

China-Pakistan Economic Corridor Energy Projects: China's Strategy and Implications for Pakistan

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Abstract

This paper explores the extent to which the China-Pakistan Economic Corridor (CPEC) – a flagship project of the Belt and Road Initiative – addresses the problem of overproduction in China's energy industry. It argues against CPEC as a win-win opportunity for both countries. Drawing on David Harvey's concept of spatial fix, the CPEC power projects are designed with China's quest for a new geographical space to absorb its surplus production, and to create demand for its state-owned enterprises, which face less return on investment at home. In other words, China is diversifying surplus capital in order to mitigate domestic economic crises. The study therefore concludes that the CPEC energy projects serve as a spatial fix for China, but adds to Pakistan's debt burden and threatens its national sovereignty.

Keywords: *spatial fix, China-Pakistan Economic Corridor, energy projects*

1. Introduction

Following the global financial crisis (GFC) of 2008, China witnessed a decline in its economic growth, after a successful previous two decades. The primary factor was structural flaws in its export-driven growth model, one driven by the Deng Xiaoping's reforms which turned China into the "factory of the world". As a result, it made China dependent on global demand and any corresponding decline. A similar situation took place during the GFC, when the reduced demand in consumer markets in the United States and the European Union badly hit the export industries in China, leading to a 30 percent contraction in exports (Harvey, 2017). This external shock could potentially have led to a domestic recession, in an environment struggling with high labor costs and over-accumulation of capital. Furthermore, Dr Li Mingjiang (personal communication, 2020), associate professor at S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University, Singapore, noticed that this external shock resulted in massive unemployment as well. The unemployment rate in China rose to all time high of 4.3 percent in March 2009 (Cai and Chan, 2009). Thus, the recession resulted in surplus capital, industrial overproduction and unemployed labor, potentially destabilizing issues where the legitimacy of the Chinese Communist Party (CCP) is dependent on economic growth. According to Hoo Ke Ping, an independent analyst in Malaysia, Dr Li Mingjiang, Dr Janet Xuanli Liao, senior lecturer in energy and climate diplomacy at the Centre for Energy, Petroleum and Mineral Law and Policy (CEPMLP), School of Social Sciences, University of Dundee, United Kingdom, and Rafiullah, a development and public policy expert in Pakistan, the launching of the Belt and Road Initiative (BRI), was meant to address the problem of capital over-accumulation or excessive production (personal communication, 2020).

This article examines the BRI's flagship project: the China-Pakistan Economic Corridor (CPEC), which is helping China to mitigate the crisis of surplus production, especially in its coal industry. Existing literature related to the project focuses mainly on geopolitical perspectives, but this article focuses on the energy projects (especially coal), utilizing David Harvey's concept of spatial fix. Harvey (2014) argues that in a capitalist mode of production, the emergence of crises is normal, primarily indicated by the over-accumulation of capital, defined as "some combination of surplus capital looking for productive investment, surplus commodities looking for buyers, and surplus labor power looking for productive employment" (Ekers and Prudham, 2017: 1374).

Harvey (2014) argues that when capital remains idle and does not find profitable outlets for a long period of time, such crises emerge. Here, capital is to be considered as a process: one through which money is invested in productive labor for greater profitability. If this process stops, then economic growth would stop, hence leading to surpluses of capital (money, commodities and machines) as well as labor (unemployed workers), resulting in social unrest and ultimately threatening the legitimacy of a government. In case of China, the coexistence of private capitalists and entrepreneurs means it can be considered as a capitalist state, regardless of CCP political policy. Harvey (2014: 151) explains that such crises are often managed by a "spatial fix", i.e. the "absorption of these surpluses through geographical expansion and spatial reorganization helps resolve the problem of surpluses lacking profitable outlets". Simply put, spatial fix is a strategy to find new avenues or opportunities to accommodate capital and labor, and earning profit by utilizing them. The spatial fix can take several forms; for instance making an environment conducive to business by relaxing trade and investment hindrances or identifying new spaces for

investment and the building of extensive infrastructure that can both absorb surpluses and provide new means for the infiltration of capital into a new geographical space. Examples of such fixes are evident in history. Britain, for example, exported its surplus capital and labor to the United States, Argentina and South Africa in the 19th century. Likewise, Japan, South Korea and Taiwan exported surplus capital, mostly to China, in the last two quarters of 20th century (Harvey, 2014).

In this article, the assumption is that China is looking to resolve its capital accumulation through CPEC. The paper is divided into three sections. First, it discusses China's motivation for investing in the energy sector of Pakistan vis-à-vis CPEC. Second, it discusses the "pull factor" from Pakistan and third, the implications of the project for Pakistan.

2. China's Drive

Among the factors that were causing economic stagnancy in China was overproduction in several industries. The problem of excess production was reported to the National People's Congress by the State Council in 1997, stressing that "the excess production capacity of certain industries" is a problem of grave nature, and that a structural adjustment was needed to overcome the problem (State Council of PRC, 1997). Since 2003, the National Development and Reforms Commission (NDRC), the key office tasked with long-term economic planning, has highlighted annually that such overproduction is the main problem of the national economy (Zhang, 2017). The overcapacity was a problem in both labor-intensive traditional industries and high value-added emerging industries, and nine were identified as "problem creators": steel, cement, plate glass, aluminum, coal, ship building, solar and wind energy. The common practice in a market economy to resist

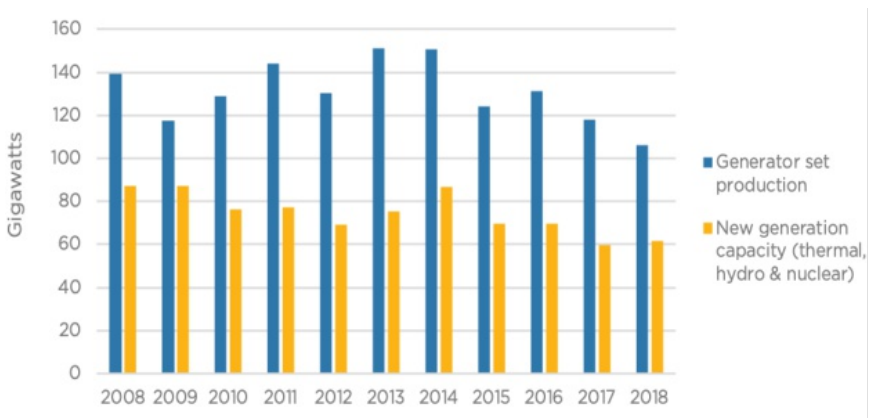
overcapacity is to reduce the most inflated industrial segments. But where the legitimacy of the CCP is dependent on economic performance, it would not be a feasible option. Given the party's leadership staunch commitment to high economic growth, any solution causing even short-term economic contraction would be impractical. Therefore, a spatial fix would be required, as seen in the case of the coal industry through CPEC. Therefore, the CCP regime tasked domestic financial institutions to provide assistance to Chinese companies in developing power projects abroad, thus allowing surplus production to be absorbed by making investments in new geographical spaces: such as Pakistan.

2.1. China's Quest for New Markets to Accommodate the Excess Capacity of Coal Equipment

The development of coal power plants by the Chinese power companies in Pakistan and several other countries actually reflects Beijing's quest to create a demand for its firms and excessive coal equipment, which was facing a decline in demand at home due to China's strategy of "going green". The major share in China's energy mix is thermal energy (mainly coal). The going green strategy impacted the thermal energy industry. In 2008, the share of thermal energy was 76 percent in the country's energy mix but by 2017, it fell to 69.3 percent (National Bureau of Statistics of China, 2019). In other words, renewable resources are replacing coal in power generation capacity in China, thus requiring coal equipment manufacturers to look for new foreign markets. They target countries with abundant coal reserves but are lacking in equipment and generation capacity (Rafiullah, personal communication, 2020). The need to develop Pakistan's coal reserves became their choice of investment.

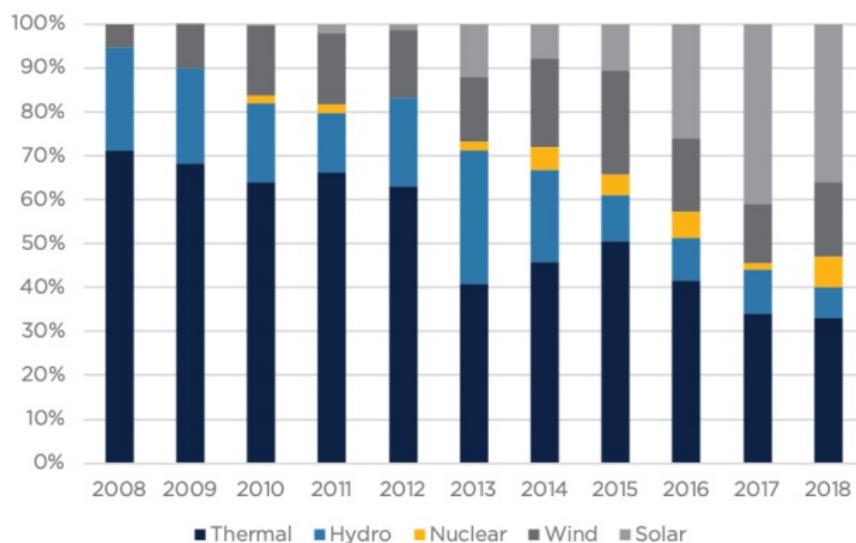
The problem of excess capacity in China's coal industry is evident from its production of generator sets (the type mainly used in thermal, hydro and nuclear plants) from 2008 to 2018, which exceeded the number of sets already installed in China (see Figure 1).

Figure 1 Generator Sets Produced from 2008 to 2018 in China



Source: Downs (2019).

The excess capacity resulted partly due to the inclusion of renewables into China's energy mix. The 11th five-year plan (2006–2010) set a target of increasing the share of non-fossil fuels to 10 percent (Grieger, 2015); the first time China took this step. The target was further increased in subsequent five-year plans (11.4 percent and 15 percent in the 2011–2015 and 2016–2020 plans respectively) with the target for 2030 set at 20 percent (Lin, 2016). Thus, the share of thermal energy saw a significant decline at the expense of the share of renewables such as solar and wind energy (see Figure 2).

Figure 2 China's Energy Mix from 2008 to 2018

Source: Downs (2019).

In addition to the inclusion of renewables, another factor for the decline in thermal energy's share was devolution of authority in developing new coal fired power plants in the individual provinces to avoid time-consuming bureaucratic procedures in the decision-making process. Beijing was of the view that the provinces, based on local demands for power, could make quick and sound decisions about new generation capacity and devolved power accordingly (Hart, Bassett and Johnson, 2017). The provincial governments reacted promptly for two reasons. First, this would help in generating employment opportunities, and the investment in fixed assets would enhance the revenue from taxes. Second, given the "go green" strategy, they had limited time to utilize their authority. In this regard, some 210 permits for new coal fired

power plants were granted in 2015 (Myllyvirta and Shen, 2016), which resulted in extra, unnecessary generation capacity solely from coal. For instance, in 2014, the coal fired generation capacity in China was 35 gigawatts (GW) but increased to 54 GW in 2015.

The excessive production of generator sets with low demand at home needed to be fixed, rather than being simply stored. Thus, the government encouraged the producers to export the excessive equipment through a spatial fix: resolving industrial overcapacity by exporting it to a new geographical space. The seriousness of industrial overcapacity for China is evident from the policy document, “Guiding Opinions of the State Council on Resolving Serious Overcapacity Contradictions”, published in 2013, wherein the State Council of China urged Chinese companies to commence large scale infrastructure and industrial ventures abroad (State Council of PRC, 2013). Likewise, the “Guiding Opinions of the State Council on Promoting International Cooperation in Industrial Capacity and Equipment Manufacturing”, released in 2015, stressed that in order to expand the country’s exports of power equipment (particularly those in thermal and hydropower generation), projects abroad should be developed at a much faster pace (State Council of PRC, 2015).

To finance the export of excessive production, the government of China extended monetary support to Chinese banks and companies. This would serve two purposes: (1) to help the Chinese companies export surplus production and (2) to diversify China’s foreign exchange reserves, moving from debt buying (in terms of bonds) to debt financing, as seen in the policy documents by the government and the speeches of President Xi Jinping. For instance, the “Guiding Opinions of the State Council on Resolving Serious Overcapacity Contradictions” urges enhanced debt financing to back the international expansion of industries facing overproduction (State Council of PRC, 2013). Similarly, the

policy banks of China, for example the Export-Import (Exim) Bank and the China Development Bank (CDB), were encouraged by the “Guiding Opinions on International Production Capacity” to enhance financing for projects abroad, which would help in expediting the exports of Chinese products – specifically power equipment (State Council of PRC, 2015).

Furthermore, in terms of financial support for the BRI projects, Xi announced US\$113 billion in an additional financial assistance at the first BRI forum in Beijing, stating that:

China will scale up financing support for the Belt and Road Initiative by contributing an additional RMB100 billion to the Silk Road Fund, and we encourage financial institutions to conduct overseas RMB fund business with an estimated amount of about RMB300 billion. The China Development Bank and the Export-Import Bank of China will set up special lending schemes respectively worth RMB250 billion equivalents and RMB130 billion equivalents to support Belt and Road cooperation on infrastructure, industrial capacity and financing.

(Xinhua, 14th May 2017)

The provision of monetary support on such a large scale to the BRI projects indicates the severity of domestic economic crises in China. The support for coal-based power plants abroad by the Chinese state-owned financial institutions is the practical manifestation of such guidance. Based on the estimates of 2018, funding provided by Chinese banks for coal power projects abroad was around 25 percent, with Bangladesh, South Africa, Vietnam and Pakistan as beneficiaries, in that order.

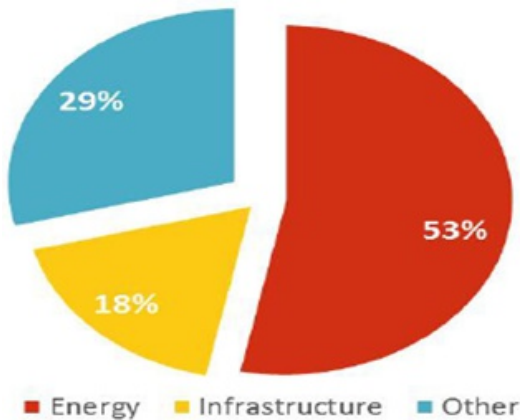
In this context, it is understandable that the power projects under CPEC constitute a new geographical expansion for China to expedite the export of power equipment. To better understand this scenario, it is

pertinent to understand the composition of the multi-billion-dollar CPEC project, like its sectors and terms of investments, seen below.

3. Composition of CPEC

CPEC was initially valued at US\$46 billion, but the valuation was raised to US\$62 billion in 2017. This huge amount is aimed at the development of several major sectors: energy, infrastructure (including the development of Gwadar port) and trade. Most funds are allocated for the energy sector, where the projects are worth US\$34 billion, followed by the building of infrastructure (which includes construction of vast network of highways, railways, fiber optics and Gwadar port) (see Figure 3). To enhance the integration of trade between China and Pakistan, the establishment of Special Economic Zones (SEZs) is also included in CPEC (Ngeow, Mahesar and Rogers, 2018; Khan and Liu, 2019).

Figure 3 Percentage Share of Sectors under CPEC



Source: Chattha and Hyder (2019: 103).

3.1. CPEC Energy Projects

The energy projects are divided into four categories, i.e. coal based, hydro, solar and wind energy, where more than 50 percent projects of power generation are coal based. Detailed breakdowns are given in Table 1 that clearly indicates the emphasis on coal-based plants, hinting at China's overproduction in the coal industry and its pursuit of a spatial fix through CPEC. Additionally, it is evident that not only coal, but other energy projects are related to other industries where China suffers overproduction: such as solar and wind energy.

3.2. Financing CPEC Projects

Studying the mechanism of funding CPEC would help in understanding how, through different instruments of funding; China is attempting to accommodate its firms and thus its surplus production. According to Rafiullah (personal communication, 2020), there are four instruments through which CPEC projects are financed:

- 1) *Investment*. Chinese firms that are executing the project borrow money from Chinese financial institutions. The interest rate on these commercial loans range between 4-5 percent.
- 2) *Concessional Loans*. Money goes to Government of Pakistan, with an interest rate of 2 percent, and the period given for repayment is 20 years.
- 3) *Interest free loans*. Negligible interest on these loans, and the repayment period varies.
- 4) *Grants*. Given by the government of China, they actually aim to enhance cooperation and state capacity.

Table 1 Energy Projects under CPEC

| | Project | Fuel | Capacity (MW) | Estimated cost (USD million) | Commercial operation date |
|----|--|-------------------|-------------------------------------|------------------------------|---------------------------|
| 1 | Port Qasim coal power plant | Imported coal | 1,320 | 1,912.2 | April 2018 |
| 2 | Suki Kinari hydropower station | Hydro | 870 | 1,707 | December 2022 |
| 3 | Sahiwal coal power plant | Imported coal | 1,320 | 1,912.2 | October 2017 |
| 4 | Engro Thar Block II coal power and mine project | Domestic coal | 660 | 995.4 | July 2019 |
| 5 | TEL Thar Block II coal power project | Domestic coal | 330 | 497.7 | July 2019 |
| 6 | Thar Block II surface mine | Not Available | Not Available | 1,470 | December 2018 |
| 7 | Hydro China Dawood wind farm | Wind | 50 | 112.65 | April 2017 |
| 8 | Gwadar coal power project | Imported coal | 300 | To be determined | To be determined |
| 9 | Quaid-e-Azam solar park | Solar | 1,000 | 1,302 | August 2016 (300 MW) |
| 10 | UEP wind farm | Wind | 100 | 250 | June 2017 |
| 11 | Sachal wind farm | Wind | 50 | 134 | April 2017 |
| 12 | SSRL Thar Block I coal power and mine project | Domestic coal | 1,320 | 1,912.2 | |
| 13 | Karot hydropower station | Hydro | 720 | 1,698 | December 2021 |
| 14 | Three Gorges second and third wind power projects | Wind | 100 | 150 | June and July 2018 |
| 15 | Hub coal power plant | Imported coal | 1,320 | 1,912.2 | February 2019 (660 MW) |
| 16 | Matiari-Lahore HVDC transmission line | Not available | 4,000 MW + 660 kv transmission line | 1,658 | March 2021 |
| 17 | Matiari (Port Qasim)-Faisalabad HVDC transmission line | Transmission line | Transmission line | 1,500 | 2018/19 |
| 18 | Thar Mine Mouth Oracle power plant and surface mine | Domestic coal | 1,400 | To be determined | To be determined |

Source: Adapted from the official website of CPEC, available at <http://cpec.gov.pk/>.

According to Rafiullah (personal communication, 2020), out of CPEC's total funding, 70 percent is in the form of investment (the first instrument) in the energy sector. Chinese investments are conditional, meaning that the contract should be given to Chinese firms, using Chinese labor and other resources. So, with China having a monopoly over the contract, the recipient would be obliged to *import* the required resources from China. In this regard, Dr Aziz (personal communication, 2021), faculty member at the Department of Economics, Baluchistan University of Information Technology Engineering and Management Sciences (BUIITEMS) Baluchistan Pakistan, noticed that the best example is the Port Qasim Coal Power Plant, where 99 percent of the equipment employed was manufactured by Chinese companies, which included turbines, steam engines and generators, valued at more than US\$1.1 billion. It is believed that the Hub Coal Power Plant stands to utilize exported equipment worth US\$900 million (*chinaqw.com*, 14th February 2019).

Moreover, under CPEC, a High Voltage Direct Current (HVDC) transmission line, 878 kilometers long with a 660 kV capacity, has been developed, carrying the electricity produced by seven coal-based power plants between Matiari and Lahore. The transmission line is built by the State Grid Corporation of China (SGCC) using its technology, on the basis of a build, own, operate and transfer (BOOT) scheme. Around 80 percent of the project has been developed as per Chinese technical standards. In terms of role of the project in driving exports, according to the one estimate, the project would help to drive exports of equipment worth US\$1.66 billion (*NS Energy*, 2020).

Having assessed the composition of CPEC and China's push factor for investing in the energy sector of Pakistan (specifically CPEC's coal-based plants), the section below will now analyze the pull factor for

Pakistan, which has not only contributed, but also provided a window of opportunity for China to invest in its domestic energy sector.

4. Energy Crises in Pakistan as a Pull Factor

This section will begin by presenting a detailed picture of the energy shortfall crisis faced by Pakistan since 2006. Being a developing country, there was a gap between supply and demand in the energy sector. The severe deficit became a national issue, starting in the middle of the first decade of the 21st century when Pakistan started facing energy shortfall by 2006. The problem became unsustainable six years later. But, with the right sort of investments, Pakistan had the capacity to fill the energy shortfalls. Table 2 indicates the extent to which energy shortfall increased from -55 megawatt in 2006 to -6,758 in 2012.

The origin of energy crises in Pakistan is rooted in the 1990s: since then, the demand for electricity increased but public sector resources were limited in meeting the demand. Therefore, in 1994, the government began a policy to bring investments from private sector to enhance power generating capacity by ensuring certain incentives. For instance, they offered an exemption from import taxes and income taxes, while allowing investors to use any kind of fuel in the project. The incentives proved fruitful and successfully secured investments from the private sector; hence adding around 4000 MWs in generation capacity (Fraser, 2005). The fuel for the power plants installed by the private sector was mostly imported oil because of its low prices in the 1990s. This was the most cost-effective option at that time. Investments from the private sector to install new power plants running on imported oil significantly contributed to transforming the power generation mix of Pakistan, and it is evident from the fact that the share of hydropower's installed capacity fell to 27 percent in 2017 from 67 percent in 1985, while

Table 2 Energy Shortfall in Pakistan during Peak Hours

| Financial year ending June 30 | Installed capacity (MW) | Maximum generation capability (MW) | Demand during peak hours (MW) | Deficit (MW) |
|-------------------------------|-------------------------|------------------------------------|-------------------------------|--------------|
| 2006 | 19,550 | 15,168 | 15,223 | -55 |
| 2007 | 19,681 | 15,575 | 17,487 | -1,912 |
| 2008 | 20,232 | 14,707 | 19,281 | -4,754 |
| 2009 | 20,566 | 16,040 | 20,314 | -4,274 |
| 2010 | 21,614 | 15,144 | 21,029 | -5,885 |
| 2011 | 23,342 | 15,430 | 21,086 | -5,656 |
| 2012 | 23,342 | 15,896 | 22,654 | -6,758 |
| 2013 | 23,725 | 16,846 | 21,605 | -4,759 |
| 2014 | 23,702 | 18,771 | 23,505 | -4,734 |
| 2015 | 24,961 | 19,132 | 24,757 | -5,625 |
| 2016 | 25,374 | 20,121 | 25,754 | -5,625 |
| 2017 | 28,399 | 22,148 | 28,476 | -2,969 |

Source: IRENA (2018).

the share of oil in power in 2017 was 26 percent (NEPRA, 2013). But a power plant running on imported oil is a viable option only if the price of oil is low, and if the price increases then the power generation costs will also increase. In fact, the cost of power generation in Pakistan skyrocketed when the oil prices dramatically increased in 2008 (when one barrel was valued at US\$147).

Although the new power generation capacity had helped the country to overcome its energy shortfall, due to the weak economic apparatus, a problem of circular debt in the energy sector emerged and caused the suspension of operations. In the power sector, there is a cycle of entities, such as the power producers, the purchaser, the distributor and the consumer. Generally, the entities do not get paid for long period of time due to a lack of funds – this nonpayment is referred to as circular debt (USAID, 2013). In Pakistan, the Central Power Purchasing Agency (CPPA) which is state owned is the single buyer of all electricity produced and connected to national grid, selling it to distribution companies, which in turn sells it to consumers (Malik, Qasim and Saeed, 2018). However, there emerged a situation when distribution companies struggle to pay the CPPA. There are several factors causing the distribution companies to fail to make full payments to the CPPA, such as the government's failure to compensate them on time, by giving them tariffs below market rates, consumers being unable to pay the bill and outright theft. Additionally, there are technical problems as well: for instance, the lines lose power due to poor transmission mechanisms. Consequently, the decreased recovery from distribution companies means that the CPPA cannot make full payments to the producers, who cannot pay for imported fuel, thus leading to suppliers cutting off the supply of fuel and causing the energy shortfall. In Pakistan, this happened in 2014 when circular debt led to the generation capacity (5 GW) going idle: this constituted almost 22 percent of total installed capacity being incapacitated (Zhang, 2018).

The energy crises in Pakistan badly hit the economy and local industry. In recent years, due to the energy crises, the GDP of Pakistan was reduced by 2 percent annually (World Bank, 2017). Cities like Faisalabad, which was known as the textile production capital, frequently faced blackouts. As a result, the textile industry faced

insolvencies which left thousands of workers jobless (*Dawn*, 3rd July 2011; *The Wall Street Journal*, 29th November 2013). Given Pakistan's weak economy and the frequent blackouts from 2008 and beyond, there was resentment among the public against the government. The need to strengthen the economy and reduce power shortages became the 2013 election manifesto of former Prime Minister Nawaz Sharif, at a time when an extended wave of terrorism discouraged foreign investors. Therefore, a pull and push situation developed between China and Pakistan. China needed a market for its over-accumulation and Pakistan was in dire need of solutions to revive its economy and address the energy crises.

In 2013, upon Nawaz Sharif's election as prime minister, he opened the country's power sector to Chinese investment. It is worth noticing that right after the elections, Chinese Premier Le Keqiang paid a visit to Pakistan. One explanation for this quick visit is that the Chinese were desperate to find a solution for China's domestic economic issues and its quest to accommodate its surpluses. Reciprocally, in July 2013, Nawaz Sharif made his first overseas visit to Beijing, and started lobbying with Chinese financial giants such as Exim Bank, China Investment Cooperation and the CDB, motivating them with the opportunities for investing in the coal fired and hydropower plants in Pakistan (*The Nation*, 5th July 2013). In other words, these official visits laid the ground for the development of the BRI in general and CPEC in particular.

It is estimated that upon the successful completion of the energy projects, a new capacity of 11,190 MW would be added to Pakistan's national grid. Given the total installed capacity of Pakistan is 24,823MW; the new capacity would constitute 45 percent of this total (NEPRA, 2015). Furthermore, given the number of coal-based power projects under the CPEC, it would significantly augment future coal's

share in the energy mix of Pakistan. As of 2017, this share was merely 3 percent, and it is estimated that by 2025, the percentage will increase to 20 (NEPRA, 2017).

Pakistan's energy crises compelled it to utilize its huge unexploited coal reserves, not only to reduce the electricity costs but also to save its foreign exchange reserves. In 1992, the Geological Survey of Pakistan and the US Agency for International Development (USAID) jointly discovered that the coal deposits in the Thar Desert in Sindh were estimated at around 175 billion tons (Engro, 12th July 2018). Due to lack of capital, technical expertise and infrastructure, the Thar reserves remained unexploited. Furthermore, the other factor that has stopped the resources to be mined is its poor quality, which has discouraged foreign investors (Reuters, 27th February 2017). The form of these deposits is in lignite (also known as brown coal) and is described by General Electric "as combustible as soggy logs in a fireplace" (Kover, 2018). Furthermore, the restrictions by global financial institutions, for instance the World Bank and European Bank, which regulated that reconstruction and development aid would not finance projects where there were chances of high carbon emissions, also kept the coal unexploited (Reuters, 17th July 2013). While the World Bank agreed to support a power project worth US\$30 million in the Thar Desert, it retracted its support because of the bank's focus on low carbon technologies, and the project was deemed incompatible (*The Express Tribune*, 15th June 2012). Therefore, the only option left was Pakistan to request for investment from China which in turn led to the development of coal plants under the CPEC project in Pakistan.

Since Pakistan's energy mix has a high share of expensive imported oil and gas, there was compelling need to minimize petroleum consumption in the energy sector and utilize the most cost-effective means, i.e. coal based power plants. In 2014, around 40 percent of power

generated from high-speed diesel and residual oil plants, whereas power generated by coal was just 0.1 percent (*State Bank of Pakistan Annual Report 2014–15*). The difference in power generation costs can be seen in Table 3.

Table 3 Average Cost of Power Generation (rupees/kilowatt hour) in Pakistan

| Source | Financial year 2014 | Financial year 2015 |
|-------------------------|---------------------|---------------------|
| Hydro | Not available | Not available |
| RFO (Residual Fuel Oil) | 16.0 | 12.4 |
| Gas | 4.8 | 4.7 |
| High-speed Diesel | 22.2 | 17.4 |
| Coal | 4.0 | 4.5 |
| Nuclear | 1.3 | 1.2 |
| Wind | Not available | Not available |

Source: State Bank of Pakistan annual report of the financial year 2014–15, available at: <<https://www.sbp.org.pk/reports/annual/arFY15/Energy.pdf>>.

It is clearly evident from Table 3 that the cost of power generation from imported oil has become prohibitive, being four times higher than that of coal. Moreover, diversification not only helps in reducing the cost of electricity, but would also help in maintaining the foreign exchange reserves via the reduction of the import bill. According to the 2011 estimate of the Planning Commission of Pakistan, around US\$8 billion could be saved by converting the 12 power plants running on imported fuel into coal-based power plants (*Pakistan Today*, 20th October 2013).

So, to utilize the coal available in the Thar Desert, Pakistan needed capital, technical expertise and the infrastructure which was still lacking. To cope with the problem and attract foreign investment, Pakistan offered incentives such as high returns on equity (ROE), sovereign guarantees and revolving funds (only for China), aimed to pay the power

producers without any interruptions. But the most important element behind offering these incentives was the assessment made by the Xi administration and power companies on the possible perils of investing in Pakistan. It is evident from the guidance issued to Chinese companies by the State Administration of Taxation, which stated that with the external debt of Pakistan being very high, and its debt servicing capacity low, there was a high risk if China were to invest, hence requiring Islamabad to offer those incentives, particularly high ROE.

Table 4 Rates of ROE Offered by Islamabad

| Type of coal | 2013 | 2014 | Description |
|--------------|------|--------|--|
| Imported | 20% | 24.5% | 220 MW 40-month construction period |
| | | 27.2% | 660/1099 MW 48-month construction period |
| Local | 17% | 26.5% | 220 MW 40-month construction period |
| | | 29.5% | 660/1099 MW 48-month construction period |
| Thar | | 30.65% | 330 MW 40-month construction period |
| | | 34.49% | 660/1099 MW 40-month construction period |

Source: Adapted from the official website of the National Electric Power Regulatory Authority (NEPRA), Pakistan, available at:

<<https://nepra.org.pk/tariff/Tariff/Upfront/COAL%20UpFront%20Tariff.PDF>,
<https://nepra.org.pk/tariff/Tariff/Upfront/Decision%20of%20the%20Authority%20Upfront%20Coal.PDF>>.

As the existing tariffs offered in 2013 by NEPRA could not attract foreign investments, and therefore it revised and increased the tariffs in 2014 accordingly.

Looking closely at the sovereign guarantees offered in Pakistan's Power Generation Policy of 2015, it guaranteed the "Payment obligations of the power purchaser" (CPPA) to power producing companies (Ministry of Power and Water, Pakistan, 2015). This added offer of security by Islamabad attracted Chinese companies to invest –

for instance, one of the owners of the Port Qasim Electric Power Corporation is Power China, which was very concerned about the risk of delayed payment for electricity but saw the sovereign guarantee offered as a reasonable form of security which motivated its investment (China Power Construction Corporation Limited, 2015). Furthermore, a sovereign guarantee of US\$700 million was given by Pakistan's government to a conglomerate of banks from both China and Pakistan, which provided US\$1.5 billion for the development of power plants and integrated coal mines in Block 2 of the Thar Desert (Engro, 15th July 2018; *Dawn*, 22nd December 2015).

Furthermore, keeping in view the concerns of foreign investors and their reluctance to invest in Pakistan, especially in its energy sector, Islamabad agreed to establish a special revolving fund just for China to avoid any delays in payment to the power producers, meant to protect these investors who were very much concerned about the risk of delays in payments due to several factors, such as overutilization of power infrastructure and political instability (*Dawn*, 19th February 2016). If the CPPA failed to pay the power producers, then the government of Pakistan itself would be liable to pay them, thus gaining the confidence of investors from China.

5. Implications for Pakistan

Given the volume of Chinese investments for infrastructure development under the BRI, concerns are growing that it may confront the borrowing countries with debt burdens. For instance, a publication by the Center on Global Development identified possible chances of increases in debt burdens for the borrowing states (Hurley, Morris and Portelance, 2018). Likewise, officials of the International Monetary Fund (IMF)

have evaluated a potential risk of debt associated with BRI funding. Such apprehensions are evident in IMF's Maurice Obstfeld (IMF, 9th October 2018), an official at IMF, noting in a press conference that it is understandable that Pakistan is lacking in infrastructure but:

it is important that the design of projects, the governance of projects be sound and that excessive debts which cannot be repaid are avoided because that just leads to financial instability and lower growth.

Moreover, it has been sometimes observed that China deliberately attempts to increase the risk of debt burdens and makes the borrowing countries unable to repay the loans, thus gaining political influence and control over strategic infrastructure. Therefore, it is not surprising, debates about the potential economic fallout of CPEC investments in Pakistan is increasing. For example, Ahmed Khan (personal communication, 2020), Lecturer at Department of International Relations, Baluchistan University of Information Technology Engineering and Management Sciences (BUIITEMS), noticed that:

[w]hile it is not clear as far as to how much truth it bears, recently scholars have dubbed it as a Chinese debt trap. Besides, countries like Malaysia and Myanmar have gone a step further by scaling back and exiting some of the previously-agreed BRI projects with China. The reasons these countries present is its debt problem and finances. If a similar thing happens with Pakistan then it will be in no position to mitigate such a scenario.

Similarly, Basharat Ullah (personal communication, 2020), lecturer at the Department of International Relations, Baluchistan University of Information Technology Engineering and Management Sciences

(BUIITEMS) Baluchistan, noticed that CPEC is indeed a Chinese debt trap whereby Pakistan's economic sovereignty effectively has been mortgaged to China. More concerning Basharat is also of the view that low standard of transparency when approving projects, giving away of major contracts to Chinese companies, and fear of raising debt trap has given rise to Sino skepticism in some quarters of Pakistani society. There is even debate over Pakistan's sovereignty and it is noticed by Dr Adam Saud (personal communication, 2020), professor and dean of the Faculty of Humanities and Social Sciences at Bahria University, Pakistan, that the "[s]overeignty of Pakistan may also be jeopardized due to excessive Chinese involvement". Similarly, Dr Nasreen Ghuffran (personal communication, 2020), Professor at the Department of International Relations, University of Peshawar, Pakistan, noticed that there is a possibility that "CPEC would make Pakistan a colony of China and may enter into a patron-client relationship or drag it into a debt trap". Furthermore, there are concerns over the implications of Chinese funds floating in the domestic economy and it has been noticed by Kazim Ali (personal communication, 2020), research associate at Centre for Global and Strategic Studies, Islamabad, Pakistan, that Pakistan's overreliance on Chinese investments has the ability to cause a major economic shock to the domestic economy which in the longer run will not allow Pakistan to achieve self-sufficiency.

There are also concerns that the BRI projects will enable China to exploit the strategic infrastructure (establish naval bases at ports) of countries that are not able to pay back the loans (*Roll Call*, 7th August 2018). Siffat Ali (personal communication, 2020), research associate at Centre for Pakistan and Gulf Studies Islamabad, Pakistan and Visiting Faculty member at Department of International Relations, International Islamic University Islamabad, Pakistan, notes that China's influence in the CPEC will grow once it secures the trade route from Gwadar to

Kashgar. He highlights the example of Sri Lanka's Hambantota port as an alarming scenario if Pakistan is unable to repay Chinese loans. Pertaining to China's deliberate attempts to seize a level of control, Ray Washburne noted that the projects financed by China "economically don't make a lot of sense; it's a loan-to-own program the Chinese are doing" (*The Wall Street Journal*, 31st August 2018). Likewise, when countries that accepted Chinese funds for investment (including Pakistan) approached IMF for bailout packages, grave concerns were expressed by a US senator in a letter to the then Secretary of State and Secretary Treasury that "China attempts to hold other countries financially hostage and force ransoms that further its geostrategic goals" (Grassley, US Senator for Iowa, 2018).

Among the BRI countries, Pakistan appears prominently in the discussions on debt sustainability because of its growing debt burden. It is evident from the fact that its debt to GDP ratio in 2017 was 70 percent, and in 2020 it reached 87 percent. The ratios stated are not considered positive signs for economies, given that countries having more than a 50–60 percent ratio are highly likely to default on repayments (Hurley, Morris and Portelance, 2018). Among other sources, Chinese lending to Pakistan has also contributed to increasing its debt burden. In 2019, the IMF published a report which stated that out of Pakistan's total outstanding debt of US\$85.5 billion, 26 percent was due to the bilateral and commercial loans from China (IMF, 2019).

Based on the discussions on the energy sector projects under the CPEC, it would not be wrong to say that Pakistan may face an increase in sovereign debt. There are two valid reasons for this. First, sovereign guarantees have been issued for payments by Pakistan's government to the power producers, from the state owned CPPA. Second is the chance of increases in circular debt due to the poor transmission and distribution mechanism.

Table 5 Debt Financing Arrangements for Select CPEC Power Projects in Pakistan

| Project | Debt:equity ratio | Lender | Borrower | Borrower's owner | Amount (\$ million) |
|--|-------------------|---|---|--|-----------------------------|
| Port Qasim coal power plant | 75:25 | Exim Bank | Port Qasim Electric Power Co. | PowerChina, Al Mirqab Group | 1,550 |
| Suki Kinari Hydropower Station | 75:25 | Exim Bank, ICBC | SK Hydro | China Gezhouba Group, Haseeb Khan | 1,416 |
| Sahiwal coal power plant | 80:20 | Industrial and Commercial Bank of China (ICBC) - led syndicate | Huaneng Shandong Ruyi (Pakistan) | Huaneng Shandong Power, Shandong Ruyi Group | 1,440 |
| Engro Thar Block II coal power plant | 75:25 | Bank of China, Bank of Communications, China Construction Bank (CCB), CDB, China Exim Bank, ICBC, Pakistani Banks | Engro Powergen Thar Limited | Engro Powergen, China Machinery & Engineering Corp., Habib Bank, Liberty Mills | 831 |
| TEL Thar Block II coal power plant | 75:25 | CDB, Habib Bank | Thar Energy Limited (TEL) | Hub Power Company, Fauji Fertilizer Limited, China Machinery & Engineering Corp. | 262 (from CDB) |
| Hydro China Dawood wind farm | 70:30 | ICBC | Hydro China Dawood Power | Hydro China, Dawood Power | 78.8 |
| Quaid-e-Azam solar park | 80:20 | CDB, China Exim Bank | Zonergy | ZTE Corp. | 62.2 (and RMB400 million) |
| UEP wind farm | 75:25 | CDB | United Energy Pakistan | United Energy Group, Orient Group Investment Holdings | 252 |
| Sachal wind farm | 85:15 | ICBC | Sachal Energy Development | Arif Habib | 100 (export buyer's credit) |
| Karot Hydropower Station | 80:20 | CDB, Exim Bank, Silk Road Fund (SRF), International Finance Corporation (IFC) | Karot Power Co. | CSAIL (owned by China Three Gorges Corporation, SRF, IFC) | 1,392 |
| Three Gorges second and third wind power projects | 70:30 | CDB | Three Gorges Second Wind Farm Pakistan, Three Gorges Third Wind Farm Pakistan | CSAIL (owned by China Three Gorges Corporation, SRF, IFC) | NA |
| Hub coal power plant | 75:25 | Bank of China, Bank of Communications, CCB, CDB, Exim Bank, ICBC | China Power Hub Generation Co. | China Power International Holding, Hub Power Co. | 1,500 |

Source: Downs (2019).

Theoretically, if the consumers in Pakistan pay their electricity bills in full, then the energy projects under the CPEC should not add more to the country's debt burden. The reason is that money is not borrowed directly by the government of Pakistan for the development of energy projects; in fact it is the financial institutions of China which will lend money to companies established for special purposes. The majority of these special purpose companies are Chinese-owned (see Table 5).

It is interesting to note in Table 5 that there are 13 energy projects for which both the lender and the owner of the borrower are Chinese financial institutions and companies respectively. Another important point is the ratio of debt in these projects. The debt-to-equity ratio for almost all projects is approximately 80:20, meaning that 80 percent funds come from the lenders. In such arrangements there is a possible risk that they may increase the sovereign debt of Pakistan. Among the sovereign guarantees offered by Pakistan, as stated in previous sections, one was the "Payment Obligation" guaranteed by the government in its energy policy of 2015, between the power purchaser (CPPA) and the power producers. To reiterate, in the event of the CPPA's failure to pay the power producers, there is a high possibility that the agreement may face termination. In such a situation, the power producers, under the sovereign guarantee for the recovery of its investments, can exercise the option of selling the power plant and can claim a return on their investment as well from Pakistan's government.

Another factor that may increase the problem of Pakistan's debt burden further is the lending of money by Chinese firms to the project-executing companies in foreign currency, primarily US dollars. If due to any reason (perhaps external shocks) Pakistan suffers a currency devaluation, which it did five times in 2018 alone, it will negatively affect the proper running of the power plants by making them financially

unfeasible (Bloomberg, 30th November 2018). The reason is that power projects earn revenue in Pakistani Rupees, while the loans to the companies are provided in US dollars – so if the Pakistani Rupee is devalued, then this would definitely increase the cost of debt servicing and may also increase the risk of becoming a defaulter.

Moreover, the increase in circular debt is also a factor that can cause increases in the sovereign debt. Energy produced under the CPEC power projects may possibly augment circular debt. The primary factor responsible for this increase would be the constant percentage increase of line losses due to poor transmission and distribution infrastructure. The other factor contributing to circular debt would be the increase in consumption of electricity and non-payment of bills. So, when there is circular debt unsustainability between the stakeholders in the power sector, the government manages the crisis either by paying the debt of the sector concerned – or to minimize the debt, it borrows money through a method known as government borrowing. Such arrangements are evident from the fact that the government of Pakistan, under the premiership of Nawaz Sharif, settled around US\$4.8 billion of circular debt (*Dawn*, 23rd July 2013). Likewise, the incumbent government of Imran Khan borrowed US\$1.44 billion from Islamic banks to settle the circular debt (Reuters, 2019). Recently, in 2021, there is a capacity payments issue and an amount of US\$1.4 billion is payable to Chinese companies who invested in power projects (*Dawn*, 20th September 2021).

In addition to the problem of debt burdens, another element of concern is the insurance coverage of the projects by China's export guarantee agency, Sinosure, the country's only official agency that deals with such guarantees. The mandate of promoting overseas investment and exports of Chinese equipment is given to this agency. It provides insurance against any economic losses, such as non-payment due to

reasons of war or contract breaches, for example, covering up to 95 percent of losses (Sinosure, n.d.). Any Chinese bank looking to lend money, or firms seeking to invest in projects overseas, is required to purchase an insurance policy from this agency. Since the costs of coal power projects and the risks of lending credit are high in countries like Pakistan, the guarantees by Sinosure are very vital. In case of Pakistan, 11 projects of power sector are covered by Sinosure, and the insured amount is valued at US\$14.92 billion (*China Banking and Insurance News*, 25th April 2019). Pakistan's terms of engagement with Sinosure are structured in a way that the fee NEPRA will pay to Sinosure is 7 percent of the overall debt servicing. The overall cost of the project will include this figure as well (Miller, 2017).

For example, the power purchase contract of the Port Qasim Coal power plant included the sovereign guarantee offered by Pakistan, but still, Power China was worried that due to huge debts in the power sector of Pakistan, it would not be able to fulfill the guarantee. Therefore, Sinosure's guarantee was that if Pakistan failed to make the payments on time for power purchases, it would be considered as breach of contract and the company could file a claim with Sinosure. Insurance is a typical requirement for projects, of course, but the point worth noticing here is of the need for mandatory insurance via a Chinese state-owned enterprise, being a departure from international norms. The element of concern here is that China has been allowed by the government of Pakistan to dictate both elements of a project's financing, as well as the outcome in the event of project disruptions. Therefore, such a monopoly by China over the projects, especially energy, would ultimately cost the citizens of Pakistan because they would pay the prices set in any energy tariff.

5.1. Impact on Local Industry and the Import-Export Balance

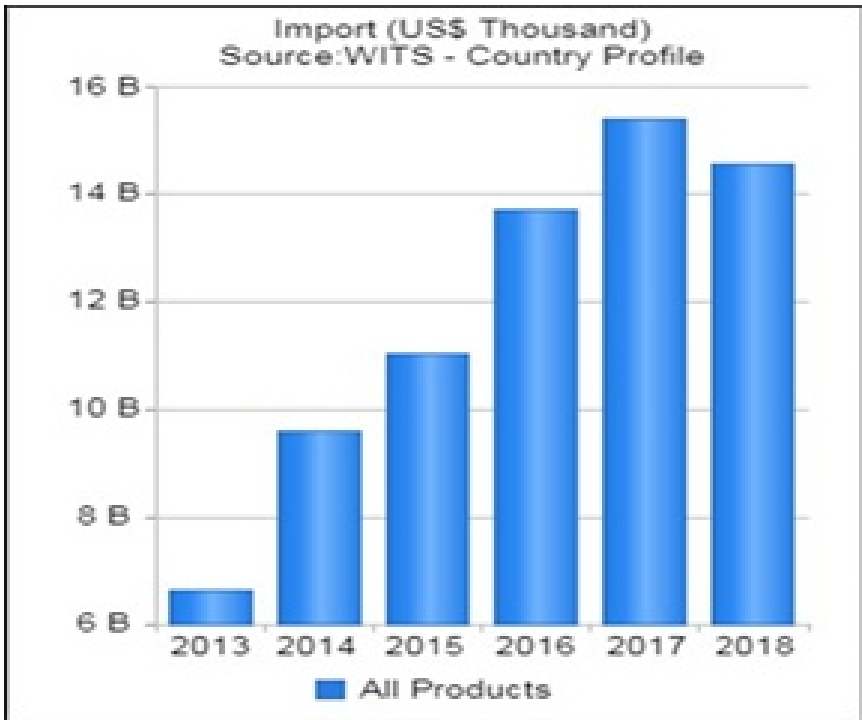
In addition to the problems of sovereign and circular debt, there is a convergent view in Pakistan that the Chinese economic engagement will badly affect the local industry. Dr Adam Saud (personal communication, 2020), noticed that:

There are chances that CPEC will badly hit industrial sector of Pakistan. Small industry is more prone to it. Leather and cutlery industries have already been struggling against the cheap Chinese products in Pakistani markets. When in full swing, there are chances that CPEC will further hit not only these two industries but each and every sector of Pakistan's economy. These effects will be seen even at the grassroots level.

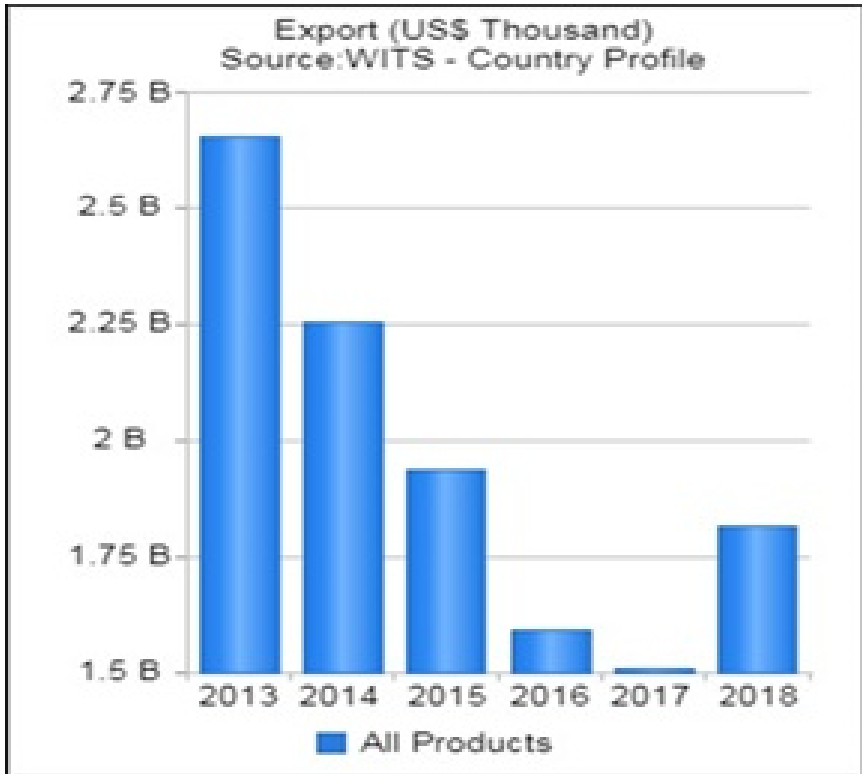
Likewise, Akhlaq Rasool Khan, lecturer at the Department of International Relations, Preston University Islamabad, Pakistan, who closely follows the CPEC, is concerned that the Pakistani economy will not be able to compete with the Chinese producers. These concerns are genuine: under the BRI, according Rafiullah (personal communication, 2020), China signs free trade agreements with every country in which it is going to invest in. Undoubtedly, free trade agreements are spurs for economic growth and provide opportunities to reach new markets. But for a developing country like Pakistan, due to its high domestic costs of production, it would be challenging for local products to compete in Chinese markets. On the other hand, under the terms of the free trade agreements, China exports more to the developing countries like Pakistan. Thus, exporting cheap products would ultimately negatively affect the local industry. Furthermore, this would result in a trade imbalance between Pakistan and China, meaning that Pakistan would be

exporting less and importing more from China. Such a scenario results in a decline in foreign exchange reserves and compels the country to borrow even more. The import-export imbalance between Pakistan and China can be seen in Figure 4 and Figure 5.

Figure 4 Pakistani Imports from China in USD (billions), 2013–2018



Source: From the World Integrated Trade Solution (WITS), available at: <https://wits.worldbank.org/CountryProfile/en/Country/PAK/StartYear/2013/EndYear/2018/TradeFlow/Import/Partner/CHN/Indicator/MPRT-TRD-VL>.

Figure 5 Pakistani Exports to China in USD (billions), 2013–2018

Source: From the World Integrated Trade Solution (WITS), available at: <https://wits.worldbank.org/CountryProfile/en/Country/PAK/StartYear/2013/EndYear/2018/TradeFlow/Export/Partner/CHN/Indicator/XPRT-TRD-VL>.

It is evident from Figure 4 that since 2013, the launching year of the BRI, that Pakistan's imports from China are on an increasing trend. However, Figure 5 clearly indicates that Pakistan's exports to China are declining, because of the free trade agreements signed between the two states. But the most interesting point is that the majority of Pakistan's

imports from China since the launch of CPEC are machinery. These Figures therefore justify the argument that the free trade agreements are benefiting China more than Pakistan.

5.2. The Problem of Emergent Conditionality

Emergent conditionality refers to a situation where a technologically advanced country exports and installs that technology, uses its technical standards in the recipient country and thus makes it dependent on the said exporting country for the management of a project (Carnegie Endowment, 2012). As noted, the prerequisite for Chinese investment is noncompetitive bidding, meaning that China will have a monopoly over a project. As reflected in Chinese investment in the energy sector of Pakistan, which due to lack of sufficient capital cannot afford advanced technologies for mammoth infrastructure projects and therefore become dependent on advanced countries. Meanwhile, where China has a monopoly over the projects, it exports excessive and advanced technology, resulting in emergent conditionality – meaning that due to a lack of skilled labor the host country *cannot* operate that advanced technology and then becomes dependent on skilled workers from an external source. There are concerns that this scenario may happen in Pakistan because of the lack of sufficient technical institutes and skilled labor. This point makes sense if we analyze the division of labor, as presented in Table 6.

It is worth noticing the share of labor (in this case, it is all skilled labor) from China in all three sectors, especially in energy and Gwadar port, in Table 6. This clearly reflects dependency on Chinese skilled labor, and thus validates the point made about emergent conditionality. Given that the CPEC is estimated to be completed by 2030, China cannot wait to first produce and train local skilled labor before executing its projects. Additionally, this import may destabilize the relationship

Table 6 Division of the Labor Force in CPEC Projects

| Sectors | Division of Labor | | |
|-----------------------|-------------------|---------|--------|
| | Local | Foreign | Total |
| Infrastructure | | | |
| • Roads | 47,800 | 3,780 | 51,580 |
| Energy | | | |
| • Construction phase | 2,730 | 3,770 | 6,500 |
| • Operational phase | 1,107 | 671 | 1,778 |
| Gawadar Port and City | 250 | 850 | 1,100 |

Source: Rashid, Zia and Waqar (2018).

between Islamabad and the province of Baluchistan. There are nine projects under the CPEC in Baluchistan, and according to Dr Aziz Ullah (personal communication, 2020); around 350 unique skills are required to complete them. However, in Baluchistan there is a capacity of only 40 skills. This implies a huge gap in the skills required and skills available. In such a scenario, the skilled labor will either be imported from other provinces or from China. By doing so, there are concerns among the Baloch people that a demographic change in the long term will be the result (Dr Aurangzaib Alamgeer, personal communication, 2020), associate professor at the Department of International Relations, Baluchistan University of Information Technology Engineering and Management Sciences (BUIITEMS), Baluchistan, Pakistan. In the process of emergent conditionality in Pakistan, though China has successfully relocated its surplus labor, the ensuing implications for Pakistan's domestic stability is a major concern.

5.3. Environmental Impact of Energy Projects under the CPEC on Pakistan

The CPEC energy projects, in addition to increasing debt burdens, can also have a deep impact on the environment. It has been observed by the public in Pakistan that there are several environmental threats associated with the coal fired power plants under the CPEC. For example, Akhlaq Rasool Khan (personal communication, 2020), noted that in 2015, Pakistan assured delegates of the Paris Climate Change Convention that it would work to minimize the ratio of its carbon emissions, but the majority coal energy projects under the CPEC would cause difficulties for Pakistan to honor that pledge. Similarly, a government official in Pakistan (personal communication, 2020) observed that a threat of water scarcity is associated with the newly developed coal plants because both the mining process and the burning of coal for energy generation require much water. Another associated risk is the increase in the carbon emissions due to the poor quality of the Thar Desert lignite. The heating capacity of this form of coal is low, compared to bituminous coal. In other words, in order to obtain the required heat for power generation, more coal needs to be burned. In so doing, it will cause the generation of more greenhouse gases which would therefore have a definite impact on the health of the local community as well.

Although Pakistan would get its much-needed energy through CPEC, the terms of engagement with China would cost the country a lot more than it would gain by adding to Pakistan's debt problems, which are unsustainable in the long term. Therefore, such economic dependency would hamper Pakistan's independence in its foreign policy decisions. Additionally, Pakistan is losing sovereignty over its domestic energy infrastructure due to its heavy reliance on Chinese funds, technology, technical standards and skilled labor. Losing sovereignty over such a strategic sector would cause the country to be exploited in

many ways – such as the provision of credit for natural resources. Moreover, given the volume of coal-based energy projects, the degradation of the local environment may also include water scarcity as well as other woes.

In addition to unsustainable debt problems, the CPEC may also ignite geopolitical tensions between Pakistan and India. When CPEC was initiated in 2015, Prime Minister Narendra Modi of India deemed it unacceptable because several infrastructure projects under the CPEC traverse Gilgit–Baltistan which New Delhi also claims. At present, Gilgit-Baltistan is a semi-autonomous region, administered by Pakistan but New Delhi is worried that Islamabad may absorb this region constitutionally by making it its fifth province. India perceives the CPEC would be legally unchallengeable if and when Gilgit-Baltistan is granted constitutional status by Pakistan. Such encroachment will undoubtedly be perceived as threatening India’s sovereignty.

Furthermore, due to India-China rivalry, Indian policy-makers perceive Chinese expansionism through the CPEC as an attempt to contain India in the South Asian region. India is concerned with China’s active engagement of Gwadar Port, Hambantota Port in Sri Lanka and Chittagong Port in Bangladesh. The People’s Liberation Army Navy’s new strategy of combining “offshore defense waters” with protection of “open seas”, as well as the possibility of positioning these ports as future naval outposts further alarms India’s policy-makers (Hali, Tan and Iqbal, 2015). It is against this backdrop that India perceives the CPEC as a long-term Chinese strategy to counter and contain growing Indian influence in Afghanistan, Iran and the CARs. In an attempt to contain Chinese influence in South Asia, India has responded by developing Chabahar Port in Iran as a counterbalance to Gwadar Port (*The Economic Times*, 12th July 2018). More recently, India’s attempt to destabilize the CPEC can be evidenced by the activities of Kulbhushan

Yadav (viewed as an Indian spy by Pakistan), who operated in Baluchistan and Karachi. When captured, Yadav admitted to providing support to Baloch separatists for carrying out attacks in Baluchistan and Karachi during his testimony in the Pakistan's military court in 2016. Yadav was reported to have distributed US\$40,000 aimed at recruiting and training militants as well as to purchase weapons and explosive materials to attack Chinese nationals and companies working on CPEC projects around the country (Basit, 2018). The above highlights that the CPEC is becoming a key cause of tension between two nuclear weapon states in South Asia.

6. Conclusion

Domestic economic problems in China, such as surplus capital, industrial overproduction and unemployed labor are causing economic stagnancy. In a country where the legitimacy of the government is dependent on economic development, a decline in economic growth is a matter of serious concern. As explained by Harvey's discussion of spatial fix, the absorption of surpluses through geographical expansion helps resolve this problem. Accordingly, to stimulate a stagnating economy, China needed new geographical spaces to solve the problem of overproduction, particularly in the coal energy industry. CPEC, especially the energy sector component of the project, proved a vent not only for China's coal industry overproduction but also for those state-owned enterprises that were lacking demand at home, thus the share of CPEC projects is dominated by coal energy, with the equipment and executing companies mostly from China. On the other hand, the CPEC project is expected to help Pakistan address its energy crisis. Yet this is at the cost of increasing circular debt, sovereign debt, losing sovereignty over its energy infrastructure, damaging established procedures of

procurement due to noncompetitive bidding, long term dependency on China for project management and degrading country's environment. So, while China claims that CPEC is a win-win project, it is evident here that Pakistan loses, while China not only accommodates its surplus capital in Pakistan, but also making it economically dependent on Beijing.

Given these problems, when in opposition, Imran Khan who is now the Prime Minister of Pakistan, used to criticize the government of Nawaz Sharif for signing expensive deals with China and of corrupt practices in the CPEC projects. Thus, during the election campaign, Khan stressed that if his party came into power, he will review and revise all China related projects. Right after assuming office in 2018, Khan established a committee comprising of nine members to review all the projects under the CPEC. As a result, progress of CPEC projects became delayed and China was unhappy with Khan's criticism of the project. However, after a few months, when Pakistan faced severe economic issues, especially dwindling FDI, Khan travelled to China to request a bailout package, but Beijing refused to help (Tanvir, 2021). As a result, Khan's government was compelled to go to IMF for economic assistance.

Additionally, a diplomatic row with Saudi Arabia, which is Pakistan's key ally, also added to the economic woes of Pakistan. Saudi Arabia withdrew US\$1 billion of a US\$3 billion loan to Pakistan. In addition, it also stopped the supply of US\$3.2 billion oil credit (*Middle East Monitor*, 2020). Pakistan's need for Chinese investment increased after the incident with Saudi Arabia. The above mentioned critical economic issues transformed Imran Khan's approach towards the CPEC. Currently, Imran Khan is not only an admirer of the CPEC but also believes that the project is a manifestation of brotherly relationship between Pakistan and China (Tanvir, 2021). Contrary to Khan's earlier

beliefs, he is now more dedicated to completing the corridor at any cost. In so doing, Khan's government constituted a "CPEC authority", which is aimed to accelerate work on the projects under the CPEC. In this regard, the CPEC authority has been given substantial autonomy and huge administrative and monetary powers. Furthermore, the CPEC authority will also ensure the timely completion of the projects by mitigating any possible constraints (*The News International*, 8th October 2019).

In conclusion, while Pakistan needs Chinese investments, the experiences of other countries in terms of ambiguity and costs of BRI projects is a major cause for concern for Islamabad. For example, Malaysia suspended work on the construction of several pipelines and the East Coast Rail Link (ECRL) and renegotiated the terms of costs with Beijing. In a revised agreement, the cost of the project was curtailed to US\$10.3 billion from US\$15 billion, and the share of local partners was also increased from 30 percent to 40 percent (Jones and Hameiri, 2020). The Malaysian case implies that countries receiving Chinese investments under the BRI are concerned over the exploitative nature of the projects. While it is true that Pakistan is worried, however, given its weak economic stature and harsh geopolitical realities, it needs investments from China. Combined with existing challenges within Pakistan, the future of CPEC is questionable.

Notes

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References

- Basit, Abdul (2018). Attacks on Chinese Nationals and Interests in Pakistan are likely to continue. Here's why. *South China Morning Post* (Hong Kong), 27th November 2018 (Opinion). <<https://www.scmp.com/week-asia/opinion/article/2175238/attacks-chinese-nationals-and-interests-pakistan-are-likely>>
- Bloomberg (30th November 2018). Pakistan devalues rupee fifth time this year amid IMF talks. <<https://www.bloomberg.com/news/articles/2018-11-30/pakistan-s-rupee-falls-in-apparent-devaluation-amid-imf-talks>>
- Cai, Fang and Kam Wing Chan (2009). The Global Economic Crisis and Unemployment in China. *Eurasian Geography and Economics*, Vol. 50, No. 5, pp. 513-531.
- Carnegie Endowment for International Peace (Washington, DC) (10th January 2012). Conditionality in China's aid model. (Roundtable, Beijing) <<https://carnegieendowment.org/2012/01/10/conditionality-in-chi-na-s-aid-model-event-4024>>

- Chattha, Muhammad Khudadad and Mustafa Hyder (2019). China-Pakistan Economic Corridor: Where is the money going? *Journal of Infrastructure, Policy and Development*, Vol. 3, No. 1, pp. 100-114.
- China Banking and Insurance News* (中国银行保险报) (25th April 2019). 中国信保助 “ 一带一路 ” 建设走深走实 [China Export & Credit Insurance Corporation / Sinosure helps the construction of the “Belt and Road” to deepen and realize]. (Reported by 康民 / Kang Min.) <http://xw.sinoins.com/2019-04/25/content_289844.htm>
- China Power Construction Corporation Limited (9th April 2015). 中国电力建设股份有限公司对外投资公告 [China Power Construction Co., Ltd. foreign investment announcement]. <http://static.sse.com.cn/disclosure/listedinfo/announcement/c/2015-04-08/601669_20150409_2.pdf>
- chinaqw.com* (中国侨网) (14th February 2019). 日益规模化、多元化 海外投资保险护航走出去 [increasingly large-scale and diversified overseas investment insurance escort going global]. (Reported by 王俊岭 / Wang Junling. Source: *People's Daily* / 人民日报海外版) <<https://www.chinaqw.com/jjkj/2019/02-14/215318.shtml>>
- Dawn* (Pakistan) (3rd July 2011). Energy crisis leaves Pakistan textiles in tatters. <<https://www.dawn.com/news/641242>>
- Dawn* (23rd July 2013). Govt clears 480bn circular debt. <<https://www.dawn.com/news/1031180>>
- Dawn* (22nd December 2015). \$1.5bn loan pacts signed for first Thar coal mining, power project. <<https://www.dawn.com/news/1227907>>
- Dawn* (19th February 2016). ECC approves plan to set up special funds for CPEC projects. <<https://www.dawn.com/news/1240546>>
- Dawn* (20th September 2021). Government to make partial payments soon to anxious Chinese investors. <<https://www.dawn.com/news/1647302>>
- Downs, Erica (October 2019). *China-Pakistan Economic Corridor power projects: Insights into environmental and debt sustainability*. New York: Center on Global Energy Policy, School of International and Public

Affairs, Columbia University. <<https://www.energypolicy.columbia.edu/research/report/china-pakistan-economic-corridor-power-projects-insights-environmental-and-debt-sustainability>>

Ekers, Michael and Scott Prudham (2017). The metabolism of socioecological fixes: Capital switching, spatial fixes, and the production of nature. *Annals of the American Association of Geographers*, Vol. 107, Issue 6, pp. 1370-1388.

Engro Corporation (Karachi, Pakistan) (12th July 2018). Thar coal mining project – addressing Pakistan’s rising energy needs. <<https://www.engro.com/stories/thar-coal-mining-project-addressing-pakistans-rising-energy-needs/>>

Engro (15th July 2018). A historic milestone for mining and power projects in Thar Block II. <<https://www.engro.com/stories/a-historic-milestone-for-mining-and-power-projects-in-thar-block-ii/>>

Fraser, Julia M. (2005). Lessons from the Independent Private Power Experience in Pakistan. *Energy and Mining Sector Board Discussion Paper* No. 14 (May 2005). Washington, DC: World Bank. <<http://documents.worldbank.org/curated/en/729661468285358780/pdf/337700rev0LessPrivate0EnergyISB1N14.pdf>>

Grassley, Chuck (US Senator for Iowa) (10th August 2018). Grassley, senators express concerns over China’s “debt trap” diplomacy with developing countries. <<https://www.grassley.senate.gov/news/news-releases/grassley-senators-express-concerns-over-china-s-debt-trap-diplomacy-developing>>

Grieger, Gisela (2015). China’s shift to clean energies. *Briefing*, May 2015. European Parliamentary Research Service (EPRS), European Parliament. <[https://www.europarl.europa.eu/RegData/etudes/BRIE/2015/556981/EPRS_BRI\(2015\)556981_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2015/556981/EPRS_BRI(2015)556981_EN.pdf)>

Hali, Shafei Moiz, Tan Shukui and Sumera Iqbal (2015). One Belt and One Road: Impact on China-Pakistan Economic Corridor. *Strategic Studies*, Vol. 34, No. 4, pp. 147-164.

- Hart, Melanie, Luke Bassett and Blaine Johnson (15th May 2017). Everything you think you know about coal in China is wrong. (Washington, DC: Center for American Progress (CAP).) <<https://www.americanprogress.org/issues/green/reports/2017/05/15/432141/everything-think-know-coal-china-wrong/>>
- Harvey, David (2014). *Seventeen contradictions and the end of capitalism*. London: Profile Books.
- Harvey, David (2017). *Marx, capital and the madness of economic reason*. London: Profile Books.
- Hurley, John, Scott Morris and Gailyn Portelance (2018). Examining the debt implications of the Belt and Road Initiative from a policy perspective. *CGD Policy Paper* 121 (March 2018). Washington DC: Center for Global Development. <<https://www.cgdev.org/sites/default/files/examining-debt-implications-belt-and-road-initiative-policy-perspective.pdf>>
- International Monetary Fund (IMF) (9th October 2018). Transcript of the Press Conference on the Release of the October 2018 World Economic Outlook. (Press conference participants: Maurice Obstfeld and Gian Maria Milesi-Ferretti.) <<https://www.imf.org/en/News/Articles/2018/10/09/tr100918-transcript-of-press-conference-on-release-of-october-2018-world-economic-outlook>>
- International Monetary Fund (IMF) (8th July 2019). Pakistan: Request for an extended arrangement under the Extended Fund Facility. <<https://www.imf.org/en/Publications/CR/Issues/2019/07/08/Pakistan-Request-for-an-Extended-Arrangement-Under-the-Extended-Fund-Facility-Press-Release-47092>>
- International Renewable Energy Agency (IRENA) (2018). *Renewables Readiness Assessment: Pakistan*. <https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Apr/IRENA_RRA_Pakistan_2018.pdf>
- Jones, Lee and Shahar Hameiri (2020). Debunking the myth of ‘Debt-trap Diplomacy’: How recipient countries shape China’s Belt and Road

- Initiative. *Research Paper*, 19th August 2020. London: Chatham House (The Royal Institute of International Affairs). <<https://www.chathamhouse.org/2020/08/debunking-myth-debt-trap-diplomacy/5-malaysia-and-bri>>
- Khan, Shehryar and Guijian Liu (2019, published online 23rd November 2018). The China–Pakistan Economic Corridor (CPEC): Challenges and prospects. *Area Development and Policy*, Vol. 4, Issue 4 (2019), pp. 466-473.
- Kover, Amy (2018). Answering Pakistan’s burning question: How to ignite lignite? *GE News* report, 13th July 2018. Boston, MA: General Electric Company (GE). <<https://www.ge.com/news/reports/answering-pakistans-burning-question-ignite-lignite>>
- Lin, Alvin (2016). How China’s 13th Five Year Plan climate and energy targets accelerate its transition to clean energy. *Expert Blog*, 13th March 2016. New York: Natural Resources Defense Council (NRDC). <<https://www.nrdc.org/experts/alvin-lin/how-chinas-13th-five-year-plan-climate-and-energy-targets-accelerate-its>>
- Malik, Sadia, Maha Qasim and Hasan Saeed (2018). Green Finance in Pakistan: Barriers and Solutions. *ADBI Working Paper* No. 880 (October 2018). Tokyo: Asian Development Bank Institute. <<https://www.adb.org/sites/default/files/publication/460346/adbi-wp880.pdf>>
- Middle East Monitor* (10th August 2020). Saudi Arabia ends loan and oil supply to Pakistan over its criticism of OIC on Kashmir. <<https://www.middleeastmonitor.com/20200810-saudi-arabia-ends-loan-and-oil-supply-to-pakistan-over-its-criticism-of-oic-on-kashmir/>>
- Miller, Dan Taninecz (5th June 2017). The China Pakistan Economic Corridor: Indicator of Chinese strategic energy goals and a challenge to the open procurement status quo. <<http://web.isanet.org/Web/Conferences/HKU2017-s/Archive/a30ae7f2-83ba-4b48-b15c-3ebbe670d948.pdf>>
- Ministry of Power and Water, Pakistan (April 2015). Power generation Policy. <<http://www.ppib.gov.pk/Power%20Policy%202015.pdf>>

- Myllyvirta, Lauri and Xinyi Shen (13th July 2016). Burning Money: How China could squander over one trillion yuan on unneeded coal-fired capacity. (London: Greenpeace.) <<http://www.indiaenvironmentportal.org.in/files/file/Burning%20Money.pdf>> <<http://www.greenpeace.org/eastasia/publications/reports/climate-energy/2016/Burning-Money-/>>
- National Bureau of Statistics of China (September 2019). *China Statistical Yearbook 2019*. Beijing: China Statistics Press, National Bureau of Statistics of China. <<http://www.stats.gov.cn/tjsj/ndsj/2019/indexeh.htm>>
- NEPRA (National Electric Power Regulatory Authority, Pakistan) (2013). *State of Industry Report 2013*. <<https://nepra.org.pk/publications/State%20of%20Industry%20Reports/State%20of%20Industry%20Report%202013.pdf>>
- NEPRA (2015). *State of Industry Report 2015*. <<https://nepra.org.pk/publications/State%20of%20Industry%20Reports/State%20of%20Industry%20Report%202015.pdf>>
- NEPRA (2017). *State of Industry Report 2017*. <<https://www.nepa.org.pk/Publications/State%20of%20Industry%20Reports/State%20of%20industry%20report%202017.pdf>>
- Ngeow Chow-Bing, Pervaiz Ali Mahesar and Roy Anthony Rogers (2018). In praise of China: China in the eyes of Pakistani diplomats. *International Journal of China Studies*, Vol. 9, No. 3, pp. 285-302.
- NS Energy (2020). Matiari-Lahore HVDC transmission project. <<https://www.nsenegybusiness.com/projects/matiari-lahore-hvdc-transmission-project/>>
- Pakistan Today* (20th October 2013). Govt all set to switch 3 power plants to coal. <<https://archive.pakistantoday.com.pk/2013/10/20/govt-all-set-to-switch-3-power-plants-to-coal/>>
- Rashid, Shahid, Muhammad Muzammil Zia and Shujaa Waqar (2018). Employment outlook of China Pakistan Economic Corridor: A meta-analysis. *CPEC Working Paper # 021* (3rd October 2018). Islamabad: Centre of Excellence for China-Pakistan Economic Corridor (CoE-CPEC),

- Pakistan Institute of Development Economics (PIDE). <<https://cepec-centre.pk/wp-content/uploads/2018/10/021.pdf>>
- Reuters (17th July 2013). World Bank to limit financing of coal-fired plants. (Reported by Anna Yukhananov and Valerie Volcovici.) <<https://www.reuters.com/article/us-worldbank-climate-coal/world-bank-to-limit-financing-of-coal-fired-plants-idUSBRE96F19U20130716>>
- Reuters (27th February 2017). Pakistan races to tap virgin coal fields to meet energy crunch. (Reported by Rina Saeed Khan, Thomson Reuters Foundation.) <<https://www.reuters.com/article/us-pakistan-coal-climate-change-feature/pakistan-races-to-tap-virgin-coal-fields-to-meet-energy-crunch-idUSKBN16612G>>
- Reuters (29th January 2019). UPDATE 1-Pakistan to launch 200 bln rupee Islamic Sukuk to ease power sector debt. (Reported by Reuters Staff.) <<https://www.reuters.com/article/pakistan-power/update-1-pakistan-to-launch-200-bln-rupee-islamic-sukuk-to-ease-power-sector-debt-idUSL3N1ZT4B7>>
- Roll Call (U.S.) (7th August 2018). Don't let China snag another foreign port, senators warn. (Reported by Patrick Kelley.) <<https://www.rollcall.com/2018/08/07/dont-let-china-snag-another-foreign-port-senators-warn-2/>>
- Sinosure (中国信保, China Export & Credit Insurance Corporation / 中国出口信用保险公司) (n.d.). Overseas investment insurance. <<http://www.sinosure.com.cn/en/Insurance/oii/index.shtml>> (retrieved December 29, 2020)
- State Bank of Pakistan (2015). *State Bank of Pakistan Annual Report 2014–15*. <<https://www.sbp.org.pk/reports/annual/arFY15/Energy.pdf>>
- State Council of People's Republic of China (1st March 1997, at the Fifth Session of the Eighth National People's Congress). 1997 年政府工作报告 [1997 government work report]. <http://www.gov.cn/test/2006-02/16/content_201124.htm>

State Council of People's Republic of China (6th October 2013). 国务院关于化解产能严重过剩矛盾的指导意见 [guiding opinions of the State Council on resolving serious overcapacity contradictions]. <http://www.gov.cn/zwggk/2013-10/15/content_2507143.htm>

State Council of People's Republic of China (13th May 2015). 国务院关于推进国际产能和装备制造合作的指导意见 [guiding opinions of the State Council on promotion of international production capacity and equipment manufacturing cooperation]. <http://www.gov.cn/zhengce/content/2015-05/16/content_9771.htm>

Tanvir, Aameena (2021). CPEC and the PTI: A complicated relationship. *South Asian Voices (SAV)*, 13th January 2021. Washington, DC: The Stimson Center. <<https://southasianvoices.org/cpec-and-the-pti-a-complicated-relationship/>>

The Economic Times (India) (12th July 2018). India's Chabahar port plan is to counter China's plan to develop Gwadar port: Media. <<https://economic-times.indiatimes.com/news/defence/indias-chabahar-port-plan-is-to-counter-chinas-plan-to-develop-gwadar-port-media/articleshow/52633906.cms?from=mdr>>

The Express Tribune (Pakistan) (15th June 2012). World Bank pulls out of Thar coal project. <<https://tribune.com.pk/story/393924/world-bank-pulls-out-of-thar-coal-project>>

The Nation (Pakistan) (19th December 2010). Pak-China friendship is higher than mountains, deeper than ocean and sweeter than honey: PM. <<https://nation.com.pk/19-Dec-2010/pakchina-friendship-is-higher-than-mountains-deeper-than-ocean-and-sweeter-than-honey-pm>>

The Nation (5th July 2013). Nawaz courts Chinese assistance for ailing economy. <<https://nation.com.pk/05-Jul-2013/nawaz-courts-chinese-assistance-for-ailing-economy>>

The News International (Pakistan) (8th October 2019). CPEC Authority established through ordinance. <<https://www.thenews.com.pk/print/5380>>

07-pec-authority-established-through-ordinance>

The Wall Street Journal (29th November 2013). Power outages hobble Pakistan's biggest exporters. (Reported by Saeed Shah.) <<https://www.wsj.com/articles/power-outages-hobble-pakistan8217s-biggest-exporters-1385697931>>

The Wall Street Journal (31st August 2018). To counter China, U.S. looks to invest billions more overseas. (Reported by Josh Zumbrun and Siobhan Hughes.) <<https://www.wsj.com/articles/to-counter-china-u-s-looks-to-invest-billions-more-overseas-1535728206>>

United States Agency for International Development (USAID) (in collaboration with the Planning Commission of Pakistan) (March 2013). *The causes and impacts of power sector circular debt in Pakistan*. <[http://climateinfo.pk/frontend/web/attachments/data-type/USAID%20\(2013\)%20The%20Causes%20and%20Impacts%20of%20Power%20Sector%20Circular%20Debt.pdf](http://climateinfo.pk/frontend/web/attachments/data-type/USAID%20(2013)%20The%20Causes%20and%20Impacts%20of%20Power%20Sector%20Circular%20Debt.pdf)>

World Bank (29th December 2017). Implementation completion and results report (IDA-54360 & IDA-57400) on a series of credits in the amount of SDR744 million (US\$1.1 billion) to the Islamic Republic of Pakistan for power sector reform Development Policy Credits I & II. <<http://documents.worldbank.org/curated/en/666511514909484545/ICR-Pakistan-Power-Sector-DPC-I-and-II-128258-and-P152021-12292017.docx>>

Xinhua News Agency (China) (14th May 2017). Full text of President Xi's speech at opening of Belt and Road forum. <http://www.xinhuanet.com/english/2017-05/14/c_136282982.htm>

Zhang, Fan (2018). *In the dark: How much do power sector distortions cost South Asia?* Washington DC: World Bank Group.

Zhang, Xin (2017). Chinese capitalism and the Maritime Silk Road: A world-systems perspective. *Geopolitics*, Vol. 22, Issue 2, pp. 310-331.

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