

How to Boost Exports through CPEC? Applying Growth Identification and Facilitation Framework (GIFF) to Pakistan

MUHAMMAD ISHTIAQ, ADNAN KHAN, and MUHAMMAD SOHAIL

Pakistan economy is besieged on the export front for decades, which contributes to trade and current account deficits. Although the government has announced several industrialisation policies in the past, but no significant change has been observed. But now, under China, Pakistan Economic Corridor (CPEC) we have an opportunity to put the economy back on track. We are expecting some major structural shifts, through which we will overcome the basic bottleneck of the economy, such as infrastructure and power-shortages and will tap new potential areas like Gwadar deep-sea port development. The manufacturing sector will also experience a change because of industrial cooperation with China through the development of Special Economic Zones (SEZs) under the CPEC framework. Special Economic Zones are considered as the engines of growth through increased trade, widening export base, fast-track urbanisation and other social privileges. To make the CPEC a success story for Pakistan, more than enough work is needed to identify the correct economic policies which can deliver in future.

This study was conducted in pursuit to identify different industries for their comparative potential payoffs and the latent comparative advantages of Pakistan. These sectors have reached to potential growth in China but still can repay margins in Pakistan. We believe that this study will add significantly to the debate on the payoffs of CPEC to Pakistan economy.

Keywords: CPEC, Economic Growth, Pakistan Economy, Special Economic Zones (SEZs), Growth Identification and Facilitation Framework (GIFF), Latent Comparative Advantage-LCA

1. INTRODUCTION

The exports are considered as a major shareholder in the growth and development of an economy. Unfortunately, Pakistan despite of several industrial efforts has not gained momentum on that front. Our industrialisation policies have not delivered in the past because of various reasons like lack of competitiveness, poor infrastructure, product innovations, low factor productivity and poor marketing of the Pakistani products in the international market.

This situation further worsened when energy shortfall coupled with the deteriorating law and order situation creates an environment of uncertainty and instability. Foreign as well as domestic investors developed a fear to invest and started

Muhammad Ishtiaq <muhammad.ishtiaq@sbp.org.pk> is Economic Analyst, Monetary Policy Department, State Bank of Pakistan. Adnan Khan <adnan.khan@cpec-centre.pk, adnan.khan@pide.org.pk> is Research Associate, Centre of Excellence for CPEC, Pakistan Institute of Developing Economics (PIDE), Ministry of Planning Development and Reforms, Islamabad. Muhammad Sohail Khan <msohail@numl.edu.pk> is Lecturer at School of Economics, National University of Modern Languages, Islamabad.

disinvestment and relocation of industries to other countries. Although several FTAs (like Pak-China, Pak-Sri Lanka and Pak-USA FTAs) were signed to give some support to the remaining industry, but the expectations were not met due to consistent energy crisis and fall in output capacity.

After 2014, this atmosphere of uncertainty and instability was mitigated because of improved law and order situation ensured through various steps taken by the Government and security agencies. Energy sector experienced improvement as compared to the 2013 and the projects in the pipeline under the China, Pakistan Economic Corridor (CPEC) framework will add around 13000 MW¹ of electricity to the national grid which will solve the problem of the energy. Infrastructure projects where the highest portion of the investments under CPEC is allocated, will solve the connectivity issue as it is comprised of roads and railway network. The industrialisation policy is revised to make it more flexible for foreign investors to invest in Pakistan and a handsome package of incentives² being offered to attract FDI.

In the CPEC framework 9 Special Economic Zones (SEZ's) have been proposed for industrial cooperation between two countries. To attract the FDI and particularly the relocations of the Chinese enterprises to these SEZ's, can be possible export machineries for Pakistan, but care should be taken when relocating certain industry from China. We can achieve our targets from those industries with relative higher pace and guarantee, where we have a Latent Comparative Advantage (LCA).³ For this purpose, we have used the technique of Growth Identification and Facilitation Framework (GIFF) for Pakistan to identify the industry where we have LCA, zone specific value-prepositions and advantages of backwardness.

1.1. Significance of the Study

With a growing debate on CPEC and its connected projects a question still unanswered is how to upgrade the industrial sector? What type of industry should be relocated to Pakistan and to which sector FDI should be channelised. In what sectors, we will perform better depending on our comparative advantage over China and other regional and international economies. Addition to that, whether the products produced in SEZs will be exportable or not, and to what extent it can substitute our imports and save our precious foreign reserve flows. This study aims to answer these questions in a comprehensive way with micro level analysis of the data and other available work.

1.2. Contribution

This study has two main contributions to the existing literature related CPEC and Pakistan industrial research done till date. First, this study tried to identify the local industries where we have LCA over China and other similar economies. This study also tried to identify products where china is losing its export share and can be our potential exports in future. Second, we have applied the Growth Identification and Facilitation

¹Ministry of Planning Development and Reforms. www.cpec.gov.pk/energy

²See: SEZ's Act-2012 and Revised SEZ's Act-2016.

³LCA refers to comparative advantage in factor of production but lack proper infrastructure and business environment which increases the transaction cost with in a particular economy. (Justin Yifu Lin and Volker Treichel).

Framework (GIFF) for Pakistan industrial sector which is a pioneered work for Pakistan by following the methodology proposed by Prof. Justin Yifu Lin.

2. CHINA PAKISTAN ECONOMIC CORRIDOR

China Pakistan Economic Corridor (CPEC) is considered as blessing in disguise for Pakistan economy in the time of need when instead of having foreign direct investment in Pakistan there was a capital flight abroad. CPEC basically is an infrastructure driven project consists of roads/railways to connect Western China (Kashghar/Xinjiang) to Pakistan's coastal city (Gwadar). Its volume is estimated to be around US \$ 62 Billion, where major portion is devoted to energy projects. It is considered to be the game changer for Pakistan, because of the connected projects like regional connectivity, energy and industrial up gradations and development.

As a part of One Belt One Road-OBOR or Belt and Road Initiative-BRI, CPEC has vital role to play in connecting China to the Middle East and provide route to Chinese products as well Pakistani products via Arabian Sea where we are drawing advantage of world's largest deep-sea port Gwadar. It has the potential to uplift the socio-economic condition of country and has significance for the country both strategically as well as economically.

Infrastructure, energy and market innovation which has hindered country's exports leading to continuously losing export market is seen to be mended through this Project. The infrastructure development, energy production and advancement of economic zones into SEZs will bring a structural change in our industry mainly in the manufacturing sector.

Deep-sea port of Gwadar is supposed to be connected to the Chinese border through three routes i.e. Eastern route Western route and Central route. The Eastern route will pass through Makran Coastal Highway, Karachi, Hyderabad, Sukkur, Multan, Lahore, Islamabad, Mansehra, Thakot, Raikot to Khunjarab while the Western route will pass through Turbat, Bismah, Surab, Qalat, Quetta, Zhob, Dera Ismail Khan, Bannu, Kohat and Mansehra onward and the Central route will pass through the existing Indus Highway via D. I. Khan.⁴

CPEC Projects

The projects under CPEC framework can be clubbed into four main categories, which terms are 1+4 portfolio of CPEC.

- (1) Energy projects.
- (2) Infrastructure projects.
- (3) Gwadar related projects.
- (4) Industrial cooperation under CPEC.

2.1. Energy Projects

World Bank Group estimated that Pakistan is sacrificing about 1.5 percent of its GDP annual growth to power shortages. Energy has been main problem to the industrial sector of Pakistan and has significant impact on industrial capacity as well as exports.

⁴List of proposed projects is given in Appendix Table A.1.

Foreign investors were also reluctant to invest and lose their confidence because of the severe shut downs in recent past.

Under CPEC portfolio largest portion of funds is allocated to energy projects. Coal power plants is given the largest portfolio in the CPEC energy plan. In the first phase, the energy projects as whole will add 10,440 megawatts to the existing electricity generation capacity. This is expected to be completed by 2018 with an estimated cost of \$ 15.5 billion. In second phase, additional 6,600 megawatts costing \$18.3 billion will be added to the national Grid. After completion of all energy projects, electricity generation will be twice of the current level.

This production and capacity jump in energy production will leads to economic growth as energy and economic growth has strong correlation.⁵ (see Table A.2 for energy projects).

2.2. Infrastructure Development Projects

Infrastructure development plays a vital role in the overall development of an economy.⁶ The industrialisation is linked with a strong and efficient transport system at its back to develop backward and forward linkages. Pakistan has limited number of road network and the condition become to worse when it comes to high quality roads. Therefore, infrastructure projects under CPEC will pave a new way to economy to start its new ride and for the corridor itself as well.

Mega infrastructural projects are proposed and are in progress which will add around 3000 Kilometres to the existing road coupled with the railway lines along the route. We will get the “National connectivity” which includes the connectivity among nodal cities (Peshawar, Islamabad, Hyderabad, Karachi, Gwadar, Sakkar, Quetta, Lahore and Faisalabad), rural urban mergers and it’ll also create the new urban centres. While “Regional Connectivity” is consisted on CAREC, Gulf States, Afghanistan and Iran. These projects will be completed with an approximate cost of US \$ 10 billion.⁷

2.3. Projects at Gwadar

Gwadar is the centre of CPEC, which is the largest and one of the deepest sea-port of world plays a crucial role under CEPEC because of its shortest destination to the GCC and other regions which are a price inelastic exports markets.

The projects allocated to the Gwadar will make it hub for cultural and economic activity. Gwadar projects will be completed with an estimated cost of US \$ 7.92 billion.

2.4. Industrial Cooperation

Industrial cooperation coupled with regional integration is key to the economic growth. Pakistan will have the opportunity under CPEC in form of infrastructure and SEZs which will provide local investors and producer’s opportunity to share their

⁵See Berndt (1990), Apergis and Payne (2009), Ozturk, *et al.* (2010), Ouedraogo (2013) for detailed analysis of energy production and economic growth relationship.

⁶Transport infrastructure can influence economic development through multiple direct and indirect channels, see Barro (1990), Goetz (2011), Lakshmanan (2007), Avonds (2005), Avonds and Gilot (2002) for detail analysis.

⁷Table A.3 for transport and infrastructure projects.

experience with their foreign partners. Technological convergence and advance production techniques with evolution in human capital will give boost to productivity and innovations. The declining exports because of lack of innovation and traditional methods of productions will change and it is expected that Pakistan will not only gain its lost share in the international market but also have a chance for market penetration into new markets along with new products. Under Industrial Cooperation and development strategy for SEZs, it is expected to promote investment in exportable and import substitutions as well as attract foreign investment.⁸

Farole and Akinci (2011) Provide a Broad Definition of SEZs as

“Demarcated geographic areas contained within a country’s national boundaries where the rules of business are different from those that prevail in the national territory. These differential rules principally deal with investment conditions, international trade and customs, taxation, and the regulatory environment; whereby the zone is given a business environment that is intended to be more liberal from a policy perspective and more effective from an administrative perspective than that of the national territory.”

Nine special economic zones have been designed across Pakistan. These economic zones will provide business opportunities to both of Pakistani as well as Chinese businessmen who are interested in launching their enterprises in Pakistan. These zones will capture the interest of foreign investors and will thus increase FDI into different manufacturing sectors. Special economic zones have a lot of success stories among which China, India and Bangladesh are the most relevant examples to the Pakistan economy.

Literature shows remarkable evidence upon the role of SEZs in productivity and exports led growth. Apart from that, SEZs also provide the employment opportunities and ignites the growth process through urbanisation, skill enhancement, technological transformation, FDI and educational attainments. This study focus on how the SEZs can benefit the Pakistan economy and what sort of industry should be promoted to get maximum possible benefits.

SEZs are planned to be developed under the CPEC project along the route with a motive to provide readily resources aiding the industry to deliver the output to the potential markets in the minimum possible time. Economic activity under any sort of setting need both time and cost-efficient framework to connect to both input and output markets. This helps to attract the investors in those areas [Henning and Saggu (2012)].

The connectivity through the corridor to the china and Gwadar sea port will be bottleneck that will help the SEZs to flourish and help in boosting the exports. The infrastructure development not only boost the exports of non-perishable on road transportation but also provide the opportunity to many perishable item suppliers to supply their product in the market in reliable time according to the market demand both quantitatively and qualitatively [ADP Report (2012)].

SEZs have multiples impacts within the economy depending upon the nature of the economy and the policies pertaining to various industries. The cost-effective transportation coupled with cheaper labour and other inputs will attract the foreign

⁸See Table A.4 for proposed SEZs.

investment in to the special economic zones under the CPEC. A prominent example of successful economic zones is China our neighbouring partner where these zones have ignited the growth process and contributed handsomely to the growing exports of China. SEZs help the current industrialisation of China by creating attraction for the foreign investors [Deboran and XIayang Tang (2013)].

SEZs are considered as growth engines as they provide multi-dimensional benefits to the economy. The one that is most needed in case of Pakistan is to tap the growing labour class into the productive avenues. SEZs as can be seen in different countries has produced employment opportunities at large [Farole (2011); FIAS (2008)]. SEZs produce some dynamic benefits as expresses by Zeng (2011) which are skill upgrading, technology transfer, export diversification and other positive spill overs. Agarwal (2010) also point out the significance of SEZs into the economy as they promote competitiveness and drive the industrial growth [see FIAS (2008) and Baissac (2011)] for more details). Cheeseman (2012) identified five key areas where SEZs can deliver in an effective way. The identification of these five areas by Cheeseman is based on work done by Madani (1999), FIAS (2008) and Zeng (2011). These five areas are as follows

- (1) Foreign Direct investment.
- (2) Foreign exchange earnings.
- (3) Employment opportunities.
- (4) Domestic economy up gradation (technology and human capital enhancement).
- (5) Economic policies liberalisation.

Although literature has extensive discussion on the impact of special zones on the economy, prosperity and other social and economic indicators. But this study aims to identify the issue related to the choice of industry and technology where we are interested to reallocate to Pakistan. Pakistan is having the opportunity in form of highly constructed infrastructure, improved energy situation, labour abundance and dry port of Gwadar, still there is a need of better policy and understanding of the situation of domestic economy, domestic and foreign markets and the changing world environment and commodity trade shift.

If we reallocate industry where there is not enough limited advantage like unskilled labour, expensive or no domestic raw material and high competitive partners in the international market then it will be no more than a burden of machinery both in terms of production and foreign exchange.

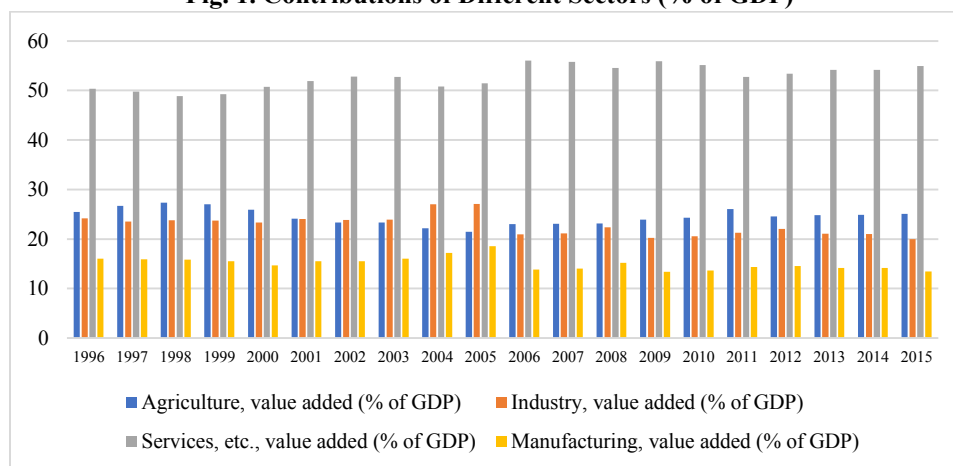
Therefore, there is need of the hour to identify the industry where we have comparative advantage both in labour and raw materials. For this purpose, we are estimating the GIFF for the Pakistan to identify the industry where we can gain more and can boost our exports because of cheaper input cost which makes us highly competitive as well as China and other expensive labour countries are losing share in exports.

Economic and Social Development in Pakistan

Pakistan economy has observed a consistent growth of about 5 percent on average since the start of new millennium which experienced a little slow down after 2008. But this year we have recorded a growth of 5.3 percent which is a positive indication for the economy. To accelerate the growth process further, and maintain it on a sustainable path,

Pakistan Vision 2025 was given by the Government of Pakistan in 2013. The main objective of the vision to improve the Pakistan society to a more prosperous and modern country and place it among competitive upper middle-income countries.

Fig. 1. Contributions of Different Sectors (% of GDP)



Pakistan economy is showing satisfactory performance, still has captured in number of problems which is holding it back from the rightful place it can have among the economies. Industrial development is below par which needs to be increased by a higher proportion in order to achieve sustained growth. Figure 1 shows the contribution of different sectors where the manufacturing sector is contributing below 20 percent (average of developing countries). This also indicate that we failed to develop a labour-intensive manufacturing industry which was the solution to coup the problem of unemployment arising from growth population.

This low performance on manufacturing industry has also contributed to the current situation of exports where we are exporting low-value raw and unprocessed products (mainly from agriculture) while importing the high-value goods which could be produced locally to save and earn foreign reserves (see Figures 2 and 3).

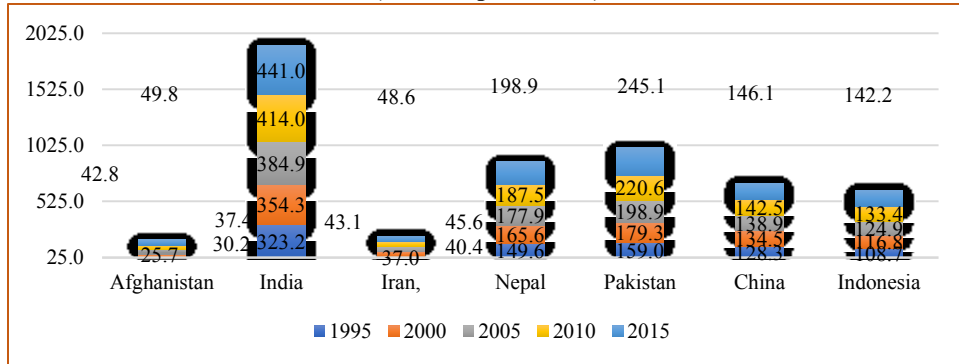
Pakistan's Export 2015

Pakistan has been exporting cotton, surgical items, sports items, agro products and textiles since long and so do Pakistan total exports were dominated by textile industry followed by agro products in 2015. Though total exports of Pakistan have been declined up to 12.11 percent amounting 26.2 Billion \$ due to power and gas shortage in the country followed by the failure of Pakistan Trade Development Authority to arrange exhibitions except in Russia and Tajikistan. In 2015 Pakistan exported 1.2 percent of total global textile exports. Pakistan's exports constituted 39 percent of textile products (see Figure 2) including house linens of 11 percent, cotton yarn of 6.7 percent, non-kint men's suits 5.7 percent. Pakistan exported heavy cotton which contributed 3.9 percent to its total exports. In agriculture products Pakistan exported mainly rice which contributed 7.3 percent of Pakistan total exports. Pakistan also exported cement, leather, raw sugar as well.

Factor Endowment Analysis: What Does Pakistan have?

Pakistan has the advantage of demographics which is derived from its large population. The growing population with majority of working age people is making Pakistan a labour abundant economy. Addition to that, it is also rich in natural endowments like water, agricultural land, minerals and other natural resources but it is a capital poor economy. The comparison with its neighbouring countries show that it has highest population density as compared to neighbouring countries except India (see Figure 4).

Fig. 4. Population Density: Pakistan and Its Neighbouring Countries (Persons per Km²)

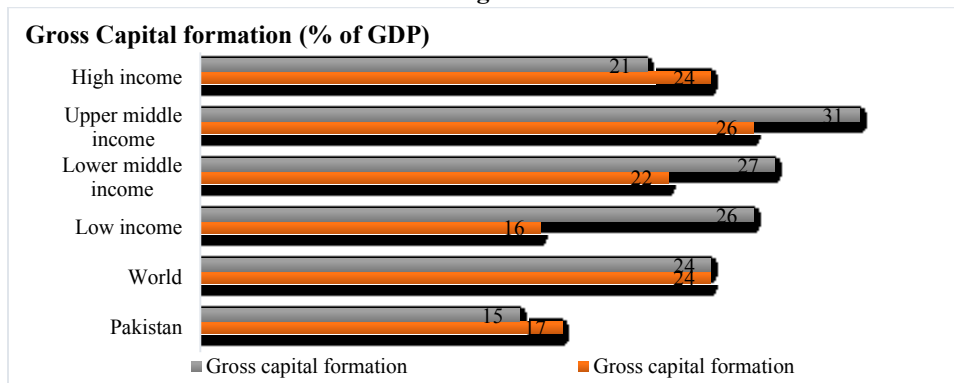


Sources: World Bank Group (WDI).

Pakistan employment is largely based on its agricultural and informal sector which shows that formal manufacturing sector has not been developed over the years to accommodate the growing labour force. The labour abundance nature of Pakistan has not benefitted it in the industrial sector because of capital scarcity.

A close look at Pakistan employment structure reveals two salient features: one is that its employment is largely agro-based and other is informal sector attract more workers than formal sectors. The investment is capital (Figure 5) shows that the situation is worse in 2000 as well as in 2015. The investment to GDP ratio is well below the average of developing as well as the low-income countries.

Fig. 5.



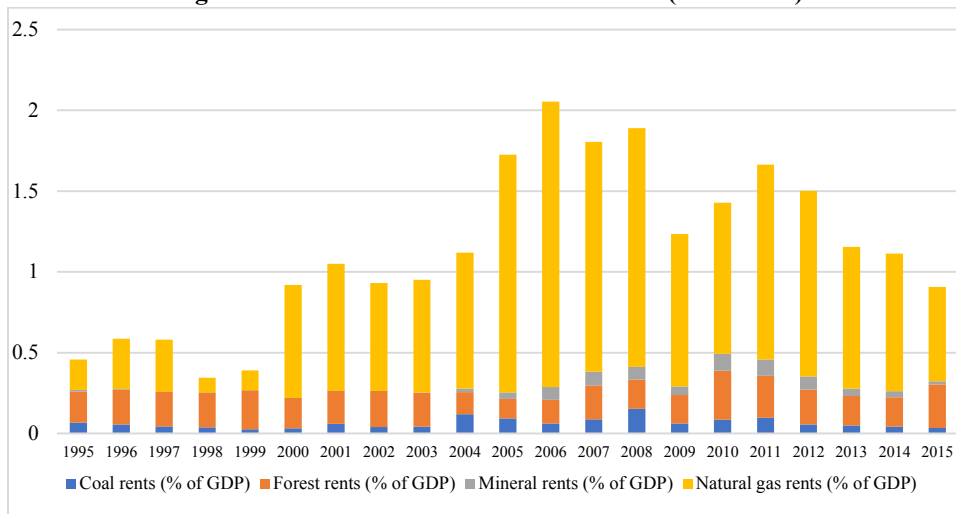
Sources: World Bank Group (WDI).

Pakistan is a natural resource-rich country. Its geographic location coupled with abundant resource and forests, are providing grounds for Pakistan to be strategically and economically important country.

Rents have accounted for a substantial share of the contribution of natural resources to GDP (see Figure 6)

Pakistan is rich in natural resources which are not used up to their potential capacity. If we look at Figure 6, we will find drastic variation between the rents from these resources as percentage of GDP. In past 20 years' rents from these resources has contributed lesser of 0.6 percent of GDP in the year 1998 and highest of 2.1 percent in the year 2006. In 2015 two different trends can be noticed, on one hand much decrease in rent from coal can be observed due to high concern of environmentalists around the globe while there is significance increase in rent from forest, which is also not good sign for the environment. Likewise past years' natural gas has contributed the highest in terms of percentage of GDP.

Fig. 6. The Contribution of Resource Rents (% of GDP)



3. GROWTH IDENTIFICATION AND FACILITATION FRAMEWORK

Professor Justin Yifu Lin has introduced the New Structural Economics (NSE) where he identifies the reasons of failing developmental theories in the low income and middle income developing countries. He held responsible the policy which is based on the targeting high growth technological sectors without having the knowledge of skills and endowments of the targeted economy. Professor Lin argued that it is the comparative advantages (in one or many sectors) that can give you a competitive position in the market otherwise the convergence and development theories are of no use.

Under this NSE framework several policy and industrial identification procedures are identified and explored. GIFF is introduced to identify industry with LCA and have help countries of same nature to grow in past. This identification helps an economy to know what are its strengths based on its natural endowments and other built in characteristics of the economy.

Developing countries can earn dividend of its backwardness to grow and converge to the higher income levels through an effective industrial policy. They should identify (as we did in this paper) the industry where they have LCA through cheap labour and abundant natural endowments. This will give them high competitive position in the international market because of their cost-effective production.

Capturing market in the products where cost is low and margins are higher will lead to sustained dynamic growth which is the only path for a developing country to move to higher circles of income.

The GIFF technique involves six steps process: [Lin (2011)]

Step One: Choosing the Right Target

At first, identification of those goods and services are made on back of which economies of similar endowments have achieved higher growths and boost its exports. This is done in following way.

- (1) Identify countries that were in same income level 20 years ago and have growth dynamically so that their per capita income has increased by more than 100 percent.
- (2) Identify products and their exports that they have made. Identify the top performers.
- (3) Study their patterns and identify those low capital-intensive products where these countries are losing market share because of losing comparative advantage in the international market.

This will provide the list of potential industries where markets are open and by apply effective industrial policy exports to those markets can be made.

Step Two: Removing Binding Constraints

After identifying the potential industry, first focus should be made on the existing domestic industry producing similar products for either domestic demand or exports. Existing private firms should be facilitated and in addition policies and incentives to attract new entrants should be introduced.

Step Three: Attracting Global Investors

Attracting FDI is always a key challenge for developing economies. Global investors are needed to bring into the industrial sectors identified in step one.

Step Four: Scaling-up Self-discoveries

Focus on innovations is the need of the hour to remain in the market for long time. Industrial economies grow because of high spending in R&D and bringing new and innovative products into the market. Based on unique endowments every developing countries focus on the innovations when needed. Private firms as well should be supported to self-discover their strengths through innovative products and new technologies.

Step Five: To Recognise the Strength of Special Economic Zones

Special economic zones need to construct with improved infrastructure to attract global investors and promote industrial agglomerations.

Step Six: Proper Incentive Structure should be Devised for the Right Industry

Incentive structure should be structured properly to compensate early entrants into the sectors identified. These incentives can be of different nature depending upon the condition of economy and industry.

3.1. Growth Identification and Facilitation Framework for Pakistan

Applying the GIFF for Pakistan, selecting benchmark countries was a big challenge. So, by applying the criteria of countries that grow more than 100-300 percent than us from the same stage we were 20 years earlier, countries in Table 1 are identified. These countries have shown greater economic performance for last two decades, especially China.

Now, we further identify those countries which were having similar endowments that we have today the list shrinks. We further filter out countries which are not manufacturing sector led, or export led economies by large, which left us Uzbekistan and China in last. These two countries have greater similarity with Pakistan both in the labour abundance and larger natural resource endowments.

Table 1

*Selected Indicators of Countries with GDP per Capita (Current US\$)
100-300 percent Higher than Pakistan in 2015*

Country Name	GDP per Capita	Ratio to Pakistan	Growth Rate of Real GDP (2015)	Manufacturing, Value Added (% of GDP)
Pakistan	1434.69	1.0	2.6	13.42
Bhutan	2655.99	1.85	5.1	8.35
China	8069.21	5.62	6.4	30.79
Dominican Republic	6468.47	4.50	5.8	15.25
Lao PDR	1818.44	1.26	5.6	9.37
Uzbekistan	2132.11	1.48	6.1	12.12
Vietnam	2110.91	1.47	5.5	15.22
Kosovo	3552.38	2.47	5.1	12.29

Sources: World Development Indicator. World Bank Group.

Selecting the two benchmark countries for growth, we apply the second step of GIFF to identify the tradable goods and services on back of which these economies outperformed the rest of the competitors and where Pakistan has potential comparative advantage today. We performed this analysis in following way.

By comparing top ten exports of these bench mark economies for every decade. This reveals the sectors where china and Uzbekistan are losing their market share. China in some labour-intensive sub-sectors because of losing its comparative advantages are losing its share in exports as well. Table 6 shows the details of the top exports in early growth period of China and their position today because of the loss of the backwardness dividend that it was extracting when it was at lower level of income.

Data shows a decline in the non-knits men's suits export from 1.72 percent to a level of 0.57 percent in 2016. Similarly, radio receivers have also recorded a decline to less than one fourth of exports 20 years earlier. There are several other industrial products which are of labour-intensive nature like mode and stuffed animals, industrial printers, leather footwear and non-knit woman suits are also witnessing decline in export shares of china (see Table 2).

Pakistan has comparative advantage in these sectors because of cheap labour and domestic cotton production which we export in raw form to china. By innovating the industry, we can capture the portion of the market which Chinese are losing with their advancements through capital intensive industry.

These sectors can be proved as competitive edge of Pakistan by investing in them and produce value added with cost lower than competitors and capture the losing share of china in the global export market. For this a detailed supply and demand analysis is the needed which is beyond the scope of this paper. But it will answer many questions about why our FTAs and other policies have not proven to be of benefits.

Table 2
Key Exports of China

SITC	% of total Exports Value (1995)	% of total Exports Value (2016)
1 Leather Footwear	2.8	0.43
2 Trunks and Cases	2.5	1.19
3 Knit Sweaters	2.5	0.84
4 Rubber Footwear	2.4	1.02
5 Non-Knit Women's Suits	2.3	1.18
6 Radio Receivers	2	0.23
7 Office Machine Parts	1.8	1.23
8 Non-Knit Men's Suits	1.7	0.59

Sources: World Trade Organisation and authors' calculations.

Further, this study applied the pre-screening criteria on the sub-sectors where Pakistan has latent comparative advantages in one way or other. Primary purpose of the study was to select those subsectors where there is potential for growth as well as feasibility for production. And we know that potential of growth largely depends on the demand structure both domestic and global market.

We have worked out the first step of GIFF to identify the industries which can boost the exports in future providing the other requirements are fulfilled. The other steps which the GIFF required to turn these industries into real exports engines are more or less covered in the CPEC projects like infrastructure and energy. The incentive structure and attraction of FDI is fully covered in SEZ's act and incentives given under CPEC to foreign as well as domestic investors.

The infrastructure and energy projects which were dire need of the country to attract foreign direct investment has covered under CPEC quite handsomely. Addition to that SEZ's are also identified and under the industrial development stage which will help in agglomeration of the industry. The R&D culture need more attention as Pakistan

industry has very low culture of innovations and they are losing already in the international market. The joint ventures with Chinese companies under the CPEC will promote this culture, also the competition arise because of increased number of firm in different SEZ's will also force them to invest in R&D.

Now is the time for the government to focus on the non-traditional industries and provide them incentives to produce to make them able to exports. Some traditional industries in the past as well as in present, are getting handsome packages in shape of exports subsidy and other tax and credit incentives which if extended to these identified industries (and other potential industries) can increase the exports quantum.

4. CONCLUSION

CPEC is bringing various projects which is the need of Pakistan economy. The infrastructure and energy projects will capture the interest of the investors and will also boost FDI as well as domestic investment. Secondly, the special economic zones will bring industrial agglomeration which will result in the innovations and high value-added products with reduced cost. This will make our products cost competitive in the global market and we will be able to increase our exports and will make us able to enjoy the benefits of reduced trade deficit.

But the special economic zones when expected to bring investments and relocation of industry from china should be devised with great care. We are having latent comparative advantage in certain labour abundant products which can be shaped as our exports engines by promoting them. Footwear, garments, video and radio equipment, trunks and cases, cotton yarn, iron, agro-processing business and steel paper production, dyeing/colouring materials, printing industry, glass and glass wear are some of the subsectors which can help to boost our exports in future.

GIFF used in this study is an industrial identification methodology developed by Justin Yifu Lin. This framework guides the country's policy to be focused and clear within its industrial prioritisation where policy makers have knowledge of both comparative advantage as well as disadvantage when they enter some new contracts with trading and cooperating partners.

Policy Recommendations

Policy-makers should focus on the industry where Pakistan has comparative advantages while devising the industrial policy. Before, entering to any agreements with other economies they should have the knowledge of their strengths and weaknesses. The GIFF is an easy data exercise to identify the potential industry of an economy.

Future Research

Further analysis of all industrial sectors and subsectors to identify the supply and demand situation of the specific products is needed which is beyond the scope of this paper. A value chain analysis is needed which will help to clear the complete picture of comparative advantages and disadvantages. It will also highlight the constraints that should be removed to convert the economic zones into real growth engines.

APPENDIX

Table A1

Sr. No.	Projects	MW	Estimated Cost (US\$ Million)
1	Port Qasim Electric Company Coal Fired	1320	1,980
2	Sahiwal 2x660MW Coal-fired Power Plant	1320	1,600
3	Engro Thar 2x330MW Coal-fired	660	2,000
	Surface mine in Block II of Thar Coal field, 3.8 million tons/year	660	1,470
4	HUBCO Coal Power Plant, Hub Balochistan	660	970
5	Rahimyar Khan Coal Power Project	1320	1,600
6	SSRL Thar Coal Block 6.5mpta & CPIH Mine Mouth Power Plan	1320	1,300
7	SSRL 2*660 MW Mine Mouth Power Plan	1320	2,000
8	Zonergy 900 MW Solar Park, Bahawalpur, Punjab	900	1,215
9	Dawood 50MW wind Farm, Bhambore	50	125
10	UEP 100MW wind Farm, Jhampir, Sindh	100	250
11	Sachal 50MW Wind Farm, Jhampir, Sindh	50	134
12	Suki Kinari Hydropower Station, KPK	870	1,802
13	Karot Hydropower Station, AJK & Punjab	720	1,420
14	Gaddani Power Park Project	1320	3,960
15	Kohala Hydel Project, AJK	1100	2,397
16	Pakistan Wind Farm II, Jhampir, Thatta, Sindh	100	150
17	Thar Mine Mouth Oracle, Thar, Sindh	1320	1,300
18	Muzaffargarh Coal Power Project, Punjab	1320	1,600

Table A2

Sr. No.	Projects	Length	Estimated Cost (US\$ Million)	Category
Roads Projects				
1	KKH Phase II (Raikot – Islamabad Section)	440 km	3,500	Priority/EHP (Early Harvest Project)
2	Karachi - Lahore Motorway (Multan, Sukkur Section)	392 km	2,594	Priority/EHP
	Total		6,094	
Rail Projects				
1	Expansion and reconstruction of existing Line ML-1	1736 Km	3,650	Priority/EHP
2	Havelian Dry port	450 mu	40	Priority/EHP
	Total		3,690	

Table A3

Sr. No.	Projects	(US\$ Million)
1	Eastbay Expressway	140.62
2	Gwadar International Airport	230.00
3	Construction of Breakwaters	123.00
4	Dredging of berthing areas and channels	27.00
5	Infrastructure for Free Zone and EPZs port related industries	32.00
6	Necessary Facilities of Fresh Water Treatment and Supply	130.00
7	Hospital at Gwadar	100.00
8	Technical and Vocational Institute at Gwadar	10.00
	Total Gwadar Port Projects	792.62

Table A4

S. No.	Name of Zone	Location
1	ICT Model Industrial Zone	Islamabad-Federal Government
2	Industrial Park-port Qasim	Karachi-Federal Government
3	Mohmand Marble City	Federal Administrative Tribal Area (FATA)
4	China Economic Zone/Quaid-e- Azam Apparel Park (QAAP)	M-2, District Sheikhpura, Punjab
5	Rashakai, Economic Zone (REZ)	M-1, Khyber Pakhtunkhwa (KPK)
6	China Special Economic Zone	Dhabeji-Thatta, Sindh
7	Boston Industrial Zone	Boston-Balouchistan
8	Moqpondass Special Economic Zone	Gilgit Baltistan (GB)
9	Bhimber Industrial Zone	Azad-Jamu and Kashmir (AJK)

All these details are taken from Ministry of Planning, Development and Reforms.

REFERENCES

- Aggarwal, A. (2010) Economic Impacts of SEZs: Theoretical Approaches and Analysis of Newly Notified SEZs in India. (MPRA Paper No. 20902).
- Aggarwal, A. (2011) Promoting Agglomeration Economies and Industrial Clustering through SEZs: Evidence from India. *Journal of International Commerce, Economics and Policy* 2:2, 201–227.
- Apergis, N., and J. E. Payne (2009) Energy Consumption and Economic Growth: Evidence from the Commonwealth of Independent States. *Energy Econ.* 30, 782–789.
- Avonds, L. (2005) Belgian Input-Output Tables: State of the Art. Federal Planbureau, Sectorale Directie, Brussels.
- Avonds, L., and A. Gilot (2002) The New Belgian Input-Output Table—General Principle Federal Planbureau. Sectorale Directie, Brussels.
- Baissac, C. (2011) Brief History of SEZs and Overview of Policy Debates. In T. Farole (ed). *Special Economic Zones in Africa: Comparing Performance and Learning from Global Experiences*. Washington, DC: The World Bank. Available at <http://elibrary.worldbank.org/doi/pdf/10.1596/978-0-8213-8638-5>
- Barro, R. (1990) Government Spending in a Simple Model of Endogenous Growth. *J. Political Econ.* 98, 103–125.
- Berndt, E. R. (1990) Energy Use, Technical Progress and Productivity Growth: A Survey of Economic Issues. *J. Prod. Anal.* 2, 67–83.
- Farole, T. (ed). (2011) *Special Economic Zones in Africa: Comparing Performance and Learning from Global Experiences*. Washington, DC: The World Bank. Available at <http://elibrary.worldbank.org/doi/pdf/10.1596/978-0-8213-8638-5>
- Farole, T. and G. Akinci (eds). (2011) *Special Economic Zones Progress, Emerging Challenges, and Future Directions*. Washington, DC: The World Bank. Available at <https://openknowledge.worldbank.org/bitstream/handle/10986/2341/638440PUB0Ext00Box0361527B0PUBLIC0.pdf?sequence=1>
- FIAS (2008) *Special Economic Zones: Performance, Lessons Learned, and Implications for Zone Development*. The Multi-Donor Investment Climate Advisory Service of the

- World Bank Group. Washington, DC. Available at <https://www.wbinvestmentclimate.org/uploads/SEZs%20-%20Performance,%20Lessons%20Learned%20and%20Implications%20for%20Zone%20Development.pdf>
- Goetz, A. R. (2011) The Global Economic Crisis, Investment in Transport Infrastructure, and Economic Development. In Button, Kenneth, Reggiani, Aura (eds.) *Transportation and Economic Development Challenges*. Edward Elgar, pp. 41–71.
- Henning and V. Saggau (2012) Networks, Spatial Diffusion of Technological Knowledge, and Regional Economic Growth: An Agent-Based Modelling Approach. *International Journal of Innovation and Regional Development* 4:(3–4), 204–231.
- Krugman, P. and A. Venables (1996) Integration, Specialisation, and Adjustment. *European Economic Review* 40, 959–67.
- Lakshmanan, T. R. (2011) The Broader Economic Consequences of Transport Infrastructure Investments. *J. Transp. Geogr.* 19, 1–12.
- Lin, Justin Yifu (2016) Applying the Growth Identification and Facilitation Framework to the Least Developed Countries: The Case of Uganda. Washington DC, World Bank. (CDP Background Paper No. 32 ST/ESA/2016/CDP/32).
- Lin, Justin Yifu and Volker Treichel (2011) Applying the Growth Identification and Facilitation Framework: The Case of Nigeria. Washington DC.: World Bank. (World Bank Policy Research Working Paper 5776).
- Lin, Justin Yifu, and Célestin Monga (2010) Growth Identification and Facilitation: The Role of the State in the Dynamics of Structural Change. Washington, D.C.: World Bank. (World Bank Policy Research Working Paper 5313).
- Madani, D. (1999) *A Review of the Role and Impact of Export Processing Zones*. Vol. 2238. World Bank Publications.
- Ouedraogo, N. S. (2013) Energy Consumption and Economic Growth: Evidence from the Economic Community of West African States (ECOWAS). *Energy Econ.* 36, 637–647.
- Ozturk, I., A. Aslan, and H. Kalyoncu (2010) Energy Consumption and Economic Growth Relationship: Evidence from a Panel Data for Low and Middle Income Countries. *Energy Policy* 38: 8, 4422–4428.
- Zeng, D. (2011) How Do Special Economic Zones and Industrial Clusters Drive China's Rapid Development? In D. Zeng (ed). *Building Engines for Growth and Competitiveness in China. Experience with Special Economic Zones and Industrial Clusters*. Washington, DC: World Bank. Available at <https://openknowledge.worldbank.org/bitstream/handle/10986/2501/564470PUB0buil10Box349496B01PUBLIC1.pdf?sequence=1>
- Zeng, D. (ed). (2011) *Building Engines for Growth and Competitiveness in China. Experience with Special Economic Zones and Industrial Clusters*. Washington, DC: World Bank. Available at <https://openknowledge.worldbank.org/bitstream>
- Zeng, D. Z. (2012) China's Special Economic Zones and Industrial Clusters: The Engines for Growth. *Journal of International Commerce, Economics and Policy* 3:3.