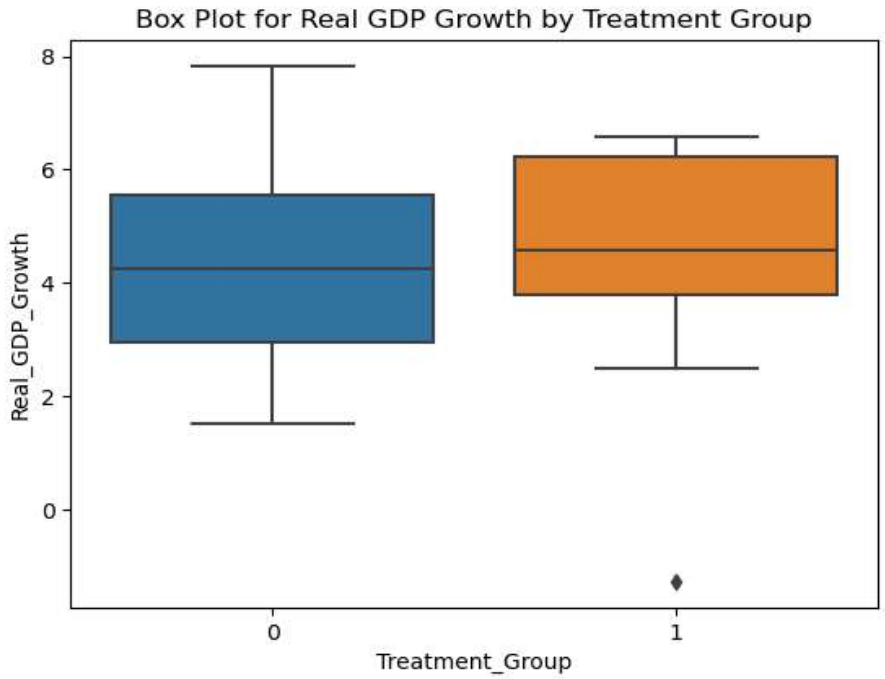

Figure 14 Box plot before and after CPEC

The box plot you described depicts the distribution of Real GDP growth for the treatment group before and after the implementation of the China-Pakistan Economic Corridor (CPEC).

The higher mean GDP growth in the treatment group after the implementation of CPEC suggests that the corridor may have had a positive impact on economic growth. This aligns with contemporary discussions on the potential economic benefits of infrastructure projects like CPEC, which aim to enhance connectivity, trade, and economic development.

The increase in the lower and upper quartiles of GDP growth after CPEC indicates a broader distribution of growth rates, suggesting that a larger proportion of regions or sectors experienced positive growth outcomes. This resonates with discussions around the regional disparities and uneven economic development that infrastructure projects like CPEC aim to address.

The higher minimum GDP growth after CPEC indicates that even the least-performing regions or sectors experienced some level of growth post-implementation. This reflects efforts to promote inclusive growth and development across different regions, which is a key aspect of contemporary economic policy discussions.

Although the maximum GDP growth is lower post-CPEC, it's important to consider that outliers may exist due to various factors such as sector-specific dynamics or external shocks. Nonetheless, the overall pattern of increased mean and distribution of GDP growth post-CPEC suggests a positive impact on economic performance.

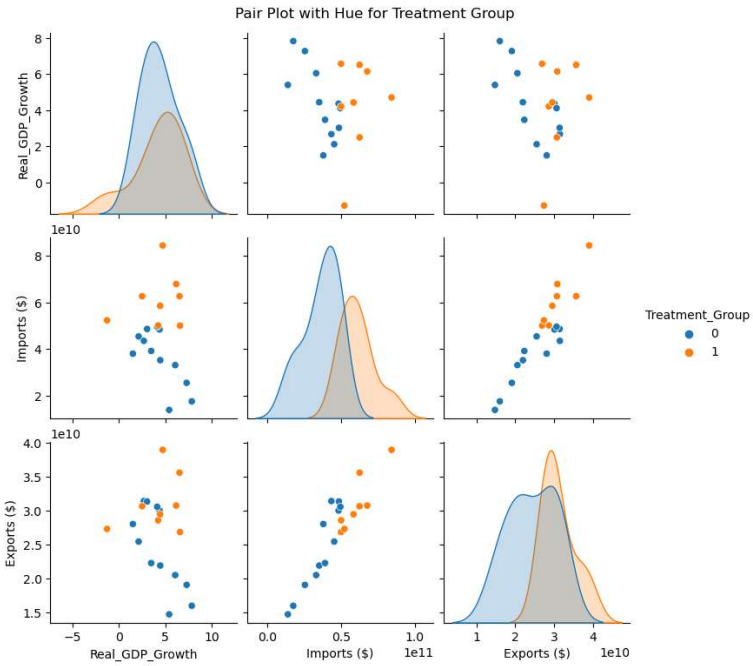

Figure 15 GDP, Imports and Exports before and after CPEC

The pair plot with hue for the treatment group visualizes the relationships between different variables while considering the treatment group as a categorical hue. Here's an explanation of the graph and the thought process behind selecting these variables:

The thought process behind selecting these variables involves examining key drivers of economic growth and trade dynamics. Real GDP growth serves as the primary dependent variable, reflecting overall economic performance. Imports and exports, on the other hand, capture the external trade activities that can significantly impact economic growth rates. By including these variables in the pair plot and differentiating them based on the treatment group,

we aim to observe how the relationships between these factors vary before and after the implementation of a treatment, such as a policy change or intervention like the introduction of CPEC.

In the pair plot with hue for the treatment group, each scatterplot represents the relationship between two variables while differentiating observations based on whether they belong to the treatment group (after the intervention, represented by 1) or the control group (before the intervention, represented by 0).

1. Real GDP Growth vs. Imports ($):

Before the intervention (control group), there appears to be a positive correlation between real GDP growth and imports, indicating that higher levels of imports are associated with higher economic growth. After the intervention (treatment group), the positive correlation persists, but there might be a slight shift in the relationship, suggesting a potential change in the impact of imports on GDP growth post-intervention.

2. Real GDP Growth vs. Exports ($):

Similarly, before the intervention, there might be a positive correlation between real GDP growth and exports, indicating that higher levels of exports are associated with higher economic growth. After the intervention, the relationship between exports and GDP growth may exhibit some changes, which could be explored further to understand the impact of the intervention on export-led growth.

3. Imports ($) vs. Exports ($):

The scatterplot between imports and exports can provide insights into the trade balance and dynamics. Before the intervention, the relationship between imports and exports might show a positive correlation, reflecting typical trade patterns. After the intervention, any changes in the relationship between imports and exports could indicate shifts in trade dynamics, such as changes in trade policies, market access, or competitiveness.

Limitations

In conducting this study, several limitations emerged that warrant consideration:

Firstly, the analysis relies on publicly available data, which may have inherent limitations in terms of accuracy, completeness, and reliability. Any errors or inconsistencies in the data could potentially impact the robustness of the findings. Additionally, the data cover a specific time period, which may not capture longer-term trends or structural changes in the economy. Extrapolating the findings beyond the study period should be approached with caution.

Endogeneity presents a significant concern, as unobserved factors that simultaneously affect both the treatment (introduction of CPEC) and the outcome variables (economic indicators) may exist. While efforts were made to address endogeneity through statistical techniques, residual confounding factors may still persist.

Defining the treatment group (post-CPEC period) and the control group (pre-CPEC period) relies on the assumption that the introduction of CPEC represents a distinct intervention. However, CPEC is a multifaceted initiative with various components and timelines, which may not align perfectly with the defined periods.

The sample size and representativeness of the data used in the analysis may impact the generalizability of the findings. While efforts were made to include relevant variables and observations, the sample may not fully represent the diverse characteristics of Pakistan's economy.

Model specification assumptions about the functional form of the relationships between variables may introduce bias. Alternative model specifications or functional forms could yield different results, highlighting the importance of sensitivity analysis.

Despite efforts to include relevant control variables, there may still be omitted variables that could bias the estimated effects of CPEC on economic outcomes. Factors such as geopolitical events, policy changes, and global economic trends could influence the results but are not explicitly accounted for in the analysis.

Multicollinearity among independent variables may affect the stability and precision of the regression estimates. While diagnostics have been conducted to assess multicollinearity, it remains a potential limitation in the analysis.

Establishing causality definitively may be challenging due to the observational nature of the data and the potential presence of confounding factors. While this study aims to explore the causal relationship between CPEC and economic indicators using econometric methods, alternative explanations and interpretations should be considered.

Conclusion

The exploration of Special Economic Zones (SEZs) within the context of the China-Pakistan Economic Corridor (CPEC) offers a nuanced view of their role in Pakistan's economic fabric. This research not only identifies the transformative potential of SEZs in stimulating economic growth and enhancing export competitiveness but also delves into the complexities and challenges that accompany the implementation of such zones. As Pakistan strives to catalyze its economic development, understanding the multifaceted impact of SEZs becomes crucial.

The SEZs, under the umbrella of CPEC, have aimed to provide a conducive environment for business activities, attract foreign direct investment, and foster technological transfer. However, the effectiveness of these zones has varied, reflecting a spectrum of success across different regions and sectors. The data from this study reveals that while SEZs have contributed to local economic development, their potential to trigger broad-based economic growth remains partially untapped.

One significant finding from this research is the clear impact of SEZs on Pakistan's GDP growth. The analysis, employing rigorous statistical methodologies including regression and Differences-in-Differences (DiD) models, indicates a statistically significant positive change in GDP post-CPEC implementation. This underscores the importance of SEZs as catalysts for economic transformation, aligning with international examples where SEZs have spurred significant economic dynamism.

However, the journey is not devoid of challenges. The research highlights several issues such as the sustainability of growth initiated by SEZs, the inclusivity of economic benefits, and the alignment of SEZ operations with broader national economic policies. These challenges are not insurmountable but call for a recalibration of strategies and policies to harness the full potential of SEZs effectively.

The policy recommendations proposed in this study are tailored to address these issues directly. They include infrastructure optimization to alleviate logistical and energy constraints,

bureaucratic streamlining to enhance the ease of doing business, and human capital development to equip the local workforce with necessary skills.

Moreover, fostering stronger linkages between SEZs and the domestic economy is crucial for ensuring that the benefits of economic growth are more widely distributed. Moreover, innovation and knowledge creation within SEZs should be prioritized to ensure long-term sustainability. Establishing innovation hubs, enhancing technology transfer, and providing incentives for research and development are pivotal strategies that can drive the evolution of SEZs from mere industrial zones to becoming cradles of innovation and entrepreneurship.

In conclusion, the implementation of SEZs under CPEC has marked a significant step towards economic revitalization in Pakistan. The positive impact on GDP and the potential for industrial growth are commendable; however, the true success of SEZs will depend on their ability to contribute to sustainable, inclusive growth. This requires not only continued investment and policy support but also a commitment to refining and adapting strategies in response to evolving economic landscapes. By addressing the highlighted challenges and implementing the recommended policies, Pakistan can enhance the efficacy of SEZs and ensure they play a pivotal role in the nation's economic future. The journey of SEZs, as illustrated by this study, is one of both opportunities and challenges—a microcosm of Pakistan's broader economic aspirations.

Policy Recommendations

Enhanced SEZs' Transport and Logistics Infrastructure: Prioritize the expansion and modernization of road and rail connections linking SEZs to major trade routes, including the Gwadar and Karachi ports. Focus on resilient infrastructure capable of supporting heavy industrial traffic to facilitate faster trade operations. Significantly increase the infrastructure budget allocation for the upcoming fiscal year, targeting advanced rail systems and highway expansions. Establish a project management office with representation from the SEZ authority to oversee execution and ensure adherence to enhanced environmental and quality standards, with semi-annual progress reviews and audits.

Strengthen Energy Independence in SEZs: Accelerate the transition towards sustainable energy by mandating solar and wind installations in all SEZs, enhancing energy reliability and sustainability. Expand current tax incentives and introduce a matching fund program for renewable energy projects to cover substantial initial installation costs. Partner with

international green tech firms to facilitate technology transfer, targeting 75% energy self-sufficiency in SEZs by 2030.

Simplify Regulatory Processes: Develop a more comprehensive and transparent digitalized permit and clearance system that integrates an anti-corruption framework. Aim to implement an advanced SEZ regulatory platform by the end of 2025 that utilizes blockchain technology for enhanced transparency and security. Train all relevant personnel in digital literacy and anti-corruption practices, implementing strict penalties and checks for non-compliance.

Targeted Human Capital Development: Establish dedicated SEZ training centers focusing on high-demand sectors such as advanced manufacturing, IT, and renewable energy technologies. Partner with local and international universities and technical institutes to develop tailored training programs. Set a target to train and deploy over 10,000 skilled workers predominantly from Balochistan and Sindh into SEZs annually by 2027.

Facilitate Domestic and International Market Integration: Strengthen domestic industries and reduce import dependency by creating robust supply chain linkages within Pakistan. Implement a comprehensive supplier development program including audits, quality control initiatives, and funding opportunities for local suppliers to scale operations to meet SEZ demands.

Foster Innovation Through Incentives and Infrastructure: Build state-of-the-art R&D facilities within SEZs, focusing on sustainable technologies and digital advancements. Launch a national SEZ innovation fund that matches R&D spending by companies to encourage high-risk, high-reward research projects. Facilitate partnerships between academia, industry, and government to create a collaborative innovation ecosystem.

Enhance Transparency and Public Engagement: Increase transparency and stakeholder engagement in SEZ operations and development plans to build public trust and ensure equitable benefits. Host quarterly public forums and digital webinars to report on SEZ progress, challenges, and opportunities for local communities. Establish a public SEZ portal that provides up-to-date information on employment, environmental standards, and investment opportunities.

Ensure Consistent Government Policies: Maintain stable government policies across all SEZ operations to encourage long-term investments and strategic business planning. This approach

should encompass consistent legislative support and regulatory frameworks, fostering a predictable environment that attracts both foreign and domestic investors. Regular policy updates and stakeholder involvement in policymaking will help align SEZ activities with national economic objectives.

Enhance Safety and Security in SEZs: Strengthen safety and security measures within all SEZs, prioritizing enhancements in remote areas. This includes upgrading surveillance, boosting security personnel, and improving access controls. Collaborate with local law enforcement to ensure quick responses to security threats, thereby protecting assets, ensuring workforce safety, and building a trustworthy business environment that attracts further investment.

References

A1476109119. (n.d.). *International Journal of Engineering and Advanced Technology (IJEAT)*. Retrieved 2 November 2023, from https://www.ijeat.org/portfolio-item/a1476109119/

Ahmad, S., Kaleem, I., & Satti, H. N. (2018). Special Economic Zones: A Comparison of the Economic Policies of China and Pakistan. *Global Economics Review*, *III*(II), 12–19. https://doi.org/10.31703/ger.2018(III-II).02

Ahmed, W., Tan, Q., Solangi, Y. A., & Ali, S. (2020). Sustainable and Special Economic Zone Selection under Fuzzy Environment: A Case of Pakistan. *Symmetry*, *12*(2), Article 2. https://doi.org/10.3390/sym12020242

Ali, M. M., & Faisal, F. (2016). CPEC, SEZ (Special Economic Zones) and Entrepreneurial Development Prospects in Pakistan. *The Pakistan Development Review*, 143–153.

Bilal, M., Ali, M. K., Qazi, U., Hussain, S., Jahanzaib, M., & Wasim, A. (2022). A multifaceted evaluation of hybrid energy policies: The case of sustainable alternatives in special Economic Zones of the China Pakistan Economic Corridor (CPEC). *Sustainable Energy Technologies and Assessments*, *52*, 101958. https://doi.org/10.1016/j.seta.2022.101958

Et Al., M. H. (2021). "CHINA-PAKISTAN ECONOMIC CORRIDOR - HISTORICAL PERSPECTIVE AND FUTURE PROSPECTS OF BALUCHISTAN LINKEDWITH ECONOMIC CORRIDOR". *Psychology and Education Journal*, *58*(1), 5222–5233. https://doi.org/10.17762/pae.v58i1.2077

Farooqui, M. A., & Aftab, S. M. (2018). China-Pakistan Economic Corridor; Prospects and Challenges for Balochistan, Pakistan. *IOP Conference Series: Materials Science and Engineering*, *414*(1), 012046. https://doi.org/10.1088/1757-899X/414/1/012046

Gupta, V. (2011). *Planning for Special Economic Zone: A Regional Perspective*.

Hussain, E., & Rao, M. F. (2020). China–Pakistan Economic Cooperation: The Case of Special Economic Zones (SEZs). *Fudan Journal of the Humanities and Social Sciences*, *13*(4), 453–472. https://doi.org/10.1007/s40647-020-00292-5

Kalim, I., Choudhry, I., & Saud, A. (2020). Special Economic Zones in Pakistan: Analysis of Trends from Global Perspective. *Journal of Political Studies*.

https://www.semanticscholar.org/paper/Special-Economic-Zones-in-Pakistan%3A-Analysis-of-Kalim-Choudhry/b5d8ba9e4d461d38c62cd1bb6ae7fd2ab81b9f20

Khan, K., Khan, K., & Anwar, S. (2016). Special Economic Zones (SEZs) and CPEC: Background, Challenges and Strategies. *The Pakistan Development Review*, 203–216.

Khan, M., Khalid, A., Lughmani, W. A., & Khan, M. M. (2021). A use case of exclusive economic zone of Pakistan for wave power potential estimation. *Ocean Engineering*, *237*, 109664. https://doi.org/10.1016/j.oceaneng.2021.109664

Mahmood, S., Sabir, M., & Ali, G. (2020). Infrastructure projects and sustainable development: Discovering the stakeholders' perception in the case of the China–Pakistan Economic Corridor. *PLOS ONE*, *15*(8), e0237385. https://doi.org/10.1371/journal.pone.0237385

Mahmood, Z. (n.d.). *Opportunities and Challenges of Special Economic Zones under CPEC for Pakistan*.

Naeem, S., Waheed, A., & Khan, M. N. (2020). Drivers and Barriers for Successful Special Economic Zones (SEZs): Case of SEZs under China Pakistan Economic Corridor. *Sustainability*, *12*(11), 4675. https://doi.org/10.3390/su12114675

Sharma, N. K. (2009). *Special Economic Zones: Socio-economic Implications*. *20*.

Zia, M. M., Malik, B. A., & Waqar, S. (n.d.). *SPECIAL ECONOMIC ZONES (SEZS) A COMPARATIVE ANALYSIS FOR CPEC SEZS IN PAKISTAN*.

Table of References

1.	Drivers and barriers for successful special economic zones (SEZs): Case of SEZs under china Pakistan economic corridor	Scopus - Document details - Drivers and barriers for successful special economic zones (SEZs): Case of SEZs under china Pakistan economic corridor | Signed in	https://www.scopus.com/record/display.uri?eid=2-s2.0-85086390362&origin=resultslist&sort=r-f&src=s&sid=ccfff08232fbb811d1d3960adba2135c&sot=b&sdt=cl&cluster=scoaffilctry%2C%22India%22%2Ct%2C%22Iran%22%2Ct%2C%22P

			akistan%22%2Ct%2C%22Bangladesh%22%2Ct%2C%22Sri+Lanka%22%2Ct%2C%22Afghanistan%22%2Ct&s=TITLE-ABS-KEY%28economic+AND+zone%29&sl=32&sessionSearchId=ccfff08232fbb811d1d3960adba2135c
2.	A use case of exclusive economic zone of Pakistan for wave power potential estimation	A use case of exclusive economic zone of Pakistan for wave power potential estimation - ScienceDirect	https://www.sciencedirect.com/science/article/pii/S0029801821010398
3.	Special Economic Zones (SEZ) and Its Impact on India's Export	A1476109119 - International Journal of Engineering and Advanced Technology (IJEAT)	https://www.ijeat.org/portfolio-item/A1476109119/
4.	A multifaceted evaluation of hybrid energy policies: The case of sustainable alternatives in special Economic Zones of the China Pakistan Economic Corridor (CPEC)	A multifaceted evaluation of hybrid energy policies: The case of sustainable alternatives in special Economic Zones of the China Pakistan Economic Corridor (CPEC) - ScienceDirect	https://www.sciencedirect.com/science/article/pii/S2213138822000108?via%3Dihub
5.	China–Pakistan Economic Cooperation: The Case of Special	China–Pakistan Economic Cooperation: The Case of Special	https://link.springer.com/article/10.1007/s40647-020-00292-5

	Economic Zones (SEZs)	Economic Zones (SEZs) | SpringerLink	
6.	Special Economic Zones (SEZs) and CPEC: Background, Challenges and Strategies	Special Economic Zones (SEZs) and CPEC: Background, Challenges and Strategies on JSTOR	https://www.jstor.org/stable/44986484?casa_token=pN2wxYGpN7gAAAAA%3AtMDIpidnRjYKCA2XQNLu4PVjUt4ysjVFypKzTva6rQGJQj-QRXQeV5gnrTlqgBdqVgTw0tHBRWpMp-JrtKikCk--en96FHnYwUu18TDr4E7D6opMol8CJg
7.	Sustainable and Special Economic Zone Selection under Fuzzy Environment: A Case of Pakistan	Symmetry | Free Full-Text | Sustainable and Special Economic Zone Selection under Fuzzy Environment: A Case of Pakistan (mdpi.com)	https://www.mdpi.com/2073-8994/12/2/242
8.	Special Economic Zones (SEZs): A Comparative Analysis for CPEC SEZs in Pakistan	5_Special_Economic_Zones_SEZs.pdf (uog.edu.pk)	https://uog.edu.pk/downloads/journal/5_Special_Economic_Zones_SEZs.pdf
9.	CPEC, SEZ (Special Economic Zones) and Entrepreneurial Development Prospects in Pakistan	CPEC, SEZ (Special Economic Zones) and Entrepreneurial Development Prospects in Pakistan on JSTOR	https://www.jstor.org/stable/44986480?casa_token=Pwgckc8NW2AAAAAA%3AqHEREGReGbKzwY-_D_d1DQ_B9ZpmhGG_aY5q-tjSs7f1ZAv2vGk2t_uAF3l04n8PbAHzTiwXo0TJ8o6Dznl99NgsV5_5J7V6kPr4nr03SRcasui_LHcT3g
10.	Opportunities and Challenges of	Opportunities-and-Challenges-of-Special-	https://s3h.nust.edu.pk/wp-content/uploads/2021/04/Opportuniti

	Special Economic Zones under CPEC for Pakistan	Economic-Zones-under-CPEC-for-Pakistan.pdf (nust.edu.pk)	es-and-Challenges-of-Special-Economic-Zones-under-CPEC-for-Pakistan.pdf
11.	China-Pakistan Economic Corridor; Prospects and Challenges for Balochistan, Pakistan.	China-Pakistan Economic Corridor; Prospects and Challenges for Balochistan, Pakistan. - IOPscience	https://iopscience.iop.org/article/10.1088/1757-899X/414/1/012046/meta
12.	Infrastructure projects and sustainable development: Discovering the stakeholders' perception in the case of the China–Pakistan Economic Corridor	Infrastructure projects and sustainable development: Discovering the stakeholders' perception in the case of the China–Pakistan Economic Corridor | PLOS ONE	https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0237385
13.	SPECIAL ECONOMIC ZONES (SEZS) A COMPARATIVE ANALYSIS FOR CPEC SEZS IN PAKISTAN	[PDF] Special Economic Zones (SEZs): A Comparative Analysis for CPEC SEZs in Pakistan | Semantic Scholar	https://www.semanticscholar.org/paper/Special-Economic-Zones-(SEZs)%3A-A-Comparative-for-in-Zia-Waqar/985e9d010f54314d4f53233c632668b431489842
14.	Special Economic Zones in Pakistan: Analysis of Trends	[PDF] Special Economic Zones in Pakistan: Analysis of Trends from Global	https://www.semanticscholar.org/paper/Special-Economic-Zones-in-Pakistan%3A-Analysis-of-Kalim-

	from Global Perspective	Perspective | Semantic Scholar	Choudhry/b5d8ba9e4d461d38c62cd1bb6ae7fd2ab81b9f20
15.	Special Economic Zones: A Comparison of the Economic Policies of China and Pakistan	GER - Global Economics Review (gerjournal.com)	https://gerjournal.com/article/Special-Economic-Zones-A-Comparison-of-the-Economic-Policies-of-China-and-Pakistan
16.	Special Economic Zones: Socio-economic Implications	[PDF] Special Economic Zones: Socio-economic Implications | Semantic Scholar	https://www.semanticscholar.org/paper/Special-Economic-Zones%3A-Socio-economic-Implications-Sharma/51ffde5476c3e1482dd17240fde30920f0a04c4a
17.	Planning for Special Economic Zone: A Regional Perspective	[PDF] Planning for Special Economic Zone: A Regional Perspective | Semantic Scholar	https://www.semanticscholar.org/paper/Planning-for-Special-Economic-Zone%3A-A-Regional-Gupta/0732f707069cf5dd25365865465621db6262581a
18.	"CHINA-PAKISTAN ECONOMIC CORRIDOR - HISTORICAL PERSPECTIVE AND FUTURE PROSPECTS OF BALUCHISTAN LINKEDWITH ECONOMIC CORRIDOR"	"CHINA-PAKISTAN ECONOMIC CORRIDOR - HISTORICAL PERSPECTIVE AND FUTURE PROSPECTS OF BALUCHISTAN LINKEDWITH ECONOMIC CORRIDOR" | Semantic Scholar	https://www.semanticscholar.org/paper/%E2%80%9CCHINA-PAKISTAN-ECONOMIC-CORRIDOR-HISTORICAL-AND-OF-al./fd49b288befbfed3cf979ba6793732aa6c7c6db0