07

CORRIDORS, CULTURE & CONNECTIVITY

December, 2018

China-Pakistan Economic Corridor (CPEC): Where is the money going?

Muhammad Khudadad Chattha
Mustafa Hyder

Pakistan-China Institute

Corridors, Culture & Connectivity

Published by:
Pakistan-China Institute
House # 27, Street # 37, F/6-1, Islamabad.
Telephone: +92-51-8438294
Fax: +92-51-8319767
www.pakistan-china.com
info@pakistan-china.com
First Edition/Volume 6

07 CORRIDORS, CULTURE & CONNECTIVITY

December, 2018

China-Pakistan Economic Corridor (CPEC): Where is the money going?

Muhammad Khudadad Chattha
Mustafa Hyder

KONRAD ADENAUER STIFTUNG

Pakistan-China Institute

Abstract

The China-Pakistan Economic Corridor has been a focus of attention in the recent past. Most of this discussion has centered around the macroeconomic effects on the economy. However, research on the fine details of CPEC's debt structure has not been conducted. This monograph aims to fill this gap by providing a detailed description of the debt and how it maps onto different sectors of the Pakistani economy. It will also discuss some macroeconomic concerns and ways to mitigate these risks.

Table of Contents

Table of Figures

Abbreviations

ADB	Asian Development Bank
BRI	Belt and Road Initiative
CPEC	China-Pakistan Economic Corridor
ER	Exchange Rate
GDP	Gross Domestic Product
GWH	Gigawatt Hour
MIT	Massachusetts Institute of Technology
MoU	Memorandum of Understanding
MW	Megawatt
PKR	Pakistani Rupee
SEZ	Special Economic Zone
USD	United States Dollar
WB	World Bank

Section 1 – Introduction

The China-Pakistan Economic Corridor (CPEC) is a USD 62 billion multi-sector collaboration between the two countries[1]. It involves various financing tools to facilitate infrastructure and energy projects throughout Pakistan. This monograph has three broad objectives. First, it aims to provide a detailed description of the financing tools and the amount of money being allocated to specific projects. This will be done by describing the nature of the financing tools, associated interest rates, payment schedules and details of partner companies. Second, it aims to analyze whether CPEC has the potential to transform the economic structure in Pakistan. This will be done by conducting an extensive diagnosis of the economy, and by analyzing if CPEC will affect factors that have been binding constraints to growth. Last, the monograph aims to provide macroeconomic and other risks that can hinder the project and provides recommendations on ways of dealing with them.

The monograph is divided into 6 sections. Section 2 provides an extensive description of the Belt and Road Initiative (BRI) and CPEC. It also discusses the role of CPEC within the larger BRI scheme. This Section aims to provide the reader with a detailed background.

Section 3 uses data provided by the Governments of Pakistan and China on USD 19 billion worth of ongoing and completed projects to explain different financing tools and their details. It shows the time series of these payments and shows the trend of Pakistan external debt-to-GDP ratio. It also shows the impact of CPEC on Pakistan's external financing need.

Section 4 shows that CPEC will have a significant impact on the Pakistani economy because it targets the energy and infrastructure sectors that have been binding constraints to growth in the country. This section does so by first conducting an extensive diagnosis of the economy, and then later moving towards CPEC projects and their impact on different sectors.

Section 5 discusses the different macroeconomic and other risks that CPEC faces. These include risks such as debt sustainability, upward exchange rate pressure and current account deficit. The section first describes these risks in detail and later gives policy recommendations to address

[1] Rafiq, "China's $62 Billion Bet on Pakistan."

them. Section 6 concludes the monograph and gives details of opportunities and challenges that lie ahead.

Section 2 – Background of the China-Pakistan Economic Corridor

2.1 – The Belt and Road Initiative (BRI)

The Belt and Road Initiative (BRI) is one of the most ambitious development programs of the 21st century involving a mammoth USD 1 trillion worth of projects spread across 71 countries[2]. The sheer scale of BRI can be seen from the fact that these countries in combination represent a quarter of the global GDP[3] and half of the global population[4]. This initiative was unveiled in 2013[5] during President Xi Jinping's visit to Kazakhstan with five main objectives that are summarized below:

Figure 1: The objectives of the Belt and Road Initiative

[2] Kuo and Kommenda, "What Is China's Belt and Road Initiative?"
[3] World Bank, "Belt and Road Initiative."
[4] Kuo and Kommenda, "What Is China's Belt and Road Initiative?"
[5] "FAQS | China-Pakistan Economic Corridor (CPEC) Official Website."

Source: Deloitte Insights[6]

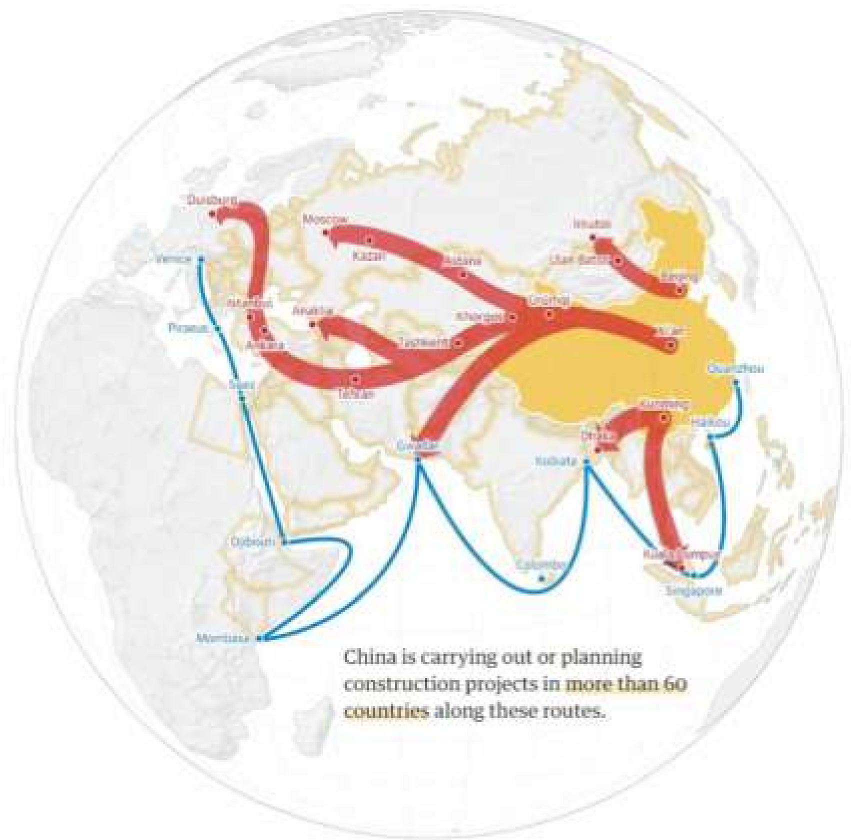
Spearheaded by the Chinese government, the BRI involves infrastructure development and investment across the involved countries and consists of two distinct parts given below[7]:

1. ***Silk Road Economic Belt:*** Commonly referred to as "Belt" within the BRI, this refers to the development of land trade routes from China to Central Asia, Europe, Middle East, South Asia, South East Asia and North Asia[8].
2. ***21st Century Maritime Silk Road:*** Commonly referred to as "Road" within the BRI, this refers to the development of a maritime route from Asia, through till Europe. The common reference to "Road" in the BRI is slightly misleading because this part of the BRI doesn't involve any road[9].

A visual representation of these two components is given in the Figure 2 below:

[6] Deloitte, "The Belt and Road Initiative | Deloitte Insights."
[7] EBRD, "Belt and Road Initiative (BRI)."
[8] Deloitte, "The Belt and Road Initiative | Deloitte Insights."
[9] Deloitte.

Figure 2: The Belt and Road Routes



"Silk Road Economic Belt" routes in **red**

"21st Century Maritime Silk Road" routes in **blue**

Source: The Guardian[10]

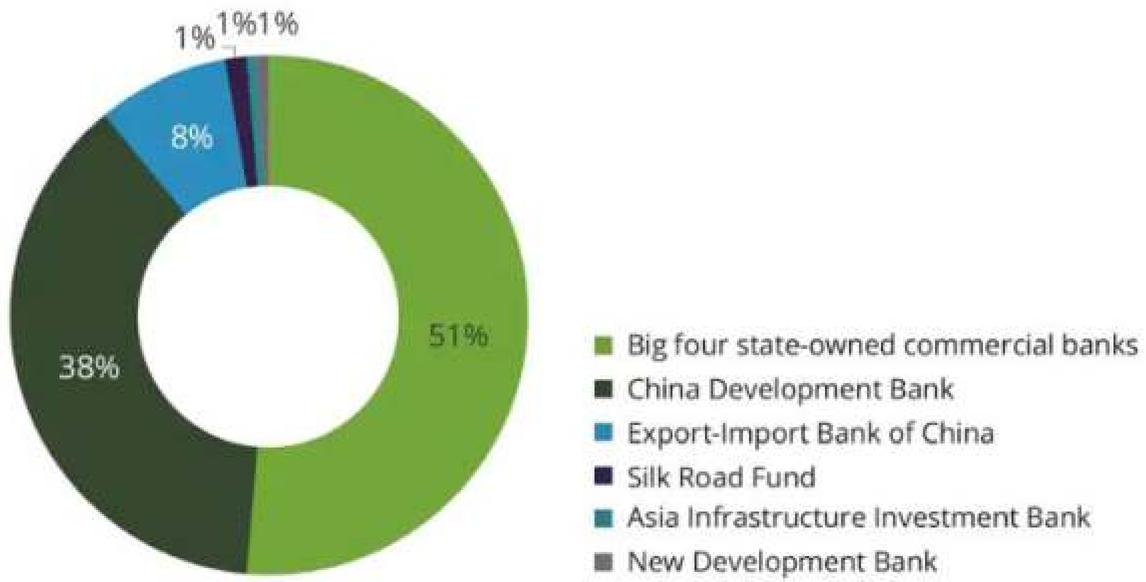
[10] Kuo and Kommenda, "What Is China's Belt and Road Initiative?"

Another way of classifying the initiative is to look at different geographic components which have been categorized as six distinct economic corridors namely[11]:

1. China-Mongolia-Russia Economic Corridor
2. New Eurasian Land Bridge Economic Corridor
3. China-Central Asia-West Asia Economic Corridor
4. China- Pakistan Economic Corridor (CPEC)
5. Bangladesh-China-India-Myanmar Corridor
6. China-Indochina Peninsula Corridor[12]

A majority of the BRI is being financed by Chinese state-owned banks and the China Development Bank. However, the newly developed Asian Infrastructure Investment Bank and Silk Road Fund are also financing partners.

Figure 3: BRI Financing by Source



Source: Deloitte Insights[13]

[11] Derudder, Liu, and Kunaka, "Connectivity Along Overland Corridors of the Belt and Road Initiative."
[12] UN ESCAP, "A Study of ICT Connectivity for the Belt and Road Initiative (BRI): Enhancing the Collaboration in China-Central Asia Corridor."
[13] Deloitte, "The Belt and Road Initiative | Deloitte Insights."

2.2 – The Envisioned Role of CPEC in BRI

With a total worth of USD 62 billion[14], the China-Pakistan Economic Corridor (CPEC) is one of the most significant, and strategically important components of the BRI[15]. It has been labelled a major pilot project of the BRI and aims to "enhance connectivity and integration of development strategies of China and Pakistan"[16]. Pakistan and China have had close economic relations for decades, and the idea of an economic corridor between the two countries had been under consideration for the last ten years[17]. However, it was only in May 2013 that the project was officially launched during Premier Li Keqiang's visit to Pakistan[18]. The Memorandum of Understanding (MoU) with the fine details of CPEC projects was eventually signed during President Xi Jinping's visit to Pakistan in 2015[19].

The official CPEC Vision and Mission provides a good overview about the role of the project in the larger BRI. This is given below:

> "(CPEC aims) to improve the lives of people of Pakistan and China by building an economic corridor promoting bilateral connectivity, construction, explore potential bilateral investment, economic and trade, logistics and people to people contact for regional connectivity."[20]

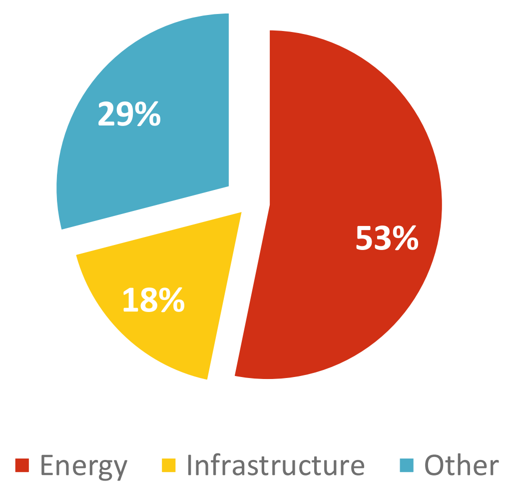
Hence, CPEC involves multi-sector cooperation between China and Pakistan with the objective of connecting the underdeveloped Western provinces of China with Pakistan. It also seeks to establish a trade route through Gwadar which would drastically reduce the transport costs for China. From the Pakistani perspective, CPEC offers investment in vital sectors such as infrastructure and energy with the aim to boost growth via local development and international trade.

[14] Rafiq, "China's $62 Billion Bet on Pakistan."
[15] The Economist, "Massive Chinese Investment Is a Boon for Pakistan - Banyan."
[16] "10 Fundamentals of CPEC | China-Pakistan Economic Corridor."
[17] Ahmad and Mi, "China-Pakistan Economic Corridor and Its Social Implication on Pakistan."
[18] "10 Fundamentals of CPEC | China-Pakistan Economic Corridor."
[19] "FAQS | China-Pakistan Economic Corridor (CPEC) Official Website."
[20] "CPEC Vision & Mission | China-Pakistan Economic Corridor (CPEC) Official Website."

2.3 – A brief description of CPEC

Broadly speaking, CPEC involves financing and cooperation between the two countries in energy, infrastructure, trade and certain other sectors. The biggest chunk of CPEC financing is related to the energy sector, with projects worth more than USD 30 billion[21]. This is followed by cooperation on infrastructure that involves construction of highways, railways, mass transit systems and the development of Gwadar. While the infrastructure projects are aimed at integrating trade between the two countries, CPEC also aims to develop Special Economic Zones (SEZs) to increase cooperation on trade. CPEC also includes other projects like the installation of a cross border optical fiber and the establishment of Pakistan Academy of Social Sciences[22]. While CPEC primarily involves financing of energy and infrastructure projects, it also includes cooperation in a range of other sectors.

Figure 4: Where is the USD 62 billion going?



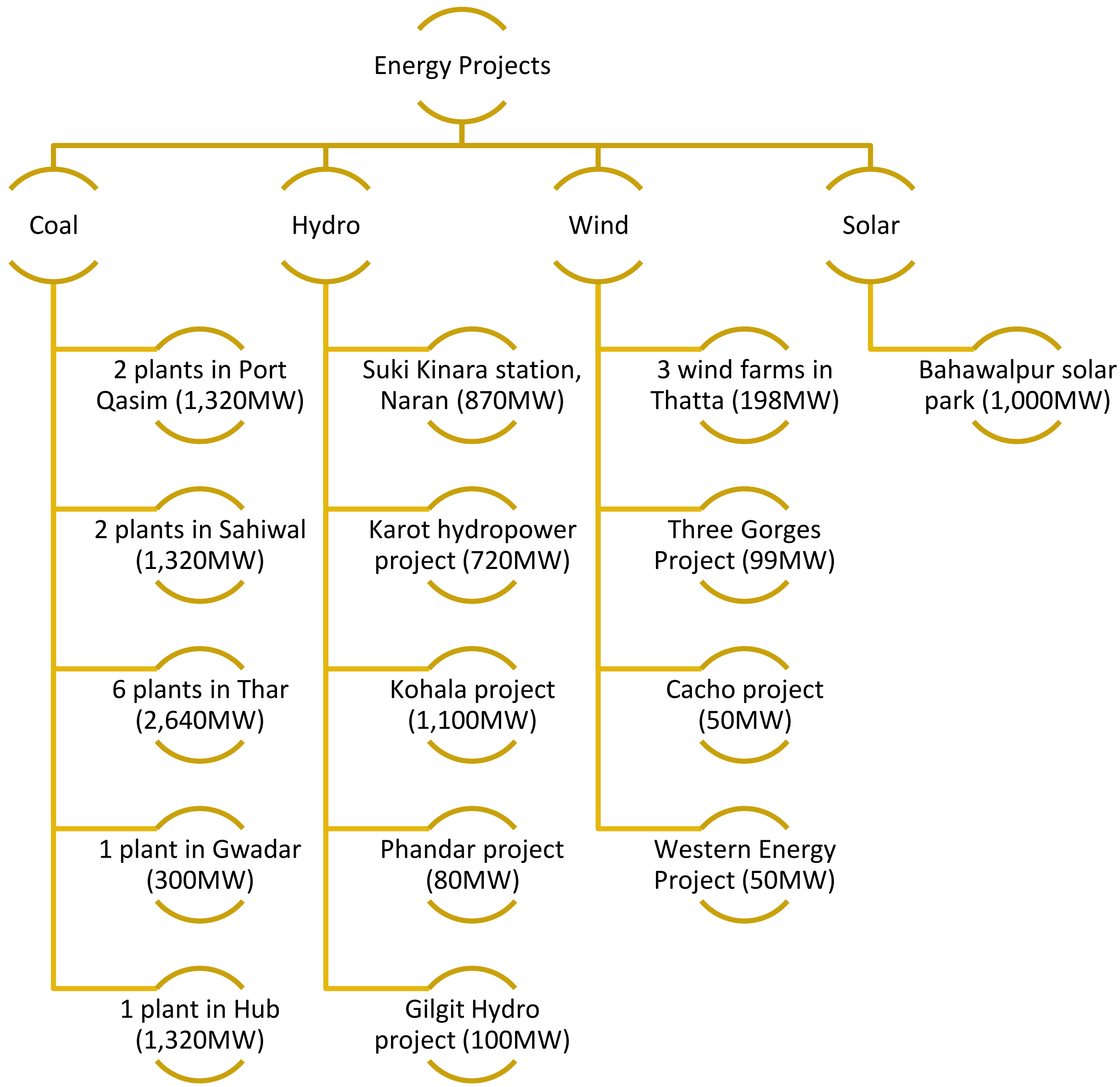
Source: Deloitte[23]

The energy projects, that represent the bulk of the financing under CPEC, will produce 11,867 MW of energy[24]. More than 50 percent of this energy production will be from coal-based

[21] Siddiqui, "CPEC Investment Pushed from $55b to $62b | The Express Tribune."
[22] "CPEC | China-Pakistan Economic Corridor (CPEC) Official Website."
[23] Deloitte, "How Will CPEC Boost Pakistan Economy?"
[24] "CPEC | China-Pakistan Economic Corridor (CPEC) Official Website."

projects[25]. The other projects include Solar, Wind and Hydro power projects[26]. A detailed overview of these projects, along with their respective energy contribution, is given below:

Figure 5: CPEC Energy Projects



[25] "CPEC | China-Pakistan Economic Corridor (CPEC) Official Website."
[26] "CPEC | China-Pakistan Economic Corridor (CPEC) Official Website."

Source: CPEC Official Website[27]

The infrastructure projects are broadly divided into Road, Railway and Public Transport projects. The Road projects aims towards developing and upgrading three highway routes that run from north to south. These road networks, called the western, eastern and central alignments aim to connect the western provinces of China to the Pakistani coast. A graphical representation of these projects is given below:

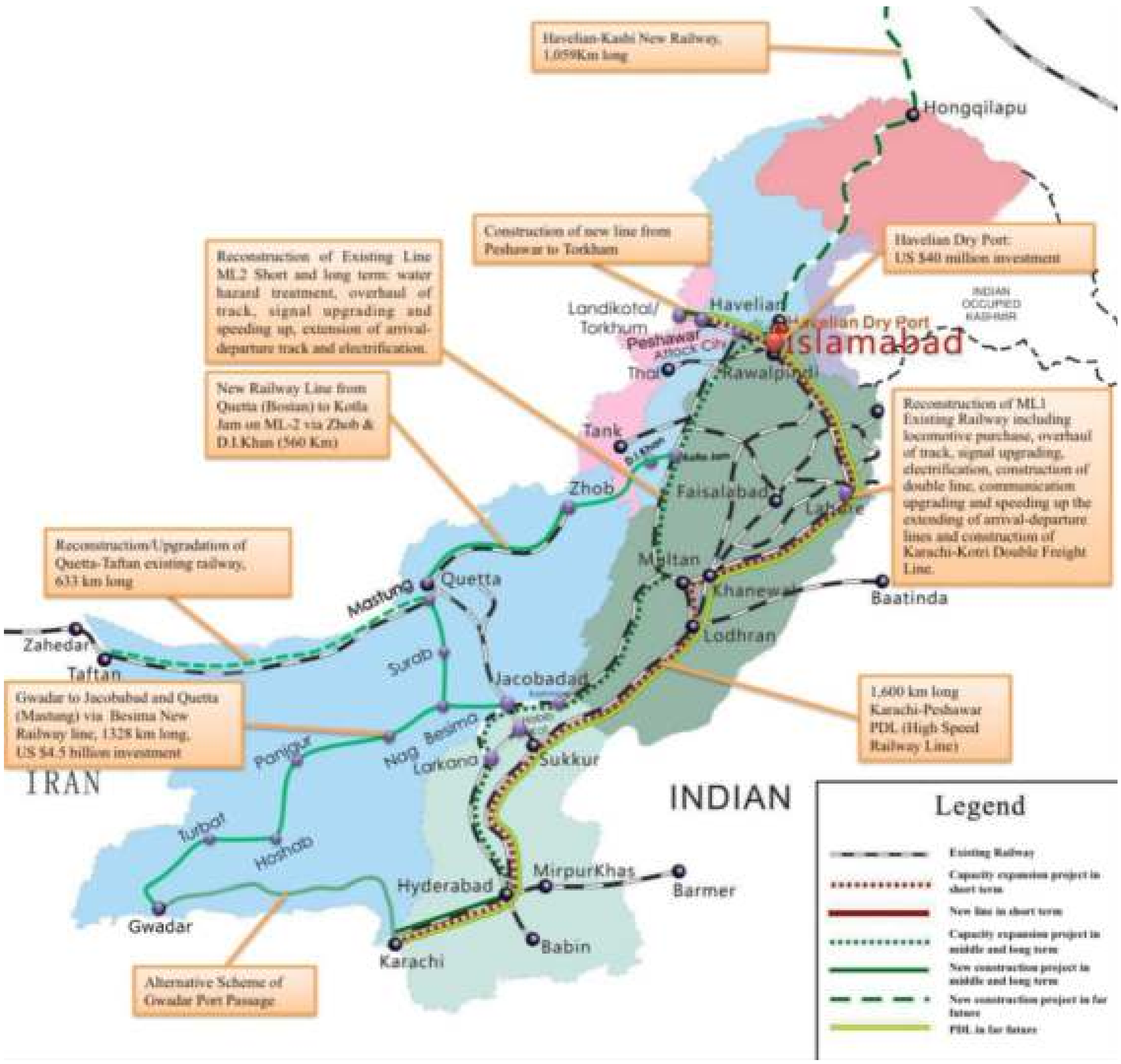
Figure 6: Highway Network of CPEC

Source: CPEC Official Website[28]

[27] "CPEC | China-Pakistan Economic Corridor (CPEC) Official Website."
[28] "CPEC | China-Pakistan Economic Corridor (CPEC) Official Website."

The second category of infrastructure projects involves upgradation of existing railway lines and construction of new ones. The flagship project in this subcategory is the upgradation of the ML-1 line, that runs from Peshawar all the way to Karachi. CPEC also has plans to construct new Railway lines throughout the country that would link the western part of the country to China. A visual representation of these Railway projects is shown in the map below:

Figure 7: Railway Network of CPEC



Source: CPEC Official Website[29]

---

[29] "CPEC | China-Pakistan Economic Corridor (CPEC) Official Website."

The last subcategory of infrastructure projects involves the construction of rail-based public transport system in cities. This involves four main projects, namely, Karachi Circular Railway, Greater Peshawar Region Mass Transit, Quetta Mass Transit and Orange Line Lahore.

Section 3 – Deconstructing CPEC Debts

The analysis in this section is based on the data provided by the Governments of Pakistan and China.

3.1 – Source of money

The financing of the China Pakistan Economic Corridor is done via four main instruments. A brief description of these instruments is given below[30]:

Investment: The money under investment projects is borrowed by Chinese firms that undertake the project. These commercial loans are given on interest rates between 4 percent and 5 percent.

Concessional Loans: These loans are given out to the Government of Pakistan at an interest rate of 2 percent with a repayment period of 20 years. The first payment for these loans must be made within 5 years from the start of the concession period.

Interest-free loans: Consisting a very small proportion of the overall CPEC finances, these are zero interest loans with various payback periods.

Grant: CPEC also consists of a few grants provided by the Chinese government aimed at increasing state capacity and cooperation.

Out of the total of USD 62 billion within CPEC, projects worth USD 19 billion have either been completed or are under construction. A break-up of these projects according to the financing categories described above is given in the figure below:

[30] Some projects use a combination of the financing instruments mentioned on the page. The effective interest rate on these projects ends up being a combination of the mentioned rates.

Figure 8: Source of CPEC Money for Completed and Ongoing Projects

(worth USD 19bn)

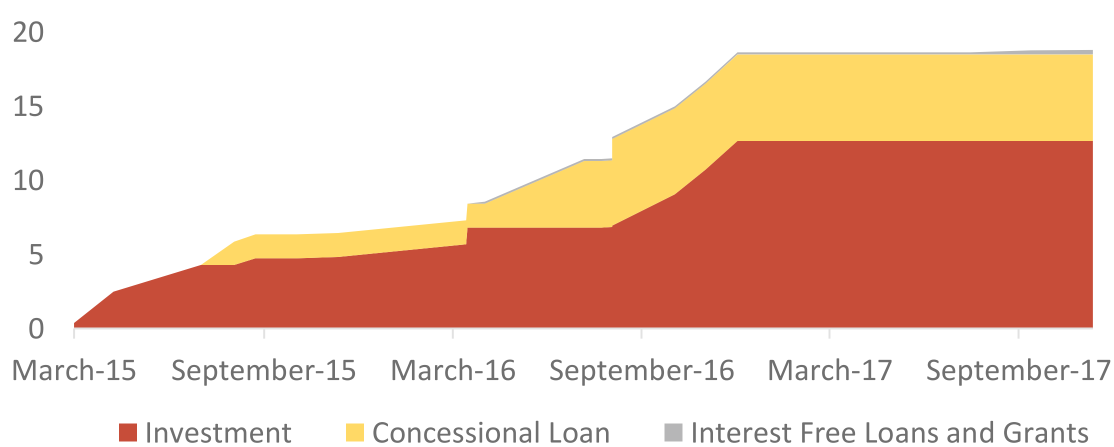
Source: Data Provided by the Governments of Pakistan and China

3.2 – Time-series of financing

Financing of CPEC projects started on the 30th of March, 2015, with the 50MW Dawood Wind Power Project which has already been completed. The cumulative amount financed gradually rose till the 1st of January, 2017, and remained stable till the end of 2017. The increase in the cumulative amount financed was at first driven just by investment projects from March till September 2015. From September onwards, projects based on concessional loans slowly entered the mix and gradually rose alongside investment financing. Interest-free loans and grants constitute a small proportion of the overall amount financed and were mostly given out towards the end of 2017. The cumulative amount of financing in CPEC projects is expected to rise going forward, up to the total amount of USD 63 billion. The trend of cumulative amount of financing for ongoing and completed projects, disaggregated by financing type, is given in the figure below:

Figure 9: Trend of Cumulative Amount Financed

(USD billion)



Source: Data Provided by the Governments of Pakistan and China

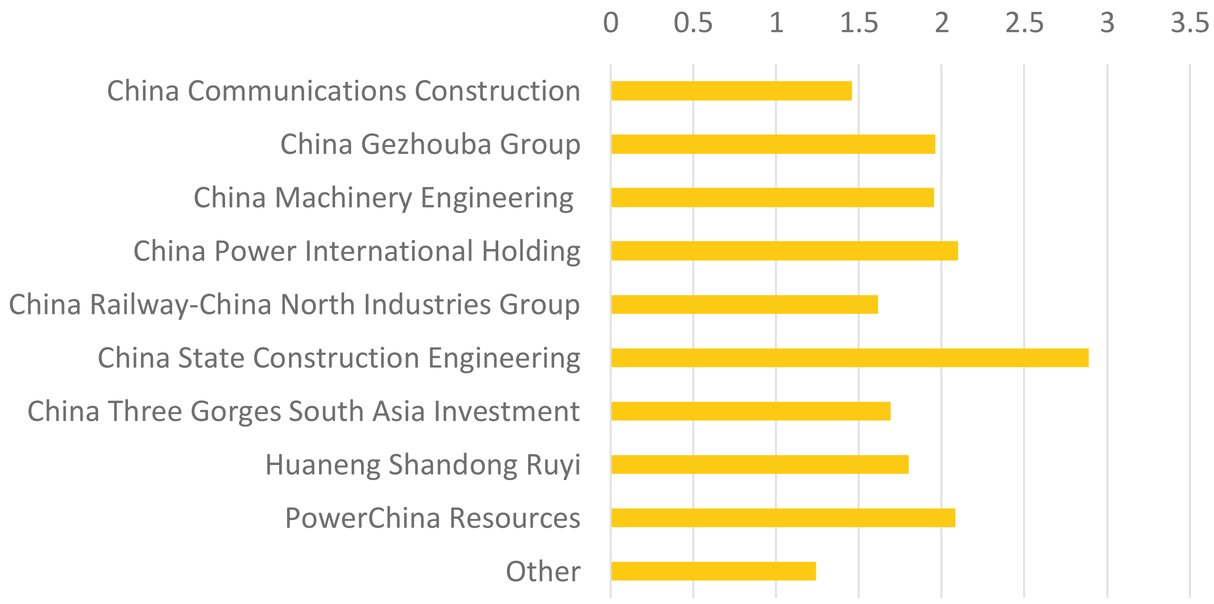
Out of the completed and ongoing projects, there are four that are mainly contributing towards debt, namely: KKH Phase II (USD 1.3 billion), Sukkur-Multan Motorway Section (USD 2.9 billion), Orange Line (USD 1.6 billion) and Gwadar East Bay Expressway (USD 0.14 billion).

3.3 – Financing via Chinese Company Partners

CPEC is structured in a way that project responsibilities across all four categories of financing are given out to Chinese firms. In investment projects, the money is directly routed to Chinese state-owned enterprises while in other forms of financing, the money is first given to the Pakistani government. The projects that have been completed or are under construction have so far been given to 18 different Chinese companies. However, 9 companies out of these dominate the portfolio. The total size of the projects that these major companies are responsible for is summarized in the figure below:

Figure 10: Financing by Chinese Companies in completed and ongoing projects

(worth USD 19bn, USD billion)



Name of Company	*Number of Projects*
China Communications Construction	2
China Gezhouba Group	1
China Machinery Engineering	2
China Power International Holding	1
China Railway-China North Industries Group	1
China State Construction Engineering	1
China Three Gorges South Asia Investment	2
Huaneng Shandong Ruyi	1
PowerChina Resources	1

Source: Data Provided by the Governments of Pakistan and China

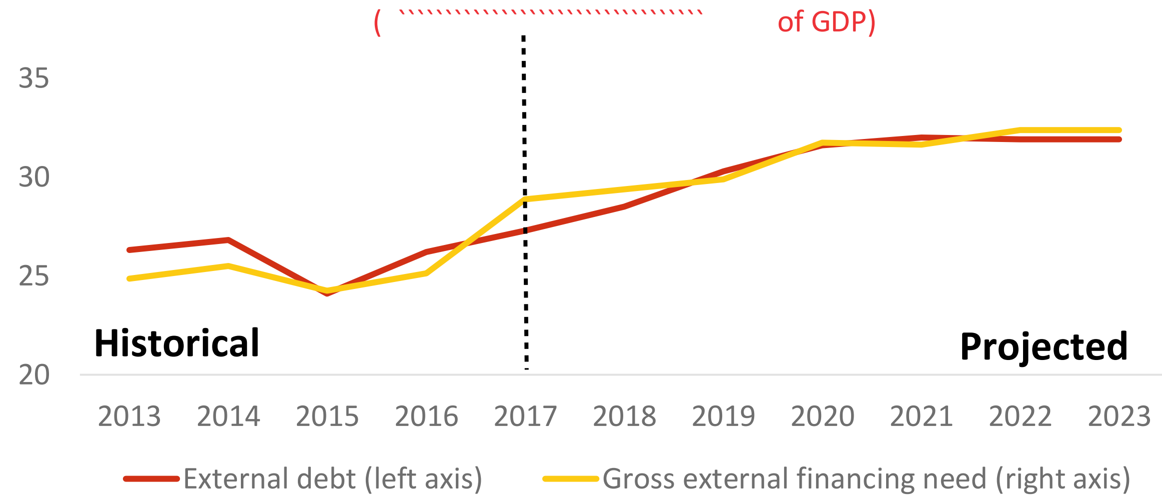
3.4 – External Debt and Financing

The financing of projects through various instruments explained in the previous sub-sections would lead to a change in the existing external debt structure in Pakistan. Pakistan's total external debt, which is composed of both private and public debt owed to entities outside the country is initially projected to rise and eventually stabilize around 32 percent of GDP by 2020[31]. This represents a 4.7 percentage point increase in the external debt as a percentage of GDP from 2017.

Another measure to look at Pakistan's external debt is to analyze the trend of the *external financing need*. This measure depicts the total payments per year that need to be made which includes both the principal amount and the interest payments. The trend of external financing mirrors that of Pakistan's external debt where it steadily rises after the commencement of CPEC payments and stabilizes close to 9.5 percent in 2020. It reaches a maximum value of 9.9 percent of GDP in the 2023[32]. It is important to note that in 2017, 10 percent of Pakistan's external debt servicing went to China and that Chinese financing is not the only factor that explains Pakistan's trend of external financing[33].

31 IMF, "First Post-Program Monitoring."
32 IMF.
33 Ahmed, "CPEC – Debt Trap or Game Changer?"

Figure 11: External Debt and Financing



Source: International Monetary Fund[34]

Section 4 – CPEC and the Existing Economy

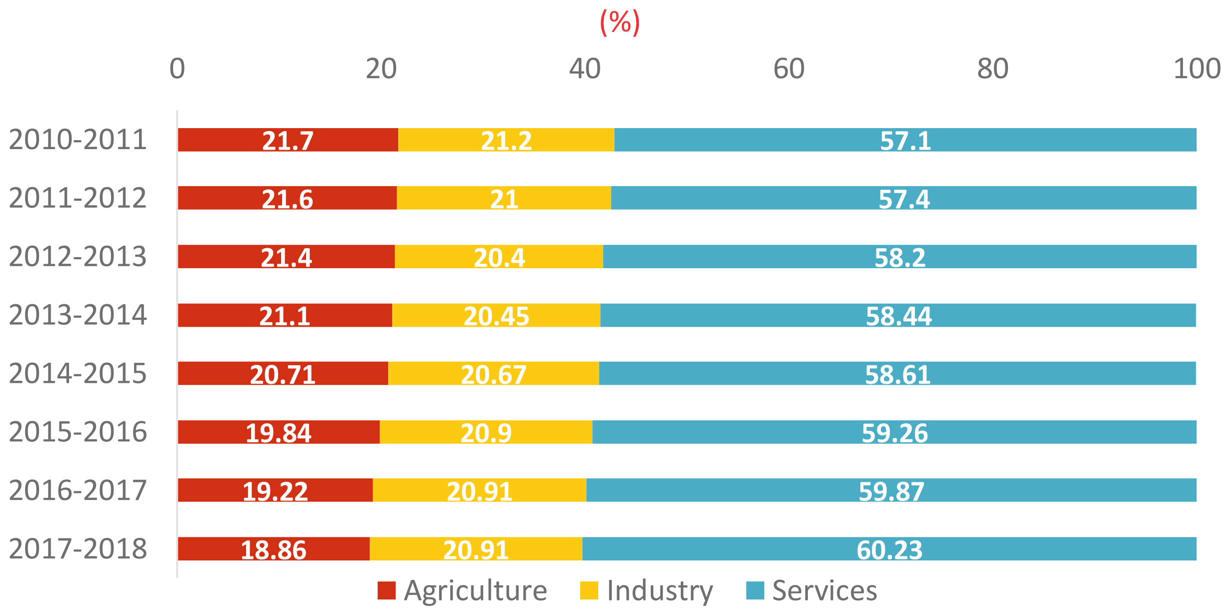
4.1 – Existing structure of Pakistani economy

Over the last eight years, Pakistan has experienced a significant change in its economic composition. While the agriculture and industrial sectors have grown, this growth has been less than that of the growth in the services sector. As a result, Pakistan has experienced a declining share of agriculture and industry in its GDP while simultaneously experiencing a rise in the share of services. It is important to note that the share of agriculture has declined the most out of the three categories.

While developing countries usually experience a rise in share of the industrial sector during the initial phases development, this has not happened in Pakistan's case where the share of the manufacturing sector has remained largely stable over the last eight years. This is cause for concern because such lack of growth in share might hint towards lack of economic diversification, which is crucial for long term growth. The trend of the share of these three sectors in GDP is given in the figure below:

[34] IMF, "First Post-Program Monitoring."

Figure 12: Share of Different Sectors in Pakistan's GDP



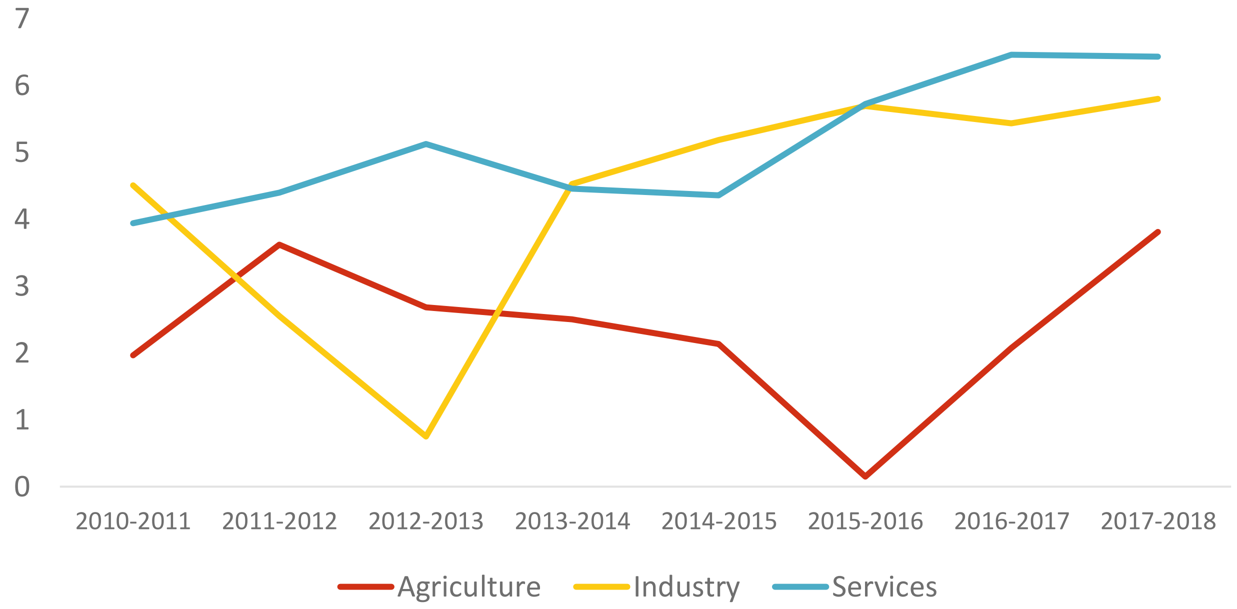
Source: Pakistan Economic Survey[35]

This is reflected in the trend of growth of different sectors in Pakistan. While the services sector has consistently grown above 4 percent for most years, this is not the case for the industrial and agricultural sectors. The industrial sector experienced a major dip in 2012-2013 while agriculture has been consistently underperforming compared to the other sectors since 2013-2014. The trend of growth by sectors is given in the figure below:

[35] Government of Pakistan, “Pakistan Economic Survey 2017-18.”

Figure 13: Growth by Sectors

(%)

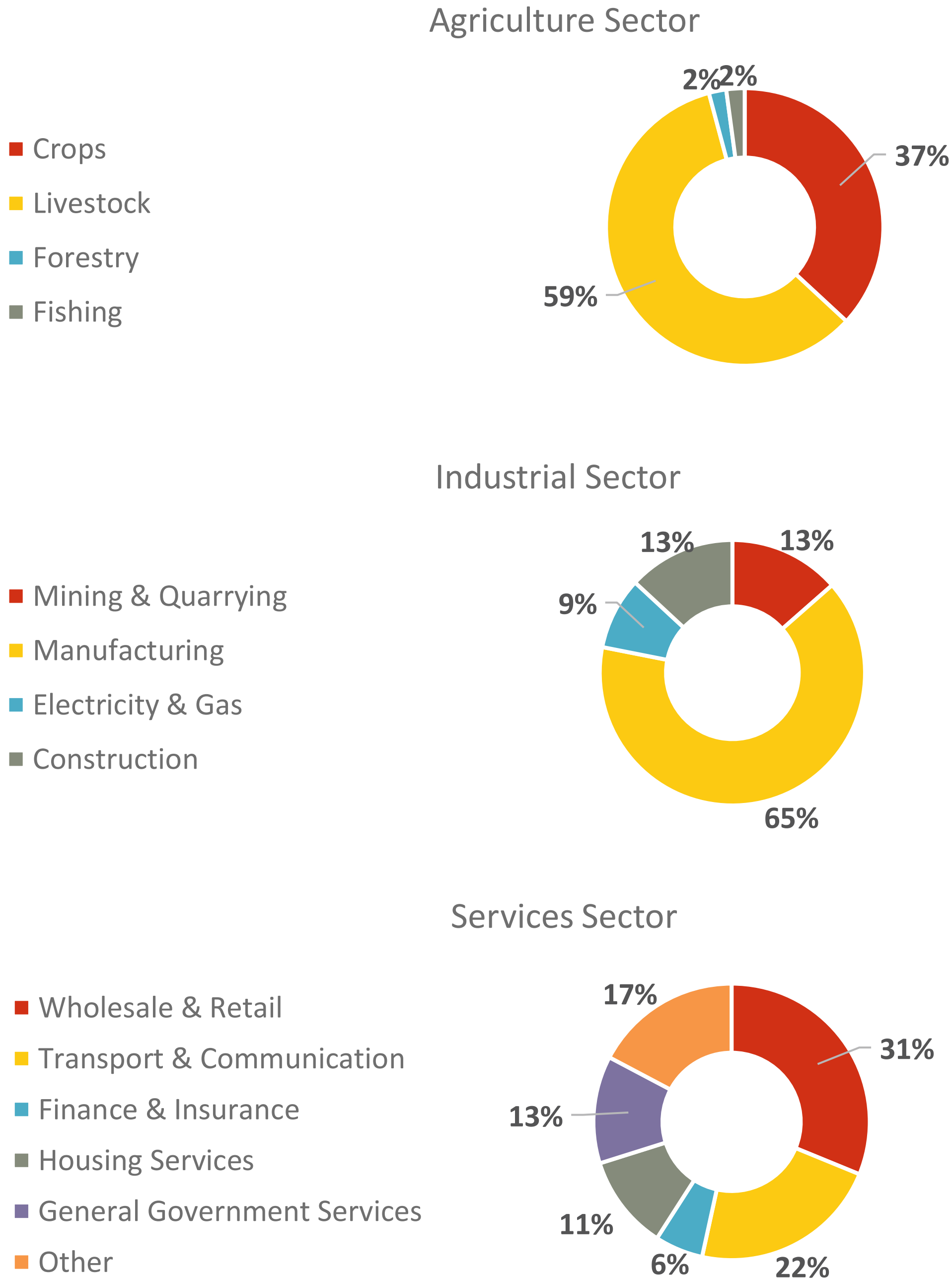


Source: Pakistan Economic Survey[36]

Another way to dissect the Pakistani economy is through the composition of the abovementioned sectors. Based on data from Pakistan Bureau of Statistics, the agriculture sector is largely composed of crops and livestock. Fishing and Forestry only contribute 4 percent to the agriculture sector. The industrial sector on the other hand, is dominated by manufacturing, which constitutes 65 percent of the total sector. Mining, Energy and Construction share the other 35 percent of the sector. Finally, the services sector has a more even split across different sub-sectors with no sub-sector making up more than 31 percent. Wholesale & Retail constitutes the largest sub-sector, followed closely by Transport & Communication. Details of these splits are given in the figure below:

[36] Government of Pakistan.

Figure 14: Composition of Different Sectors



Source: Pakistan Economic Survey[37]

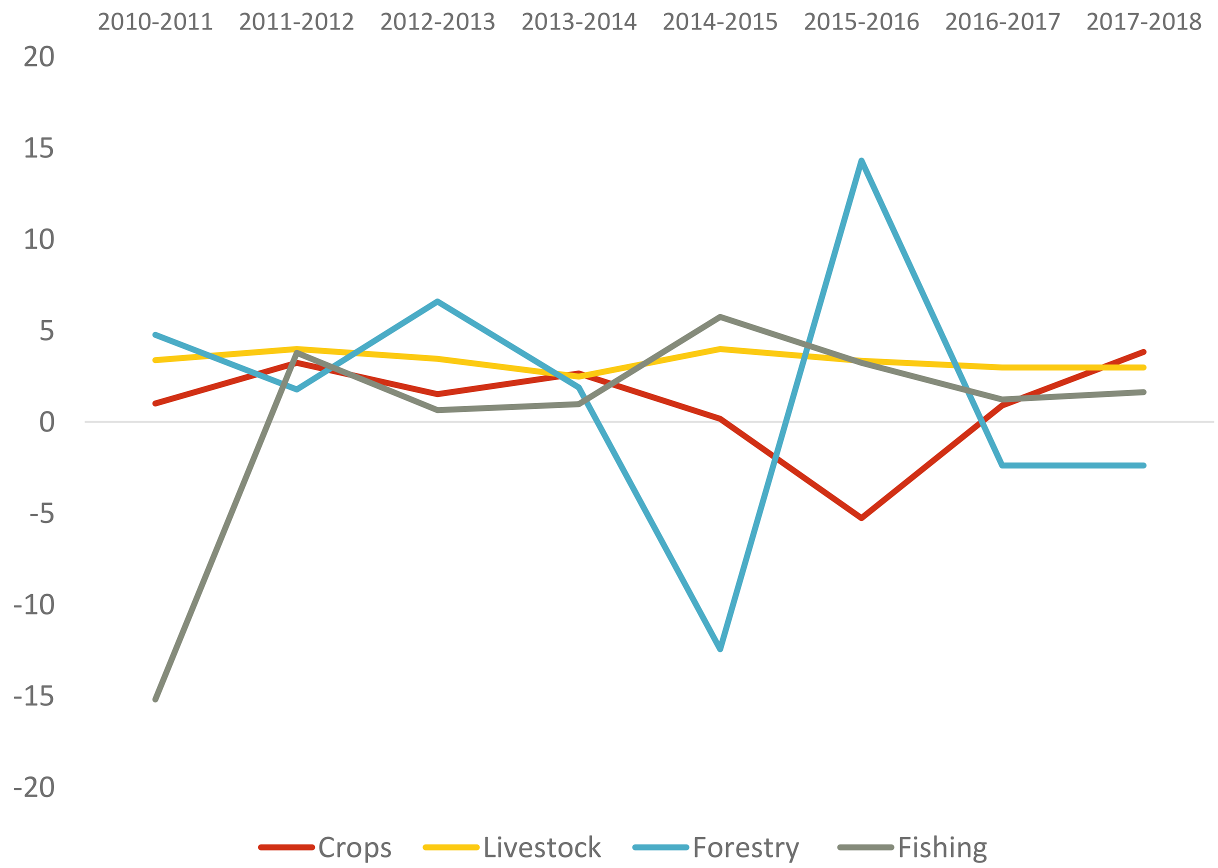
Within the Agriculture sector, crops have underperformed significantly compared to all other sub-sectors. Specifically, crops suffered from a major commodity price decrease globally, that

[37] Government of Pakistan.

translated into a severe contraction of the sub-sector in 2015-2016. This is a major reason why the agriculture sector's share in the GDP has dropped over the years. Livestock and Fishing on the other hand, have had stable and positive growth rate for the last few years. Forestry has experienced significant volatility in its growth rate. This trend can be seen in the figure below:

Figure 15: Growth of Sub-sectors within Agriculture Sector

(%)



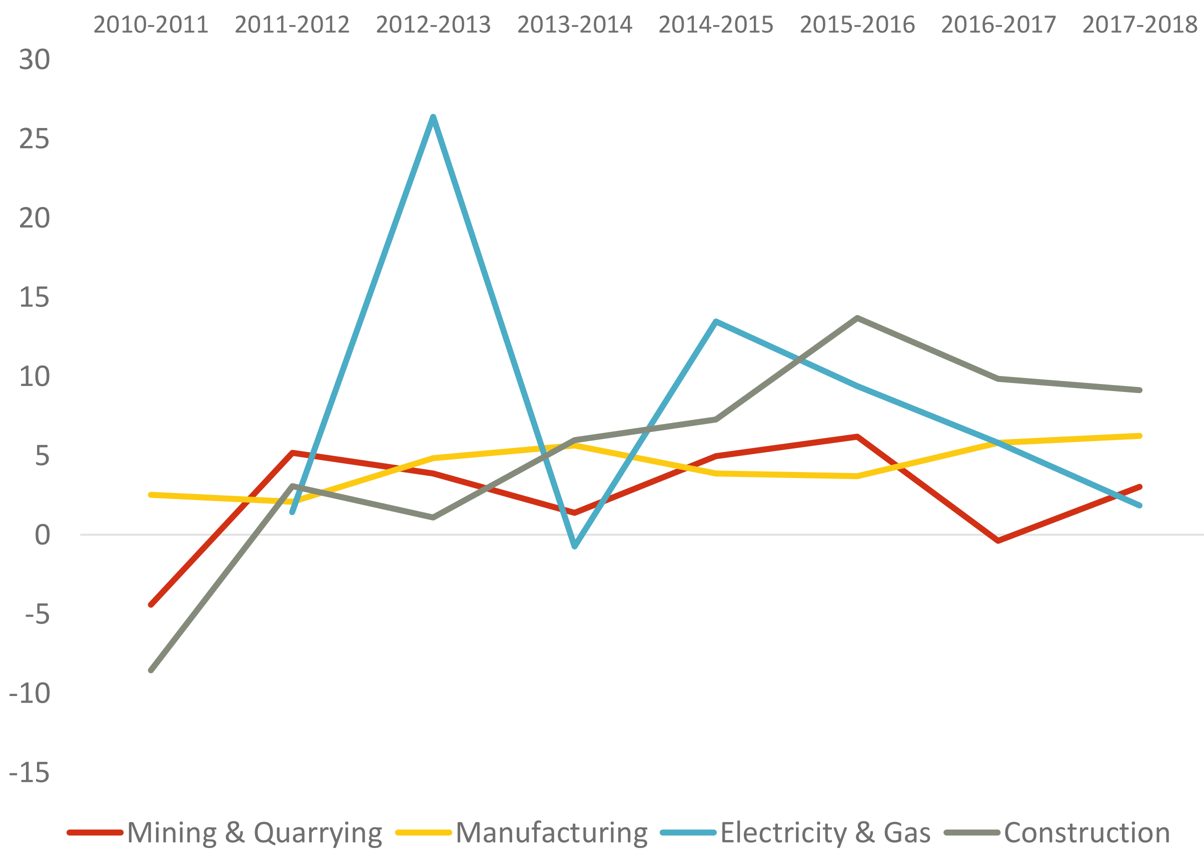
Source: Pakistan Economic Survey[38]

Within the industrial sector, manufacturing has shown steady growth. However, manufacturing is often the driver of overall growth in developing economies, which is clearly not the case here. The construction sub-sector has experienced a steady increase in its growth rate and happens to be an important driver of overall growth in Pakistan's case. Electricity & Gas has experienced a

[38] Government of Pakistan.

lot of volatility in growth rate over the years while mining is recovering from a recent slump. The trend of sub-sector growth rates for the industrial sector are shown in the figure below:

Figure 16: Growth of Sub-sectors within Industrial Sector (%)

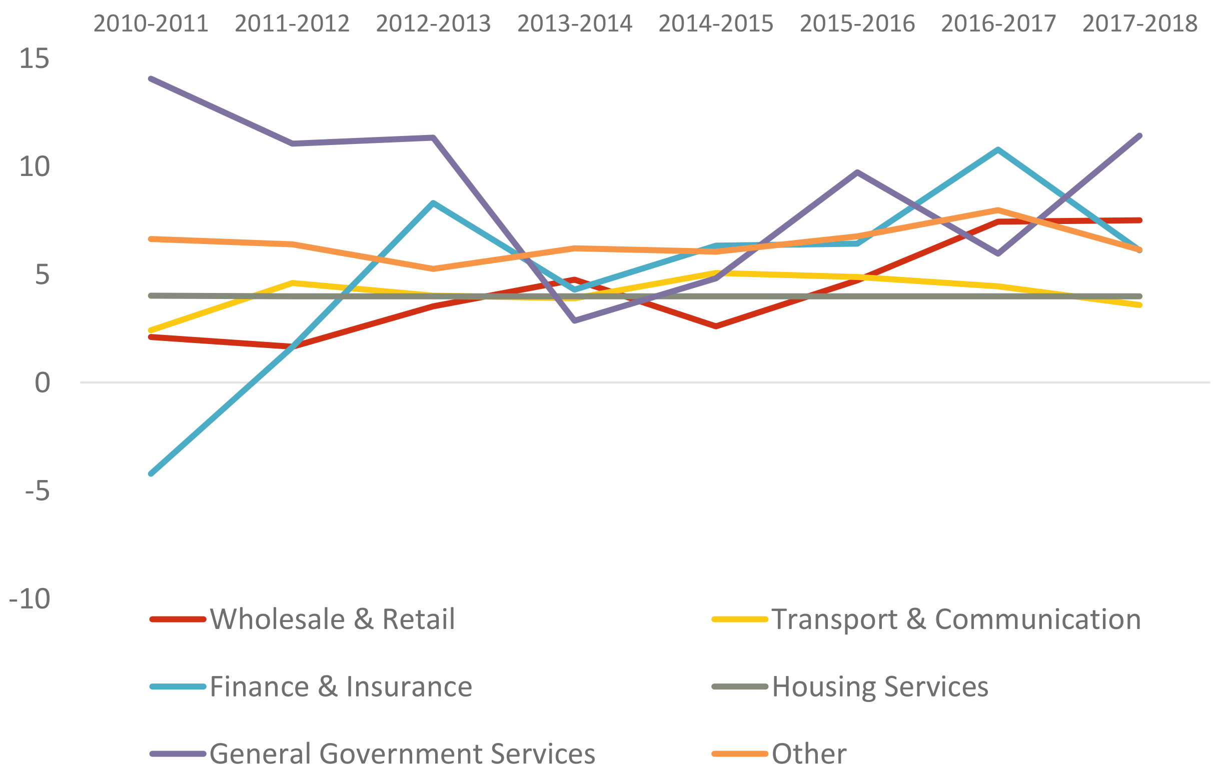


Source: Pakistan Economic Survey[39]

The services sector has thrived in Pakistan over the last eight years. Within the sector, the Wholesale & Retail sector has seen a steady increase in its growth rate. At the same time, General Government Services currently has the highest growth rate and has historically been strong. Housing, Transport & Communication have largely remained stable while Finance & Insurance is growing at a rapid rate.

[39] Government of Pakistan.

Figure 17: Growth of Sub-sectors within Services Sector (%)



Source: Pakistan Economic Survey[40]

4.2 – Lack of Diversification in the Pakistani Economy

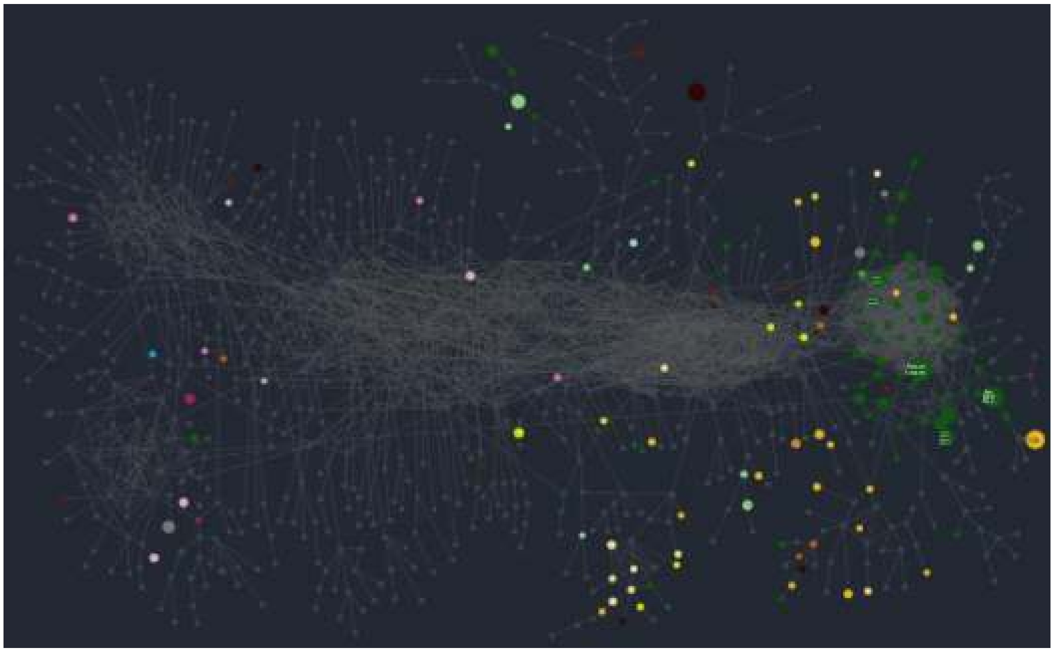
Over the last decade, Pakistan's manufacturing sector has been unable to consolidate existing product sectors and diversify into others. This will have adverse consequences for the long-term growth. Ricardo Hausmann and César Hidalgo developed a way to visualize this diversification by developing a network of different products that a country produces. They call this the *Product Space.* In this visualization, they identify all possible products that any country can produce and then highlight the ones that a particular country produces. As can be seen from Pakistan's product space in 2006 given below, the colored circles represent the products that Pakistan is

[40] Government of Pakistan.

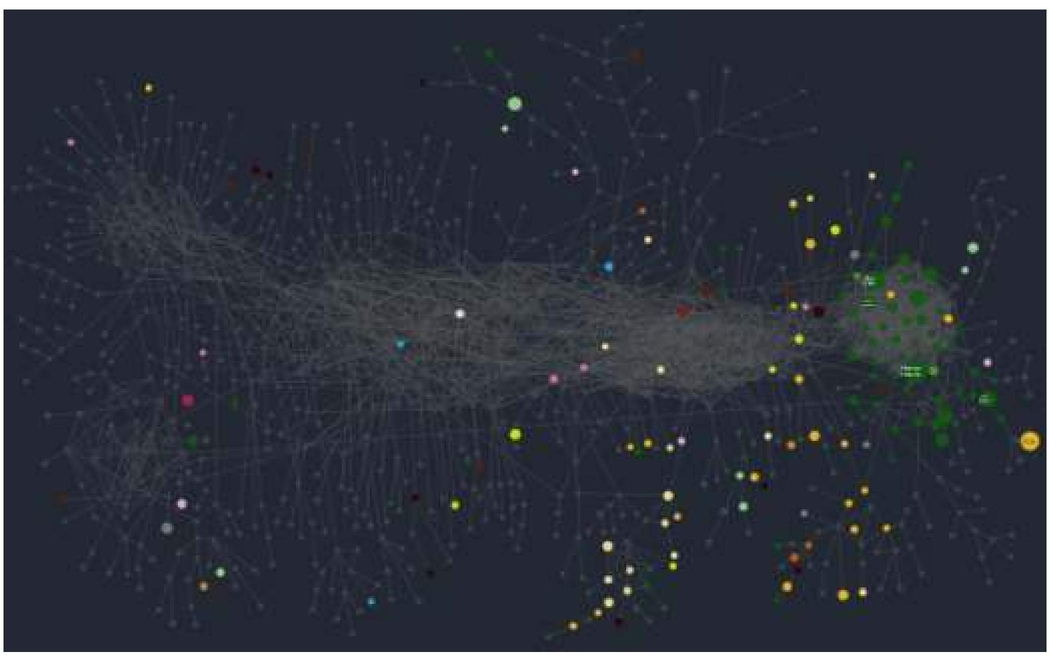
already producing. Comparing the product spaces in 2006 and 2016 given below, Pakistan is virtually producing the same products in 2016 that it did in 2006.

Figure 18: Pakistan's Product Space

2006



2016



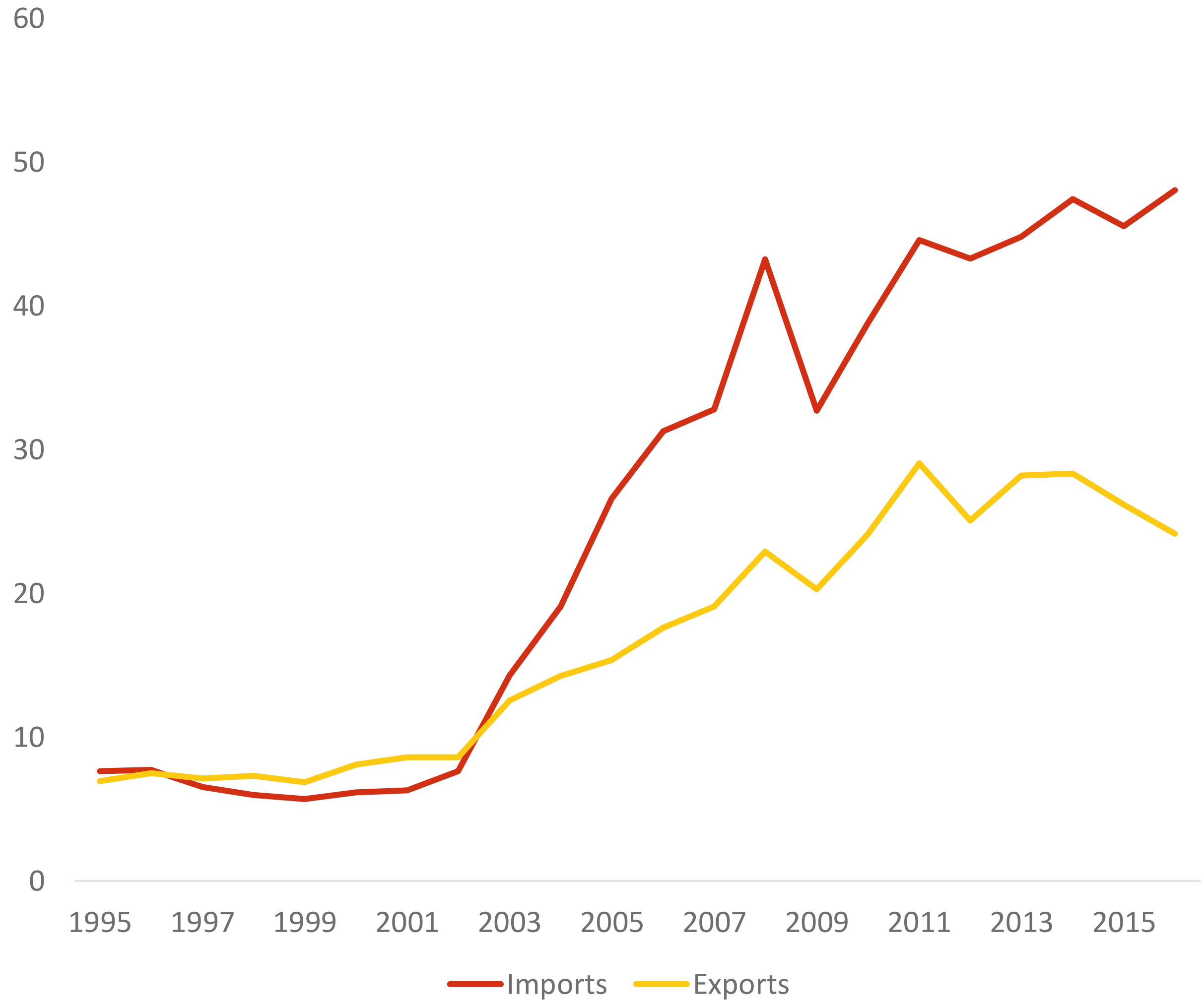
Source: MIT[41]

[41] MIT, "OEC - Pakistan (PAK) Exports, Imports, and Trade Partners."

The lack of diversification in the product space is also reflected in Pakistan's trend of imports and exports. While Pakistani imports have grown at a stable rate, exports have declined over the last few years. This is a serious cause for concern because it has adverse growth and macroeconomic implications.

Figure 19: Trend of Imports and Exports

(USD billion)



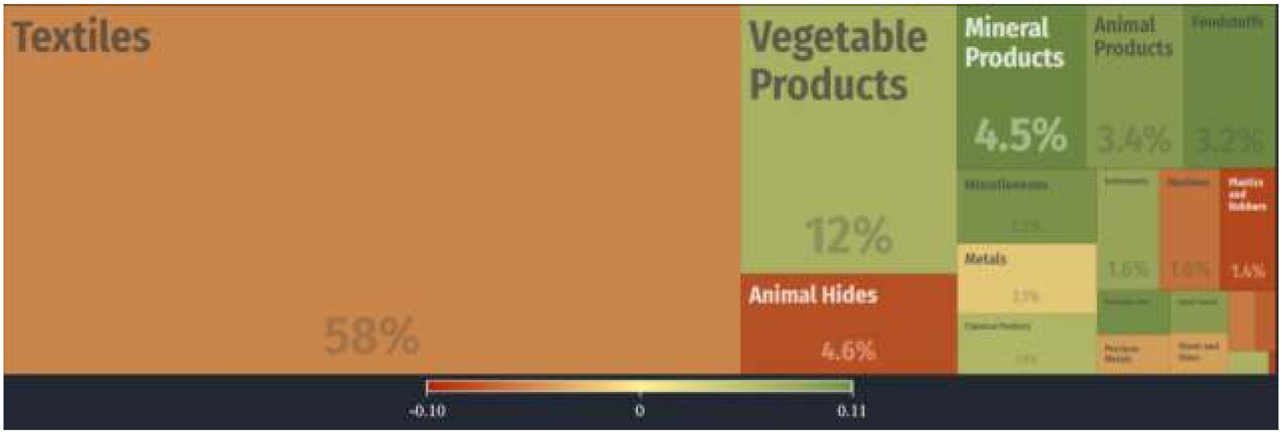
Source: MIT[42]

A deep-dive into Pakistan's exports reveals that Textiles contributes the most to exports and has been the sub-sector that has contracted significantly over the last five years. A few sectors like

[42] MIT.

Mineral Products and Vegetable Products exhibited positive growth. However, these sub-sectors constitute a small proportion of the overall export portfolio. Hence, Pakistan has a serious problem of lack of export growth and product diversification.

Figure 20: Pakistan's Export Composition



Source: MIT[43]

Key: The figure above shows the size of each sub-sector in the export market as of 2016. These sectors are color coded according to their respective growth rates over the last five years. Red shades depict negative growth while green depicts positive growth.

4.3 – Does CPEC have the potential towards changing the economic structure?

CPEC impacts several sectors that are fundamental to the economic structure in Pakistan such as Energy and Infrastructure. Hence, the answer to the question of CPEC's impact depends on whether these sectors have been binding constraints to growth in Pakistan.

Turning to energy, Pakistan has suffered serious power shortages over the last decade that have only started to be resolved. After adjusting for seasonal fluctuations, the overall trend of electricity generation had virtually remained stagnant from 2008 till 2015[44]. At the same time, demand for electricity kept growing at a steady pace throughout this period. Since Pakistan failed to cater to the energy deficit, it suffered from a severe energy crisis. This crisis has been well-

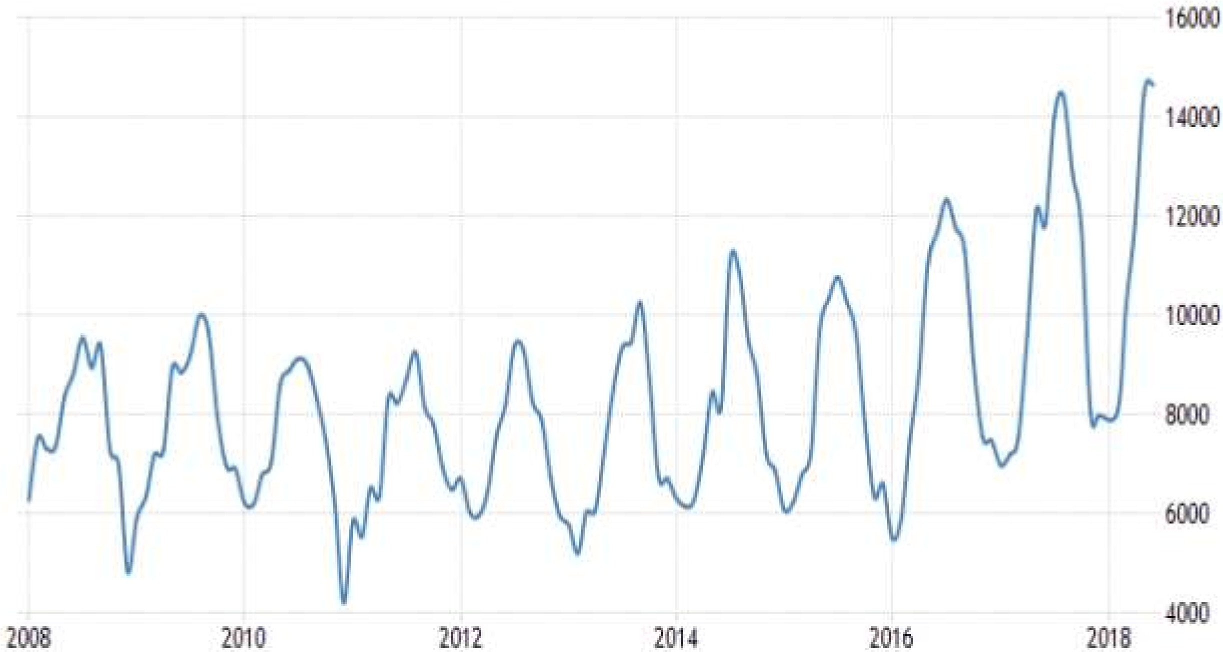
[43] MIT.

[44] "Pakistan Electricity Production | 2018 | Data | Chart | Calendar | Forecast."

documented[45] and led to major losses for businesses in the sectors such as textiles and processed food. From 2015 onward, CPEC has managed to add 3,840MW of capacity in Pakistan's energy portfolio and will add another 2,910MW by 2022. The trend of energy production below shows that the major improvement in production took place after 2015. CPEC had an important role in pushing the trend upward.

Figure 21: Trend of Monthly Electricity Production

(GWH)



Source: Trading Economics[46]

Regarding infrastructure, Pakistan currently ranks 121 out of 160 countries on the infrastructure score developed by the World Bank as part of their Logistics Performance Index[47]. CPEC invests heavily within this sector and hence, has the potential to facilitate supply chains of businesses across the country. While this infrastructure development has the potential to benefit purely domestic businesses that do not have supply chains outside Pakistan, CPEC has the added benefit of providing a trade route through to China.

---

45 Khan, "Powering the Powerless in Pakistan | The Diplomat."
46 "Pakistan Electricity Production | 2018 | Data | Chart | Calendar | Forecast."
47 World Bank, "Global Rankings 2018 | Logistics Performance Index."

The CPEC long-term plan lays a lot of emphasis on cooperation within the agriculture sector. While the specific projects are yet to be defined, the long-term plan identifies the broad aim of these projects, given below[48]:

1. Improving agriculture infrastructure in CPEC areas
2. Improving irrigation systems
3. Cooperation in livestock, crop farming, breeding, fishery, forestry and food-growing
4. Cooperation in storage, transportation, sales and marketing of agricultural products, with a focus on technical exchange
5. Cooperation in water resource management
6. Improving agricultural inputs such as fertilizers, machinery, pesticides, support services and agriculture research
7. Cooperation in horticulture
8. Technical training of Pakistani staff

Since the agriculture sector has been underperforming over the last few years, CPEC cooperation in agriculture, if designed and implemented properly, has the potential to help the sector. The joint working group on agriculture has already started functioning to define specific projects[49]. Concrete details on agricultural cooperation will be gained in the future.

CPEC also aims to create Special Economic Zones (SEZs) throughout the country which will prove to be very important for Pakistan's economic transformation. These SEZs are spread across the country with one each in Khyber Pakhtunkhwa, Punjab, Balochistan, Azad Jammu & Kashmir, Gilgit-Baltistan, Capital Territory and Federally Administered Tribal Areas. There are two SEZs in Sindh, both near Karachi. The figure below gives details about the zones and the industrial sectors that they will support.

[48] Ministry of Planning, Development and Reform, Pakistan, "Long Term Plan for China-Pakistan Economic Corridor (2017-2030)."
[49] Butt, "Agriculture Sector: Joint Working Group of CPEC Established."

Figure 22: Special Economic Zones in CPEC

#	PROJECT NAME	PROVINCE	INDUSTRY
1	Rashakai Economic Zone, M-1, Nowshera	Khyber Pakhtunkhwa	Fruit, Food, Packaging, Textile Stitching and Knitting
2	China Special Economic Zone Dhabeji	Sindh	To be determined
3	Bostan Industrial Zone	Balochistan	Fruit Processing, Agriculture machinery, Pharmaceutical, Motor Bikes Assembly, Cooking Oil, Ceramic industries, Ice and Cold storage, Electric Appliance and Halal Food Industry
4	Allama Iqbal Industrial City (M3), Faisalabad	Punjab	Textile, Steel, Pharmaceuticals, Engineering, Chemicals, Food Processing, Plastics and Agriculture Implements
5	ICT Model Industrial Zone, Islamabad	Capital Territory	Steel, Food Processing, Pharmaceutical & Chemicals, Printing and Packaging,
6	Industrial Park on Pakistan Steel Mills Land near Karachi	Sindh	Steel, Auto, Pharmaceuticals, Chemicals, Printing, Packaging and Garments
7	Special Economic Zone at Mirpur, AJK	Azad Jammu and Kashmir	To be determined
8	Mohmand Marble City	Federally Administered Tribal Areas	To be determined
9	Moqpondass SEZ Gilgit-Baltistan	Gilgit-Baltistan	Marble, Granite, Iron Ore Processing, Fruit Processing, Steel Industry, Mineral Processing Unit and Leather Industry

Source: CPEC Official Website[50]

These SEZs are strategically located so that they are close to highways and ports. For instance, the Rashakai Economic Zone is within 50km of the airport, 15km from the city center and right on the motorway. With the logistical support, the SEZs are expected to attract businesses within

[50] "Special Economic Zones (SEZs) | China-Pakistan Economic Corridor (CPEC) Official Website."

the sectors mentioned in Figure 23. The SEZs aim to strengthen existing sectors that have been on a declining trend, such as textiles, while promoting other export sectors such as leather goods. It also promotes a wide range of other sectors in which Pakistan has not traditionally been strong. A recent USD 200 million joint venture between Deli China and JW Group for glass manufacturing will be set up in the Faisalabad Industrial Park[51]. Similar joint ventures and investments in other SEZs will help boost the Pakistani economy.

Based on the above, CPEC has three features that would be relevant for Pakistan's economic transformation. First, CPEC targets infrastructure development and energy production, which have been binding constraints to growth in the country. Second, CPEC aims to establish 9 different SEZs across the country to boost economic activity. Third, the long-term plan in CPEC aims to improve the agriculture sector in the long-run. As a result, CPEC definitely has the potential to bring economic transformation. The main concerns about CPEC are not regarding its potential for economic transformation. Rather these concerns are about some macroeconomic risks discussed in the next section.

Section 5 – Mitigating Risks

5.1 – Macroeconomic Risks

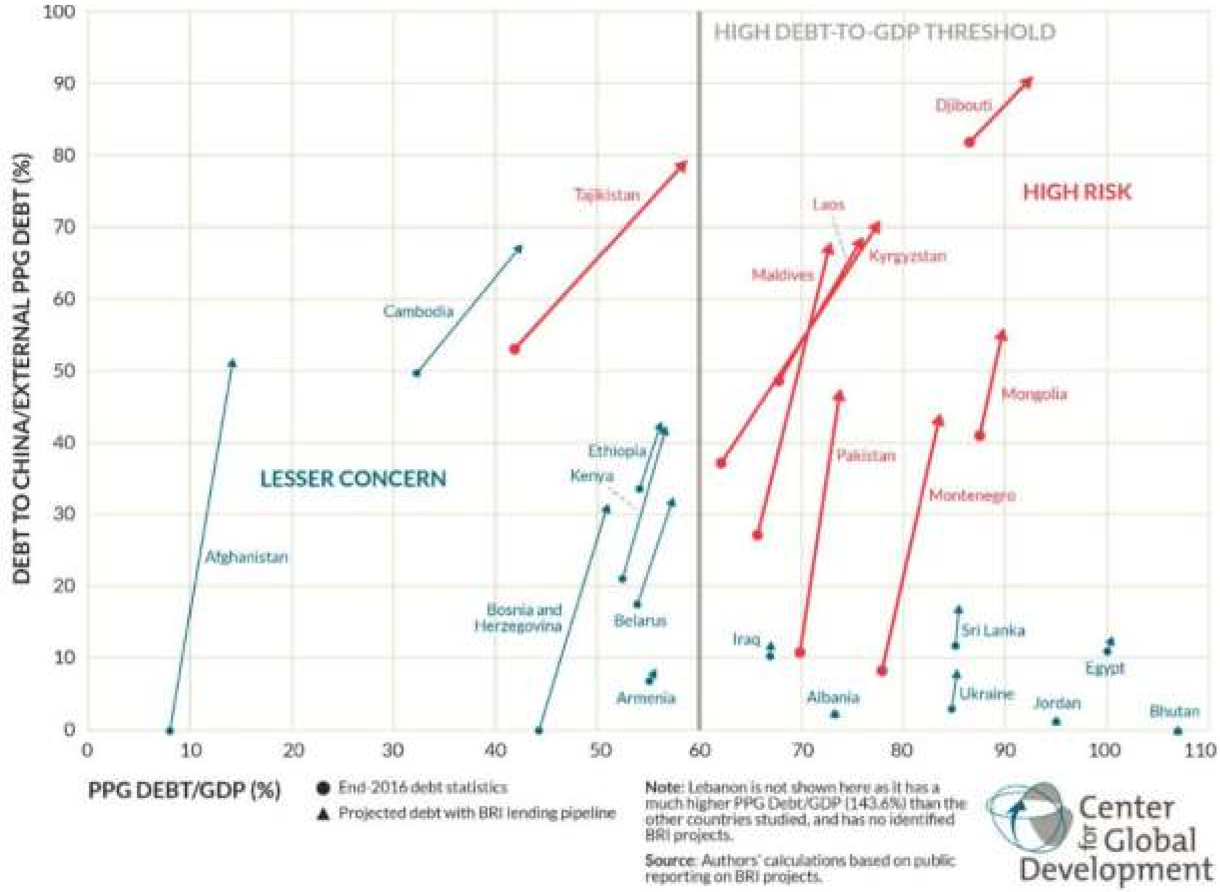
From a macroeconomic standpoint, there are three major risks that can hurt CPEC's credibility and success. These risks are explained below.

5.1.1 – Debt Sustainability

The most important risk which has received a lot of media attention lately is that of debt sustainability. As shown in section 3.4, Pakistan's external debt to GDP ratio and external financing need has increased since the start of CPEC and is projected to rise further till 2020. Pakistan's external financing need will peak at 9.9 percent of GDP in 2023. From an external financing viewpoint, the years 2020-2023 have the highest rates of external payments and hence need to be guarded against.

[51] "Joint Venture: Pakistan, China Firms to Build $200m Glass Manufacturing Complex."

Figure 23: Chinese Debt of Different Countries



Source: Center for Global Development[52]

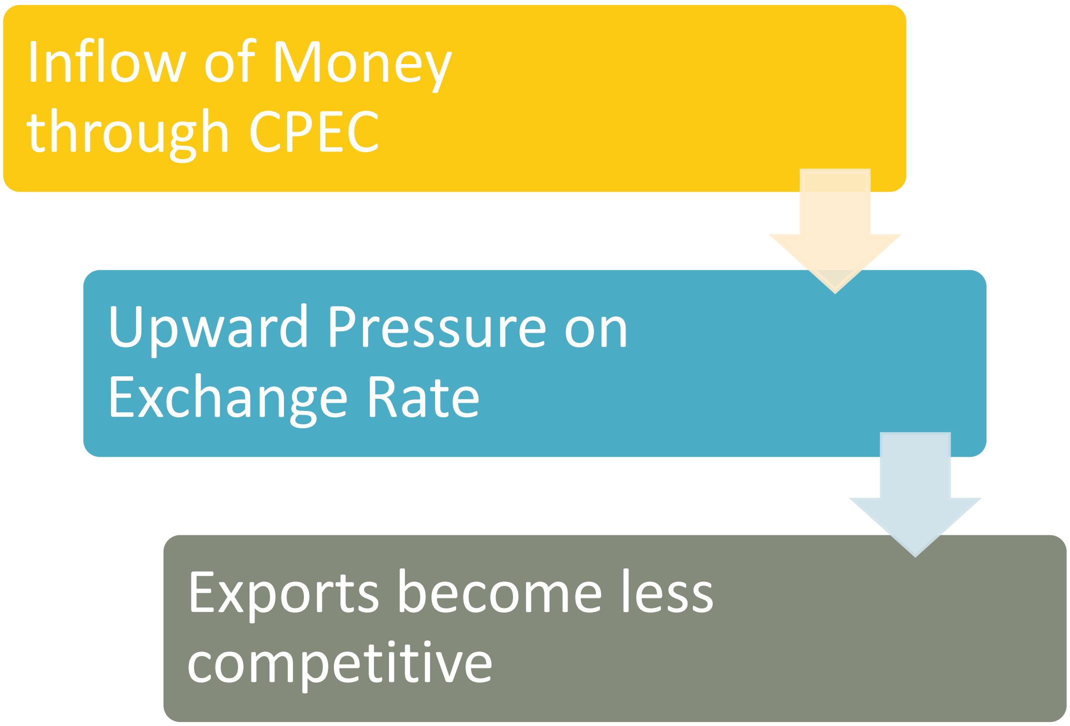
5.1.2 – Upward Pressure on Exchange Rate

The inflow of payments through CPEC can put upward pressure on the exchange rate. This has the potential to undermine domestic exporters by making their products more expensive in the international market. While upward pressure on a currency is usually seen as a good sign, exporters suffer in this scenario. This is especially important in Pakistan's case because Pakistan's export sector has shown abysmal performance and has contracted over the last few years. As shown in Section 4.2, product diversification within the export market remains a serious concern that can be exacerbated by this upward pressure on the currency.

[52] Hurley, Morris, and Portelance, "Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective."

In economics, this problem of upward pressure on exchange rate with adverse consequences for domestic markets is known as the *Dutch Disease.* CPEC represents a version of the same problem and needs to be tackled effectively.

Figure 24: Process of Upward Exchange Rate Pressure

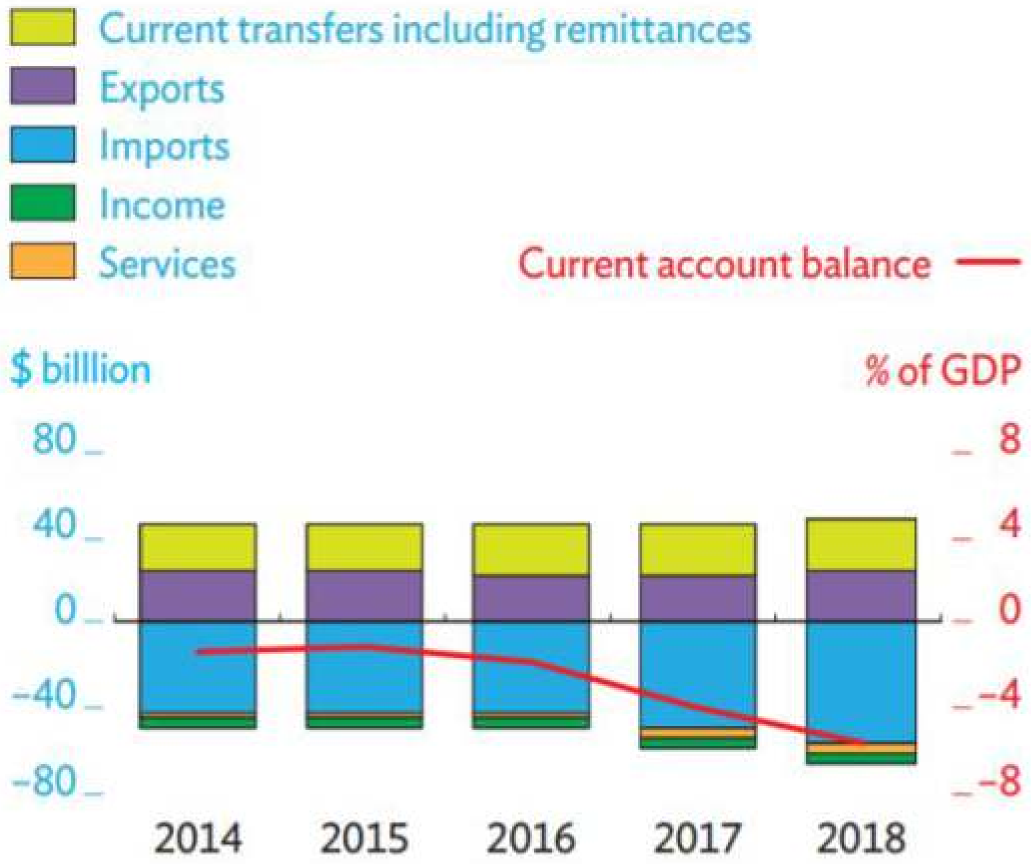


5.1.3 – Current Account Deficit

CPEC projects involve importing a significant amount of inputs from China. This can have adverse implications for Pakistan's current account deficit which has widened over the last few years. A recent report by the Asian Development Bank (ADB) showed that Pakistan's current account deficit increased to USD 18 billion, which is 5.8 percent of GDP in the Financial Year 2018[53]. This increase has been driven by a combination of increase in imports and stagnating exports. The trend of Pakistan's disaggregated current account deficit is shown in the figure below:

[53] Asian Development Bank, *Asian Development Outlook (ADO) 2018 Update*.

Figure 25: Pakistan's Disaggregated Current Account



Source: Asian Development Bank[54]

5.2 – Other Risks

5.2.1 – Transmission limitations

While Pakistan has been able to increase its energy production capacity in a significant manner over the last few years, distribution and transmission remains a bottleneck. This means that even when Pakistan has the capacity to generate energy at peak demand, it is not able to transmit this energy to households and businesses. The result is blackouts during the summer when electricity demand is at its highest. While Pakistan's electricity generation capacity is currently at 28,000MW, the transmission and the distribution capacity is at 22,000MW[55]. Increasing the

[54] Asian Development Bank.
[55] Rehman, "Pakistan's Electricity Generation Has Increased over Time. So Why Do We Still Not Have Uninterrupted Supply?"

production capacity will not have any impact on the economy if the distribution system is not upgraded. The 878-kilometer transmission line between Matiari and Lahore with a transmission capacity of 4,000 MW aims to bridge this gap by connecting the coal-based power plants in Sindh to other parts of the country[56]. This CPEC project has the potential to help allay the concern.

5.3 – Policy Recommendations to Tackle Risks

Addressing the abovementioned risks will add to CPEC's credibility in a significant manner. This will in turn help the BRI to achieve its broad objectives. The Governments of China and Pakistan can take the following steps to mitigate the risks:

5.3.1 – Ensuring Debt Sustainability

Pakistan already knows about the future increase in the external payments over the next decade. There are five ways to ensure that the debt remains sustainable.

First, Pakistan can save until 2020 for the years 2020 to 2023 that have the highest external financing payments. This can be done by developing a separate fund that allocates a revenue stream specifically for CPEC payments.

Second, Pakistan can introduce a new tax that will finance these CPEC payments. While this tax will not be able to cover 9.9 percecnt of GDP, it can certainly reduce the burden on other sources of revenue.

Third, the Chinese government can help restructure the debts in a way that most of the burden does not accrue in any single year. For instance, most of the debt burden in the near term is from 2020 to 2023. This can be changed in a way that some of the payment are deferred so that the burden in these years is reduced.

Fourth, the Government of Pakistan needs to ensure that the payments for any additional debts taken do not coincide with the maximum payments for CPEC.

Last, the underlying assumption of CPEC's debt sustainability is that it will lead to growth. While we know that the investments are being made in the right sectors, they need to be implemented

[56] "CPEC | China-Pakistan Economic Corridor (CPEC) Official Website."

in a transparent manner. By minimizing any waste in the form of corruption and other inefficiencies, the government of Pakistan will ensure that the investments are being made in full. This will result in growth and help with the debt sustainability of Pakistan.

Figure 26: How to Ensure Debt Sustainability

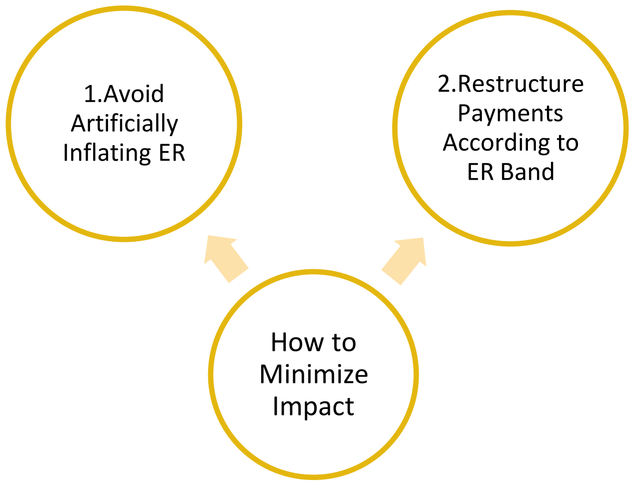
1.Savings	• Savings in years with low payments for high payment years
2.New Taxes	• Introducing new taxes specifically to finance CPEC
3.Restructure payments	• Spreading payments to years with low payments
4.Other Payments	• Ensuring that other debt agreements do not have coinciding payments
5.Minimizing Inefficiencies	• Minimizing wastage in projects

5.3.2 – Minimizing Exchange Rate Impact

Over the last few years, the impact of the upward pressure on the exchange rate had been worsened because the Government of Pakistan artificially inflated the exchange rate even further. To ensure confidence in the economy, the Government wanted to maintain the exchange rate close to PKR 100 for every USD. This worsened the situation because CPEC payments put additional pressure on the exchange rate. As a result, exporters suffered more. However, the State Bank has reversed this recently and Pakistan's currency has been depreciated. This is a good first step towards helping the export sector.

To minimize the exchange rate impact, the Pakistani government can take two steps. First, ensure that the exchange rate is not artificially inflated above the market rate. While this market rate will still be higher than the case without CPEC payments, the situation would still be better compared to an artificially inflated exchange rate. Second, CPEC disbursements can be restructured so that the associated exchange rate fluctuations are within the managed float band. This will ensure that the impact on the domestic market is minimal.

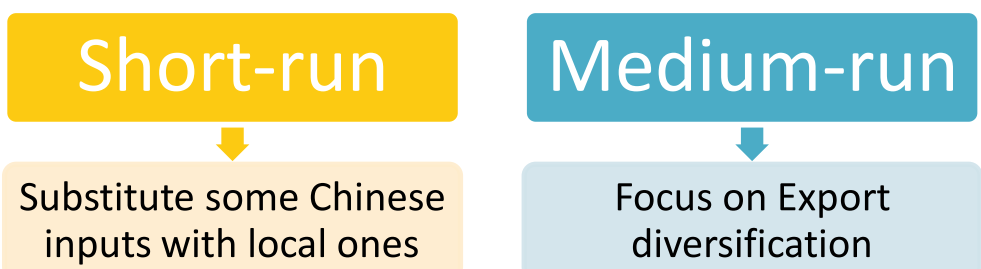
Figure 27: How to Minimize ER Impact



5.3.3 – Reducing Current Account Deficit

Managing the impact on the current account due to CPEC would require a two-pronged approach. First, in the short-run, some of the inputs being imported from China can be replaced by local products. Since the quality of the inputs should not be compromised, the replaced inputs should only be of similar quality and price compared to the existing Chinese inputs. This will help lower the burden on imports and consequently reduce the current account deficit. Second, during the medium-term, the government needs to promote Pakistani exports. While CPEC will play a crucial role in helping diversify Pakistan's domestic market, the government needs to take other actions to facilitate exports. There is extensive literature on how this can be done.

Figure 28: How to Manage Current Account Problems



Some concrete ways in which the current account can be improved are given as follows:

- Identifying and removing binding constraints to the growth of export-oriented sectors
- Facilitating technology and knowledge transfer to domestic sectors to help industrial diversification
- Reducing regulatory timelines for businesses by simplifying administrative procedures and laws
- Developing relevant infrastructure and providing logistical support to the export sectors
- Expenditure switching policies such as shifting away from consuming imports to consuming local substitutes

5.3.4 – Improving Electricity Distribution

Improving electricity distribution would require investment into the existing transmission system. These improvements need to be carefully coordinated with the increase in electricity supply so that the additional production capacity is not wasted. The Government of Pakistan recently signed a UDS 284 million deal with the Asian Development Bank to upgrade the transmission network[57]. This is a step in the right direction.

Section 6 – Conclusion

Pakistan has experienced consistent improvement in its growth rate over the last decade. This has led a thriving middle class[58], significant improvement in standards of living and improvement in Pakistan's credit ratings[59] [60]. Over the last few years, CPEC has contributed towards this growth by significant improvements in energy and infrastructure. In order to ensure the sustainability of these gains, Pakistan needs to keep addressing its binding constraints to growth. CPEC aims to achieve this objective because it targets important sectors within the Pakistani economy. As a result, it will have an important role in helping Pakistan consolidate and improve upon the recent economic gains. By making investments in energy, infrastructure and agriculture, and by the

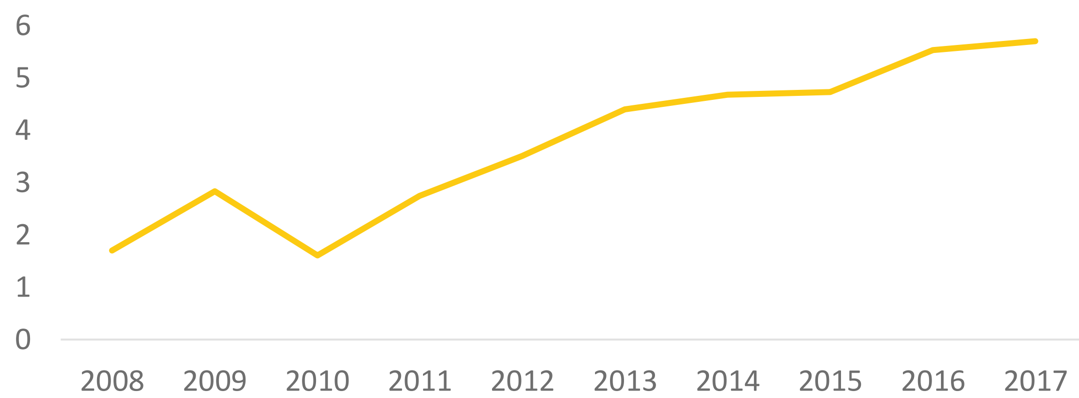
---

57 ADB, "ADB, Pakistan Sign $284 Million Deals to Upgrade Power Transmission Network."
58 Shah, "Pakistan's Middle Class Soars as Stability Returns."
59 "Pakistan Credit Rating 2018."
60 Overall positive trend in rating on S&P and Moody's

development of Special Economic Zones, CPEC has the potential to transform Pakistan's economy.

Figure 29: Pakistan's GDP Growth

(%)



Source: World Bank[61]

Given the importance of CPEC within Pakistan's development strategy, this monograph presented a broad picture of the financing tools involved, the sectors affected, and described the potential for economic transformation. The last part of the monograph highlighted the key macroeconomic risks associated with CPEC and suggested ways to address them.

Specifically, the monograph started out by explaining the scale and importance of CPEC, and its role in the larger BRI project. Using data provided by the Governments of Pakistan and China, the monograph showed the breakup of different financing tools and the time-series of the payments. It also looked at the macroeconomic picture by showing the trend of Pakistan's external financing projected over the next few years.

After explaining the financing details, the monograph turned towards the economic structure in Pakistan. The diagnosis of the economy showed that Pakistan's industrial and agricultural sectors have not been performing well. It also showed that Pakistan has been unable to diversify its product space and increase its exports. This is serious cause for concern and will hamper Pakistan's long-term growth prospects. Using this diagnosis, the monograph then asks if CPEC

[61] World Bank, "GDP Growth (Annual %) | Data."

has the potential to boost the economy. The analysis shows that since energy and infrastructure have been binding constraints to growth, CPEC has a lot of potential to improve Pakistan's growth prospects.

The last part of the monograph highlighted the macroeconomic risks to CPEC. These risks include debt sustainability, exchange rate pressures and current account deficit. It then gave recommendations about ways to manage these risks.

As Pakistan looks towards the future, CPEC will play an important role in its economic progress. At the same time, the macroeconomic concerns need to be addressed by China and Pakistan to further strengthen the project. Since the success of BRI hinges on CPEC, it is even more important to address these risks. That said, CPEC will certainly improve Pakistan's growth prospects in the future.

Bibliography

"10 Fundamentals of CPEC | China-Pakistan Economic Corridor." Accessed December 17, 2018. http://www.cpecinfo.com/10-questions-on-cpec.

ADB, Asian Development. "ADB, Pakistan Sign $284 Million Deals to Upgrade Power Transmission Network." Text. Asian Development Bank, December 13, 2018. https://www.adb.org/news/adb-pakistan-sign-284-million-deals-upgrade-power-transmission-network.

Ahmad, Riaz, and Hong Mi. "China-Pakistan Economic Corridor and Its Social Implication on Pakistan: How Will CPEC Boost Pakistan's Infrastructures and Overcome the Challenges?" *Arts and Social Sciences Journal* 08, no. 02 (2017). https://doi.org/10.4172/2151-6200.1000265.

Ahmed, Manzoor. "CPEC – Debt Trap or Game Changer?" The Express Tribune, October 8, 2018. https://tribune.com.pk/story/1820520/2-debate-cpec-debt-trap-game-changer/.

Asian Development Bank, Asian Development Bank. *Asian Development Outlook (ADO) 2018 Update: Maintaining Stability Amid Heightened Uncertainty*. Asian Development Bank, 2018. http://dx.doi.org/10.22617/FLS189567-3.

Butt, Naveed. "Agriculture Sector: Joint Working Group of CPEC Established." *Business Recorder* (blog), May 1, 2018. https://fp.brecorder.com/2018/05/20180501367443/.

"CPEC | China-Pakistan Economic Corridor (CPEC) Official Website." Accessed December 14, 2018. http://cpec.gov.pk/.

"CPEC Vision & Mission | China-Pakistan Economic Corridor (CPEC) Official Website." Accessed December 14, 2018. http://cpec.gov.pk/vision-mission/3.

Deloitte. “How Will CPEC Boost Pakistan Economy?” Deloitte, n.d. https://www2.deloitte.com/content/dam/Deloitte/pk/Documents/risk/pak-china-eco-corridor-deloittepk-noexp.pdf.

———. “The Belt and Road Initiative | Deloitte Insights,” February 12, 2018. https://www2.deloitte.com/insights/us/en/economy/asia-pacific/china-belt-and-road-initiative.html.

Derudder, Ben Joseph Romain, Xingjian Liu, and Charles Kunaka. “Connectivity Along Overland Corridors of the Belt and Road Initiative.” The World Bank, October 1, 2018. http://documents.worldbank.org/curated/en/264651538637972468/Connectivity-Along-Overland-Corridors-of-the-Belt-and-Road-Initiative.

EBRD. “Belt and Road Initiative (BRI).” Accessed December 17, 2018. //www.ebrd.com/what-we-do/belt-and-road/overview.html.

“FAQS | China-Pakistan Economic Corridor (CPEC) Official Website.” Accessed December 14, 2018. http://cpec.gov.pk/faqs.

Government of Pakistan. “Pakistan Economic Survey 2017-18.” Statistical Appendix. Ministry of Finance. Accessed December 14, 2018. http://www.finance.gov.pk/survey_1718.html.

Hurley, John, Scott Morris, and Gailyn Portelance. “Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective.” Center For Global Development, March 2018. https://www.cgdev.org/publication/examining-debt-implications-belt-and-road-initiative-a-policy-perspective.

IMF. “Pakistan : First Post-Program Monitoring Discussions-Press Release; Staff Report; and Statement by the Executive Director for Pakistan.” IMF, March 14, 2018.

https://www.imf.org/en/Publications/CR/Issues/2018/03/14/Pakistan-First-Post-Program-Monitoring-Discussions-Press-Release-Staff-Report-and-Statement-45724.

"Joint Venture: Pakistan, China Firms to Build $200m Glass Manufacturing Complex." The Express Tribune, October 26, 2018. https://tribune.com.pk/story/1834085/2-joint-venture-pakistan-china-firms-build-200m-glass-manufacturing-complex/.

Khan, Muhammad Salar. "Powering the Powerless in Pakistan | The Diplomat." The Diplomat, November 2, 2018. https://thediplomat.com/2018/11/powering-the-powerless-in-pakistan/.

Kuo, Lily, and Niko Kommenda. "What Is China's Belt and Road Initiative?" the Guardian. Accessed December 14, 2018. http://www.theguardian.com/cities/ng-interactive/2018/jul/30/what-china-belt-road-initiative-silk-road-explainer.

Ministry of Planning, Development and Reform, Pakistan. "Long Term Plan for China-Pakistan Economic Corridor (2017-2030)," n.d. http://cpec.gov.pk/brain/public/uploads/documents/CPEC-LTP.pdf.

MIT. "OEC - Pakistan (PAK) Exports, Imports, and Trade Partners." Accessed December 14, 2018. https://atlas.media.mit.edu/en/profile/country/pak/.

"Pakistan Credit Rating 2018." countryeconomy.com. Accessed December 24, 2018. https://countryeconomy.com/ratings/pakistan.

"Pakistan Electricity Production | 2018 | Data | Chart | Calendar | Forecast." Accessed December 14, 2018. https://tradingeconomics.com/pakistan/electricity-production.

Rafiq, Arif. “China’s $62 Billion Bet on Pakistan.” *Foreign Affairs*, October 24, 2017. https://www.foreignaffairs.com/articles/china/2017-10-24/chinas-62-billion-bet-pakistan.

Rehman, Maha. “Pakistan’s Electricity Generation Has Increased over Time. So Why Do We Still Not Have Uninterrupted Supply?” DAWN.COM, September 3, 2018. https://www.dawn.com/news/1430728.

Shah, Saeed. “Pakistan’s Middle Class Soars as Stability Returns.” *Wall Street Journal*, February 1, 2017, sec. World. https://www.wsj.com/articles/pakistans-middle-class-soars-as-stability-returns-1485945001.

Siddiqui, Salman. “CPEC Investment Pushed from $55b to $62b | The Express Tribune,” April 12, 2017. https://tribune.com.pk/story/1381733/cpec-investment-pushed-55b-62b/.

“Special Economic Zones (SEZs) | China-Pakistan Economic Corridor (CPEC) Official Website.” Accessed December 18, 2018. http://cpec.gov.pk/special-economic-zones-projects.

The Economist. “Massive Chinese Investment Is a Boon for Pakistan - Banyan,” September 9, 2017. https://www.economist.com/asia/2017/09/09/massive-chinese-investment-is-a-boon-for-pakistan.

UN ESCAP. “A Study of ICT Connectivity for the Belt and Road Initiative (BRI): Enhancing the Collaboration in China-Central Asia Corridor,” September 2017. https://www.unescap.org/sites/default/files/BRI.pdf.

World Bank. “Belt and Road Initiative.” Text/HTML. World Bank, March 29, 2018. http://www.worldbank.org/en/topic/regional-integration/brief/belt-and-road-initiative.

———. "GDP Growth (Annual %) | Data." Accessed December 18, 2018. https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2017&locations=PK&start=1961&view=chart.

———. "Global Rankings 2018 | Logistics Performance Index." Accessed December 14, 2018. https://lpi.worldbank.org/international/global.

PAKISTAN-CHINA INSTITUTE

www.pakistan-china.com
www.youlinmagazine.com
www.nihao-salam.com
Tel: +92-51-8438292-4

This report has been published in cooperation with
Konrad Adenauer Stiftung

KAS Pakistan Office

KONRAD
ADENAUER
STIFTUNG

E-mail: info.pakistan@kas.de, www.kas.de/pakistan