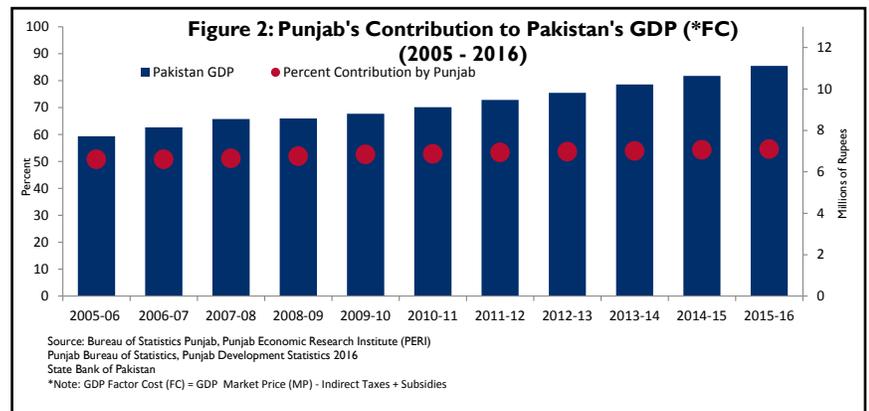
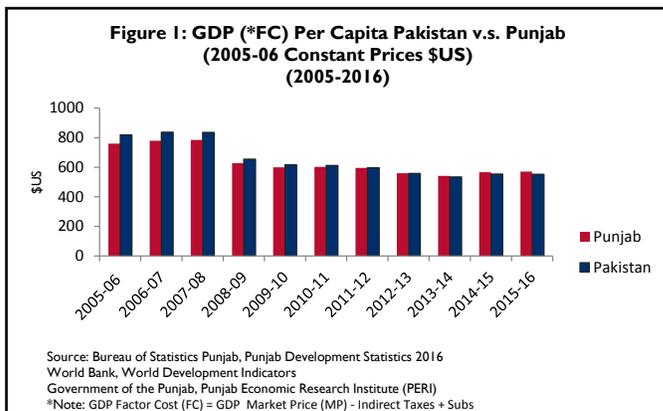


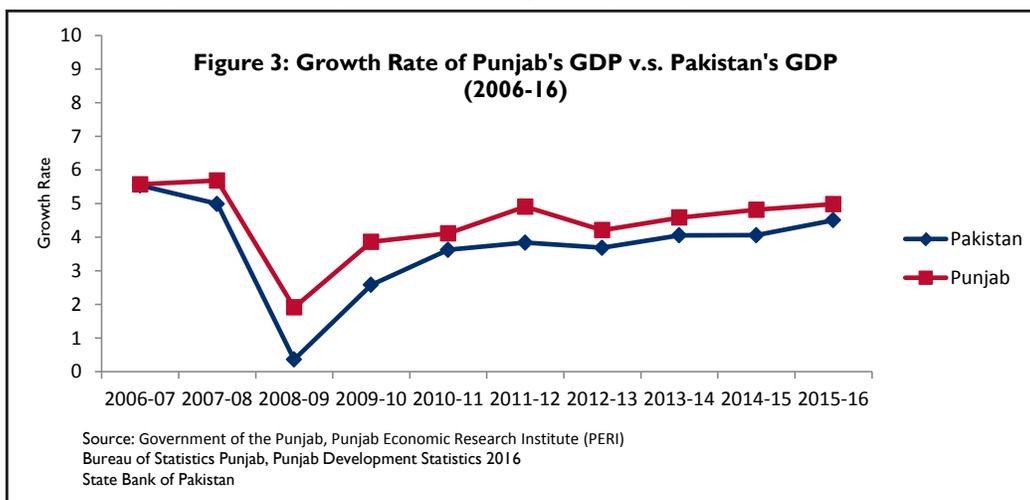
## OVERVIEW OF ECONOMIC AND SOCIAL SECTORS IN PUNJAB, PAKISTAN

Punjab plays a vital role in Pakistan's social, political and economic spheres. Punjab is the most populous and second largest province by area in Pakistan. It is divided into 36 distinct districts, of which 5 serve as major economic hubs of the province, namely: Lahore (the capital city of Punjab), Faisalabad, Gujranwala, Rawalpindi, and Multan. These districts are not only paramount to Punjab's economy, but are also important centers of employment, manufacturing, and trade for Pakistan as well (Punjab Portal All About Punjab At One Place, 2017). This analytical brief will provide an overview and analysis of key economic (industry, agriculture, and service) and social (energy, education, and health) sectors in Punjab.

Punjab is the powerhouse of Pakistan's economic output. (Punjab Economic Report, 2017). As figures 1, 2 and 3 show, Punjab's economic performance seems to be the main driver of Pakistan's economy.



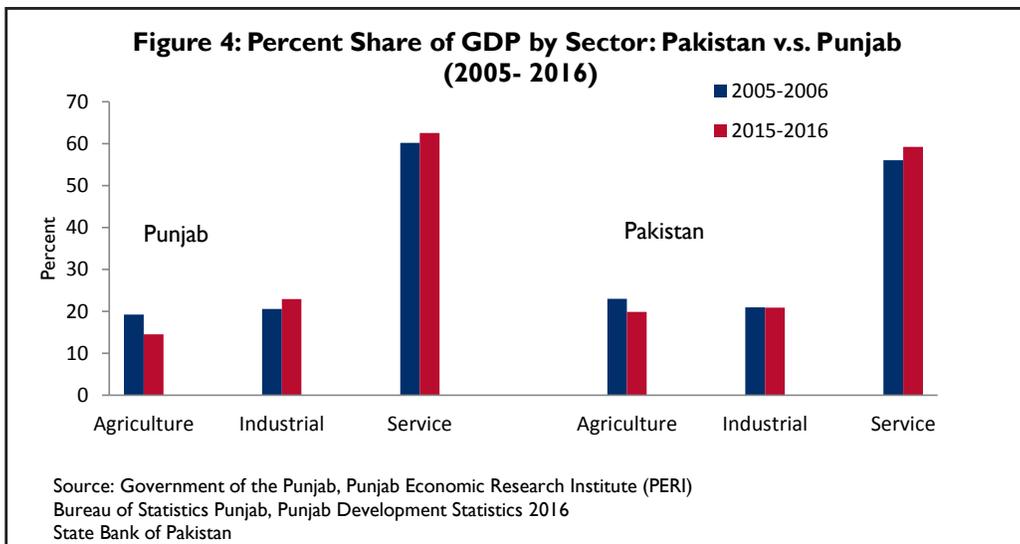
Punjab's contribution to the national economy dwarfs all other provinces by comparison. According to the available data from Punjab Economic Research Institute (PERI), from 2005-06 to 2015-16, Punjab's contribution to the national economy increased by 4 percentage points (from 51 percent to 55 percent) (Figure 2), accounting for more than half of the entire country's economic output. Additionally, as shown in Figure 1, per capita GDP for Pakistan and Punjab followed a similar pattern from 2005 to 2015. It is interesting to note that between 2014 and 2016, Punjab's GDP per capita was slightly higher than that of the nation's, indicating higher productivity in Punjab than the other provinces.



Similarly, breaking down GDP by sector shows that Punjab reflects the structural transformation of the national economy. Between 2005-06 and 2015-16, the service sector's share

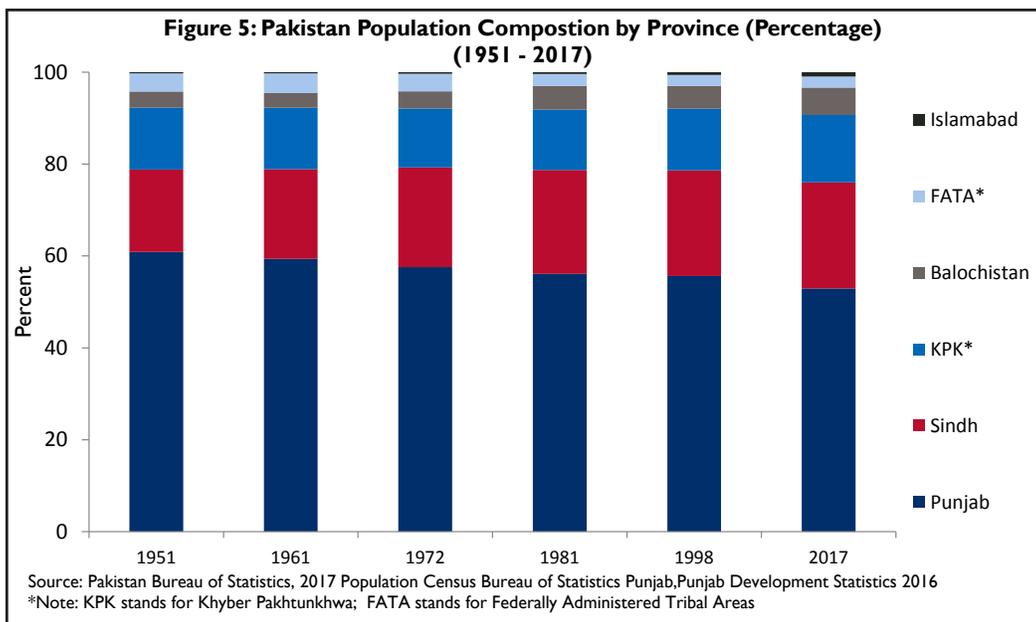
of GDP remained above 60 percent and marginally grew to 62.6 percent by 2015-2016. Over the same time period, the service sector share of GDP in Pakistan went up from 56 percent to 59.2, an increase of 3.2 percentage points. On the other hand, the agriculture share of GDP declined by 4.7 percentage points in Punjab (more than 1.5 times than the national level).

The industrial share of GDP in Pakistan did not change substantially, while for Punjab it increased 2.4 percentage points (Figure 4) <sup>1</sup>.



## POPULATION PROFILE OF PUNJAB

Punjab is the most populous province in Pakistan. Since the census's inception in 1951, Punjab has housed more than 55 percent of Pakistan's population, only dipping to 52.9 percent in the 2017 census (Figure 5). Four of Pakistan's top five most populous cities are located in the Punjab province, with the exception of Karachi, which is in Sindh province (Table 1). Together, these four cities make up 8.9 percent of Pakistan's population (and 16.8 percent of Punjab's population). In addition to being the most populous province in Pakistan, Punjab is also one of the most urbanized provinces in the country and the South Asian region. As of 2017, 36.7 percent of Punjab's population (40.4 million people) live in urban areas.



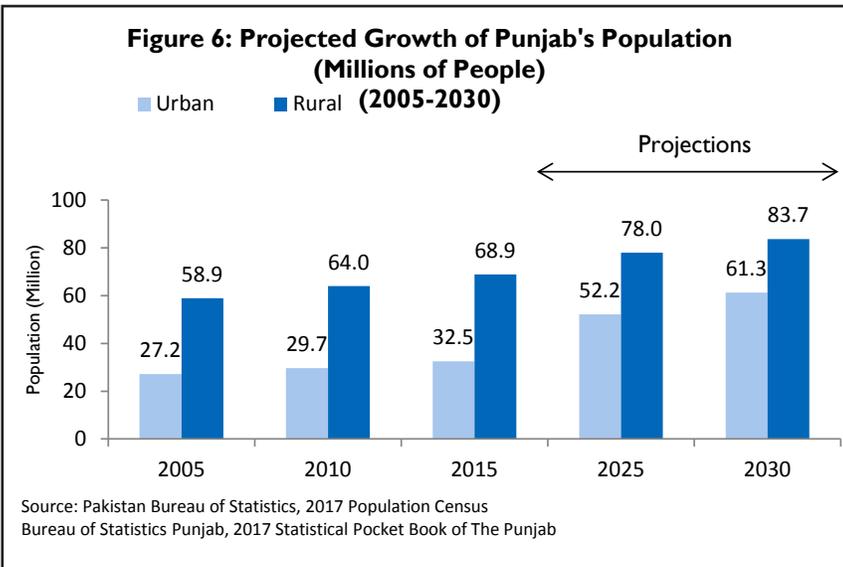
Four of Pakistan's top five most populous cities are located in the Punjab province, with the exception of Karachi, which is in Sindh province (Table 1). Together, these four cities make up 8.9 percent of Pakistan's population (and 16.8 percent of Punjab's population). In addition to being the most populous province in Pakistan, Punjab is also one of the most urbanized provinces in the country and the South Asian region. As of 2017, 36.7 percent of Punjab's population (40.4 million people) live in urban areas.

### Urbanization

According to the Punjab Bureau of Statistics, by 2025, Punjab's population living in urban areas is expected to increase to 52.2 million and further increase to 61.3 million

Province	Major City	Census 2017	As Percent of Pakistan's Population
Sindh	Karachi	14,910,352	7.2
Punjab	Lahore	11,126,285	5.4
Punjab	Faisalabad	3,203,846	1.5
Punjab	Rawalpindi	2,098,231	1.0
Punjab	Gujranwala	2,027,001	1.0

Source: Pakistan Bureau of Statistics, 2017 Population Census

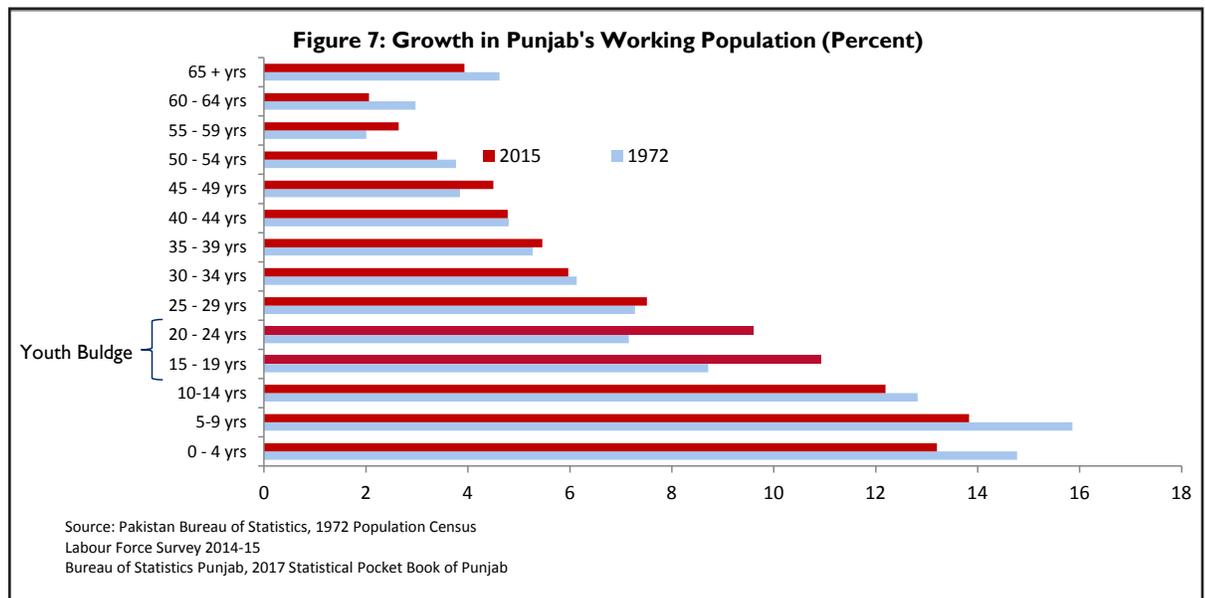


by 2030, which translates to 1.9 million additional urban residents per year (Figure 6). This means that by 2030, of Punjab's total population, 42.3 percent will live in urban areas, which is 6 percentage points larger than the current 2017 levels (Punjab Economic Report, 2017).

While urbanization poses many challenges, it can also serve as an opportunity for growth. One of the many potential byproducts of urbanization is the emergence of a large middle-class. According to Homi Kharas of Brookings Institute, Pakistan is currently experiencing one of the fastest middle-class growths in the world. By 2030, Pakistan is expected to have a middle-class market larger than 1 trillion dollars of household consumption

a year (Kharas, 2017). A large middle-class can become an engine of growth and prosperity by not only providing a basis for increased activity in the domestic market for goods and services, but also as a source of skilled labor in the economy. As the most populous province of Pakistan and an important urban and economic hub, Punjab is positioned to gain considerably from this demographic dividend (Kharas, 2017).

From 1972 to 2015, there has been a 5.8 percentage point increase in working-age population (ages 15-59). Moreover, the biggest growth in the working-age population has been among youth (Figure 7); the percentage of working individuals between the ages of 15-24 grew by



4.7 percentage points between 1972 and 2015. This has major implications for the Punjab region: First, a large working population can provide a large tax base as the number of individuals entering the economy increases; Secondly, a larger working-population can lead to an increase in the consumer market; and finally, a high growth in manufacturing and service sectors as more people join the workforce (Royal Geographical Society, 2017).

Nevertheless, urbanization poses a number of potential challenges. These include but are not limited to a lack of affordable housing, transportation systems, solid waste management, clean water, communications network, and electricity supply. While the list of challenges associated with urbanization is long, two of the biggest and more pertinent challenges of urbanization in Punjab are meeting the increasing electricity demand and addressing water scarcity in the province.

There is a strong correlation between urbanization and higher demand for electricity when looking at the data from 2006 to

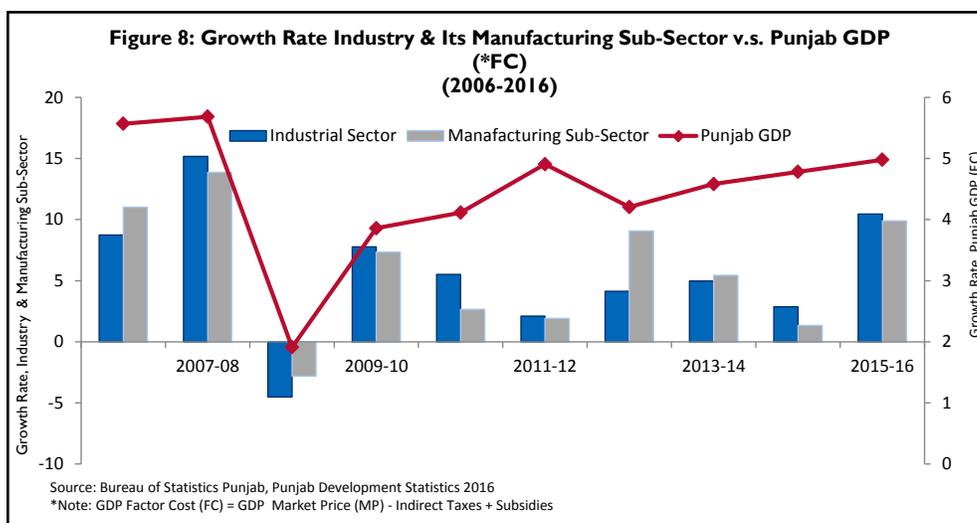
2015. This could be due to the fact that availability of electricity entices migration to urban areas, as access to electricity is linked with better quality of life and employment (Liddle & Lung, 2013). This will not only have an impact on the common citizen, but will impact the decision making of the industries and firms. According to one World Bank report, "Leveraging Urbanization in South Asia: Managing Spatial Transformation for Prosperity and Livability", firms are less likely to locate to cities or urban areas where the provision of electricity along with some other utilities are not readily available (Ellis & Roberts, 2016).

As a major urban center of Pakistan, Punjab is an illustrative example of the country's worsening water crisis. According to a 2017 report from United Nations Development Program (UNDP), 27.2 million Pakistanis don't have access to clean water and water availability has declined from 2,172 cubic feet per capita in 1990 to 1,306 cubic feet per capita in 2015. Moreover, lack of access to clean water and sanitation has contributed to increased incidence of diseases such as diarrhea, typhoid, and cholera. Each year, approximately 39,000 children under five in Pakistan die from diarrhea caused by unsafe water and poor sanitation (Hassan, 2017). Punjab, with its rapidly growing population and urbanization rates, stands to bear the brunt of the current and ongoing water scarcity. According to the 2017 Punjab Economic Report, from 2007 to 2014, the percentage of households using improved drinking water sources has gone down across different geographical areas, most prominently in major cities. For example, in 2007, 89.6 percent of those living in major cities had access to improved drinking water sources, while that number went down by 16.1 percentage points to 73.5 percent by 2014 (Punjab Economic Report, 2017). It is important to note that both electricity and water challenges are cross-cutting issues, affecting all economic sectors, particularly the industry and agriculture sectors in Punjab.

## ECONOMIC PROFILE OF PUNJAB

### Industry Sector

According to recent World Bank estimates, the industrial value added as a percentage of Pakistan's GDP has been low compared to similar countries. For example, in Pakistan, value added in industry as a percentage of GDP peaked at 27.1 percent in 2005; while India's industrial contribution to GDP has been higher than 27 percent since 1976 (World Bank, World Development Indicators). As one of the important industrial hubs of the country, Punjab has the potential to spur industrial growth in Pakistan. In addition, the current urbanization and rural-urban migration in Punjab enhances the potential of the industrial sector to spur growth due to "agglomeration economies", which are benefits generated from the clustering of population and services in urban centers and that often originate from savings in transportation costs (Sanchez, Ernesto, Dan, Nabi, Ortolano, Dezfuli, Afzal, & Enriquez, 2014).



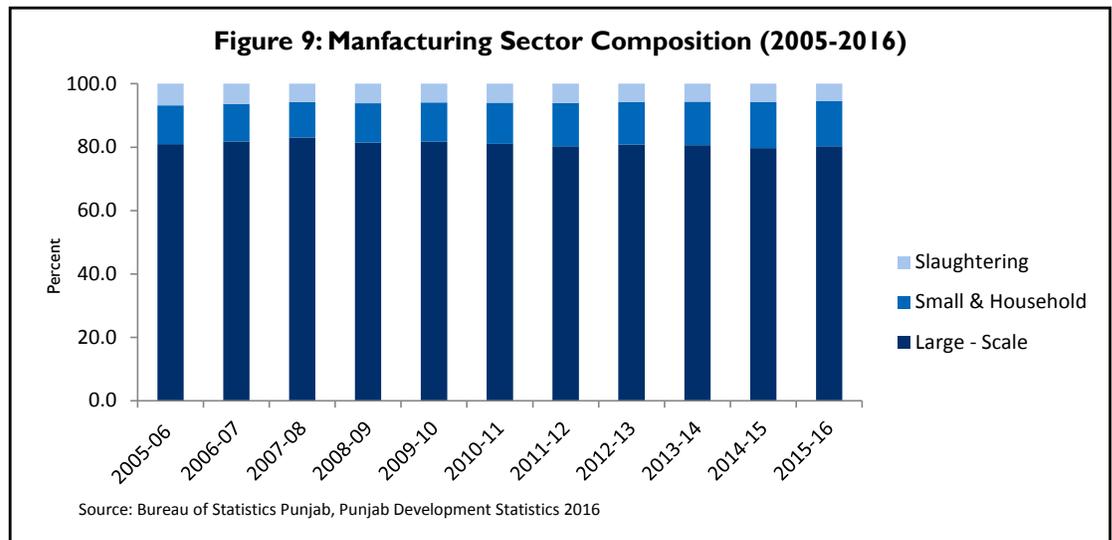
The industry sector in Punjab is an important component of Punjab and Pakistan's economy, comprising 22.9 percent and 12.5 percent of the provincial and national economic output respectively (2015-2016 data). Moreover, the industrial sector is very important in the lives of everyday Punjabis: 58.1 percent of Punjab's total labor force is employed in the non-agriculture sector, of which the industrial sector makes up 23.3 percent (Pakistan Bureau of Statistics, 2017). As of 2015, Punjab has more

than 13,824 factories that employ more than 1 million Punjabis. In the same year, among sub-districts of Punjab, Lahore and Faisalabad have the largest share of factories (17.0 percent & 15.2 percent, respectively) and employ 19.8 percent & 18.4 percent of people in the region, respectively.

The volatility in Punjab's GDP growth rate can most likely be attributed to the industrial sector. From 2006-2009, the industrial sector's growth rate fluctuated heavily, in line with Punjab's overall growth rate. The growth from 2009-10 onwards can mostly be attributed to the growth in the service and agriculture sectors. Nevertheless, the high fluctuations in the growth rate of the industrial sector convey an important message: there is potential for growth in the industrial sector. In particular, the manufacturing sector has the potential to be the main driver of industrial sector growth in the economy (Figure 8).

As of 2015-16, manufacturing makes up 75.8 percent of the industrial sector. Large-scale manufacturing constitutes the biggest component of the manufacturing sector, making up 80.3 percent of the manufacturing sector's entire output in 2015-2016 (Figure 9). However, as of the latest data available, small and medium sized firms remain the largest non-agriculture employers in the region, 90 percent of which are privately owned (Hussain, Khan, Malik, & Faheem, 2012).

Within the manufacturing sector, textile manufacturing may be crucial to Punjab's future economic growth. As of June, 2015, textile enterprises make up the largest number of factories (20.4 percent), and employ the highest number of Punjabis (46.0 percent) in the manufacturing sector (Bureau of Statistics Punjab, 2017a). In Pakistan, the textile industry employs 40 percent of

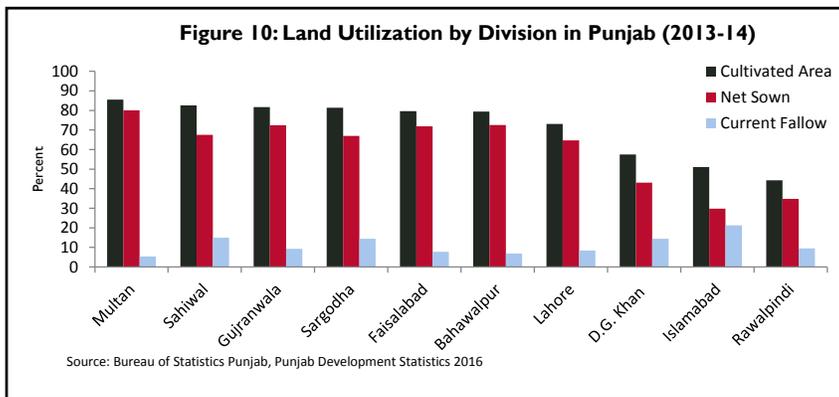


all of the industrial labor force and, barring seasonal and cyclical fluctuations, constitute 60 percent (\$12.4 billion out of a total of \$20.5 billion) of Pakistan's total exports (Government of Pakistan Ministry of Finance, 2017 & Observatory Of Economic Complexity, 2016). Therefore, the textile industry has the potential to be a driver of manufacturing economic growth in Punjab. Nevertheless, there are challenges to realizing the potential of the Punjab industrial sector as a source of economic growth. According to a pilot study done in Lahore in 2012, access to electricity is the top constraint firms face in doing business. More than 70 percent of firms identified access to electricity to be the top constraint followed by macroeconomic/political instability (7.9 percent), and inadequacy of worker skills (5.0 percent) (Hussain, Khan, Malik, & Faheem, 2012).

### Agriculture Sector

Agriculture has historically played an important role in the lives of everyday Punjabis, and Pakistanis as a whole. Despite the overall GDP contribution of the agriculture declining by 8.2 percentage points, from 2005 to 2016, it continues to be essential to the lives of Punjabis. As of 2016, the Punjabi agriculture sector comprised 14.5 percent to Punjab's GDP and 7.9 percent to Pakistan's GDP. On the national level, agriculture is the biggest employer of Pakistanis. As of 2014-2015, the agriculture sector employs 42.3 percent of Pakistan's overall workforce, of which 96.3 percent live in rural areas. The figures for Punjab are very similar to those of Pakistan's. In Punjab, 44.7 percent of the population is employed in the agriculture sector; 96.5 percent of whom reside in rural areas. The numbers are slightly higher for women: the agriculture sector employs 47 percent of women in Punjab, 97.88 percent of whom reside in the rural areas.

Punjab's agrarian topography makes for a suitable environment for agriculture growth, a necessary component of overall economic growth and rural development in particular. According to the latest figures by the Punjab Bureau of Statistics, of the total reported land area (17.7 million hectares), 71.6 percent are being utilized and cultivated for agricultural purposes,

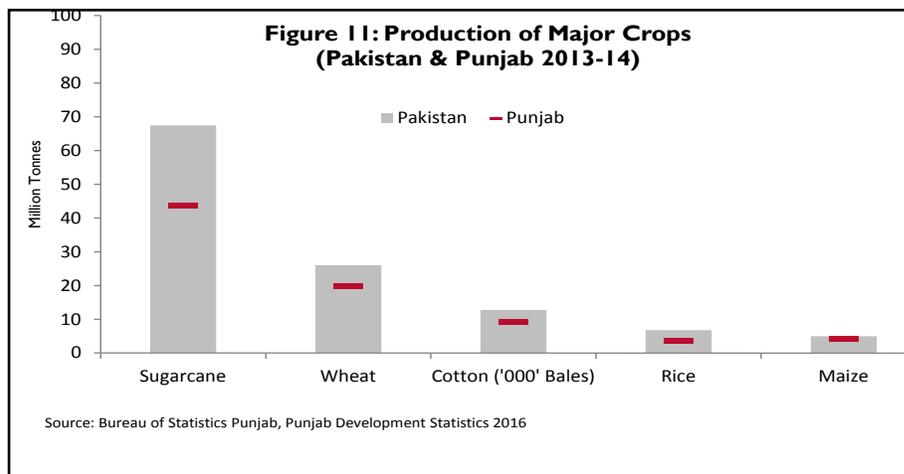


with 61.1 percent net sown and 10.5 percent currently fallow (Bureau of Statistics Punjab, 2017b). Within Punjab, the top three cultivated area are: Sargodha (16.9 percent), Dera Ghazi Khan (14.3 percent), and Bahawalpur (13.5 percent), while the bottom three are: Sahiwal (6.7 percent), Lahore (7.6 percent), and Rawalpindi (7.8 percent) (Bureau of Statistics Punjab, 2017b).

Within the Punjab divisions<sup>2</sup>, Multan has the most area cultivated as a percent of total land area

(85.5 percent), and has the highest percent net sown (80.1 percent net sown), leading other provinces in land utilization (Figure 10). On the other hand, Rawalpindi has the lowest cultivated area as a percent of total area (44.3 percent), and has the lowest agricultural percent net sown (34.8 percent).

The most important crops in terms of value in Pakistan are sugarcane, wheat, cotton, maize, and rice. Together, they account for more than 75% of the entire country's value of total crop output (Pakistan Country Study Guide, 2013). As the most agriculturally productive province in the country, Punjab plays an important role in the agricultural development and growth of the country as a whole.



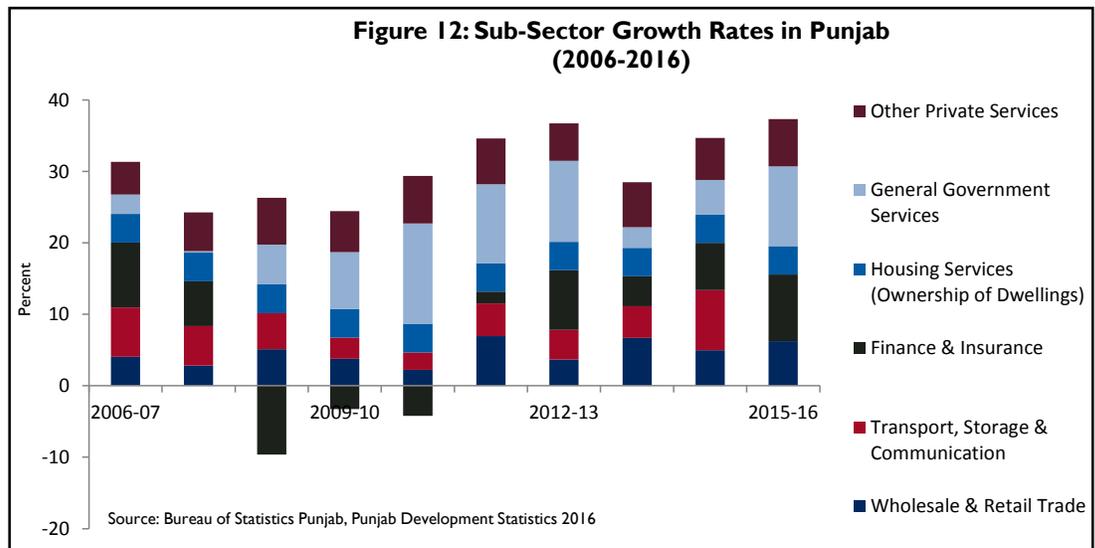
According to the latest figures by the Punjab Bureau of Statistics, the province is responsible for more than 65 percent of the entire country's production of major crops. With the exception of rice (51.2 percent), more than 60 percent of the four other major crops in the country are produced in the Punjab province (Figure 11). Moreover, cotton, 71.6 percent of which is produced in Punjab, is used extensively in the textile industry, which as of 2016 accounts for 60.5 percent (\$12.4 billion) of the country's entire exports, followed by rice, which accounts for 8.3 percent or \$1.7 billion of the total exports (The Observatory of Economic Complexity, 2016).

**Service Sector**

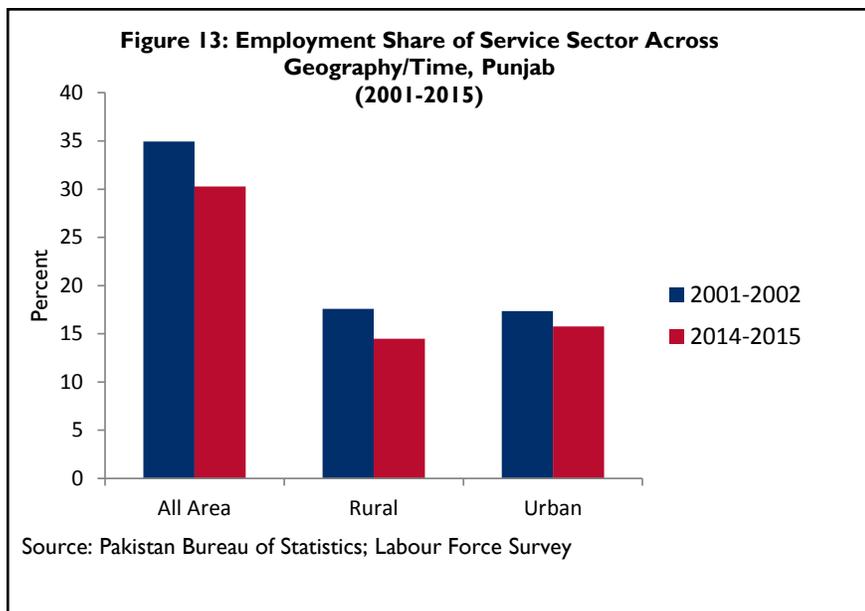
The importance of the service sector to Pakistan and Punjab cannot be over-stated. According to the latest data available, from 2005-2006 to 2015-2016, the service sector's contribution to the economy of Pakistan has increased by 3.2 percentage points. As of 2016, 59.2 percent of Pakistan's economy is made up by the service sector and the service sector employs 37.1 percent of the country's total workforce. Over the same period, Punjab has mirrored Pakistan in its economic transformation from an agrarian to a service oriented economy, but to an even greater extent. In Punjab, 62.6 percent of the entire province's economy is comprised of the service sector; the province makes up more than half of the entire country's service sector, which amounts to 34.1 percent of the entire country's GDP. This makes Punjab the most important province in terms of service sector contribution.

Within Punjab's service sector, wholesale and retail services as well as transport, storage and communication services constitute

the bulk of the service sector at 55.3 percent, while finance and insurance services fall on the other end of the spectrum in terms of contribution to the service sector (only 5 percent). However, over the last decade, the fastest growing sub-sector has been the general government sub-sector, averaging 7.2 percent growth a year over the last decade. The second largest growth over the same period has been in the “other private”



sub-sector (health, education, sports and entertainment, etc), with an average growth rate of 5.9 percent a year. In the year 2015-2016, the fastest growing sub-sectors are general government services (11.1 percent, followed by finance and the insurance sub-sector (9.3 percent) (Figure 12).



age point decline in urban vs. 3.1 percentage point decline in rural), even though in 2001-2002 the share of employment in the service sector in the rural and urban areas was almost the same (Figure 13). This is possibly due to the high rate of urbanization in which people move to urban settings to seek more service oriented employment opportunities.

Despite the fact that the service sector share of GDP has risen in recent years, the share of employment in the service sector declined by 4.6 percentage points over the 2001-2015 period.

However, the service sector remains the main employer in urban areas. According to the latest data by the Punjab Bureau of Statistics, as of 2015, 55.8 percent of the total employment in the urban areas is employed in the service sector of which 90.2 percent are male. In rural areas, the percent share of employed in the service sector is 20.2 percent. While the share of employment in the service sector has gone down in both rural and urban areas, it had a sharper decline in the rural areas (1.6 percentage point decline in urban vs. 3.1 percentage point decline in rural), even though in 2001-2002 the share of employment in the service sector in the rural and urban areas was almost the same (Figure 13). This is possibly due to the high rate of urbanization in which people move to urban settings to seek more service oriented employment opportunities.

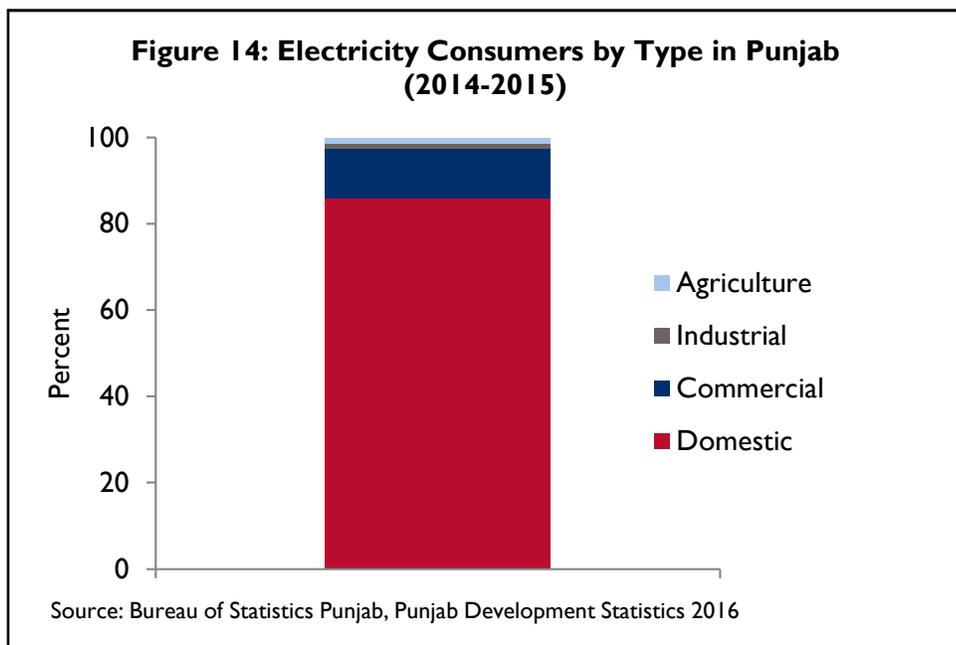
In terms of the sub-sector share of employment in the service sector, as of 2014-2015, wholesale and retail services makes up close to half of all service sector employment at 45.7 percent, followed by transport and storage services at 13.6 percent, and education at 11.5 percent. The high-end (skill intensive) services employment such as IT, finance, and communication only make up 1.5 percent of total employed. This means that there may be potential in creating jobs requiring highly-skilled labor. For example, ICT (Information Communication Technology) has been one of the key technological drivers of economic growth in many countries (Farhadi, Ismail, & Fooladi, 2012). The ICT revolution can improve both private and public sector’s functions and can be a driving force for technological innovation in many other sectors of the society (e.g. education, energy, industry,

etc). Similarly, it can be an important asset in the service sector of Punjab, where it is currently underutilized. The Government of Punjab has undertaken steps to revitalize and accelerate the growth of the IT sector with the establishment of the Information Technology University (ITU) in Lahore, the Punjab Information Technology Board (PITB), the Urban Unit (UU) and other initiatives (Punjab Economic Report, 2017).

## SOCIAL PROFILE OF PUNJAB

### Energy Sector

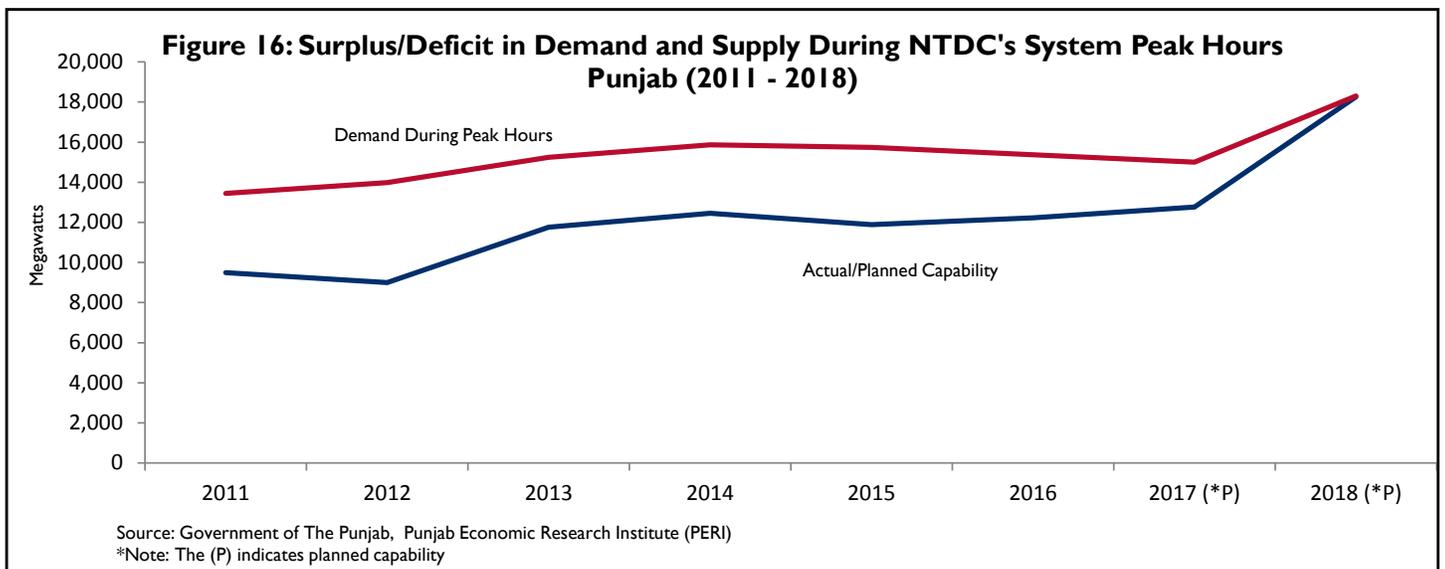
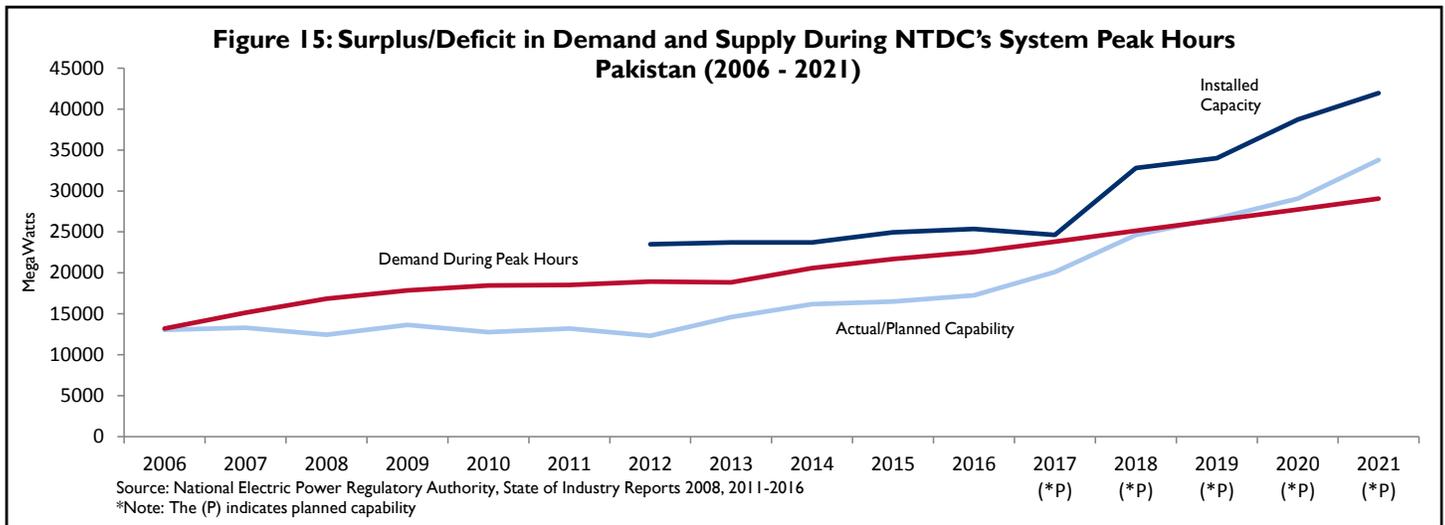
Since 2007, Pakistan has faced severe energy shortages. Punjab, with the largest population of the country and being the biggest consumer of energy products in the country (63.2 percent of the country's petroleum, 38 percent of the country's natural gas, and 62 percent of the country's electricity) has been hit the hardest (Pakistan Energy Yearbook, 2015). This is particularly the case when examining the electricity sector in the province. Per 2015 data, Punjab consumes 62 percent of the country's total generated electricity, with household constituting the largest bulk of that consumption (85.9 percent), followed by commercial (11.4 percent), industrial (1.4 percent), and agricultural (1.3 percent) consumption (Figure 14).



The shortage since 2007 has disrupted economic activity in the province, particularly in the industrial sector. The current shortage of power has caused many industries to shut down or endure high costs associated with alternate means of energy, causing their overall production costs to go up (Punjab Economic Report, 2017).

This becomes evident when examining the demand and supply gap of the country and the province over the years. As figures 15 and 16 show, on average, from 2006 until 2016, there was a shortage of 4,310 megawatts of electricity in the country. Between 2011 and 2016, Pakistan and Punjab averaged an electricity deficit of 5,180 megawatts and 3,808 megawatts, respectively. Moreover, the biggest gap between supply and demand of electricity for Pakistan and Punjab was in 2012, when the demand for electricity exceeded supply by 6,620 megawatts for Pakistan and 4,991 megawatts for Punjab. Per the latest report by National Electric Power Regulatory Authority of Pakistan, from 2011 to 2016, there was a 2.5 percent transmission loss in the NTDC System, peaking at 3.1 percent in the 2012-2013 year (State of Industry Report, 2016).

The Punjab Economic Research Institute estimates that by 2018, both Punjab and Pakistan will be able to meet their respective electricity demands (Figures 15, 16). However, similar past projections have not been fulfilled: previous projections also indicated that Pakistan and Punjab would be able to meet its electricity demand, but consistently fell short of doing so. As figure 15 shows, from 2012 to 2016, the total capacity installed was large enough not only to meet all the demand, but to end up with a surplus. There are several reasons why Pakistan has been unable to mitigate the gap between supply and demand.



Among those are:

- 1) circular-debt, in which the power companies are unable to receive outstanding balances from customers, including the government. This leaves cash strapped power companies unable to buy the fuel needed to run the generators, which then leads to continuous outages (Haider, 2015).
- 2) most of the electric infrastructure is old and is in dire need of modernization. The decaying grid lines cause inefficient transmission and distribution of power, leading to major system interruptions and losses (Haq, 2015)
- 3) the cost of electricity is very high when compared to other countries, causing many customers to resort to stealing (Adnan, 2016).

Fortunately, there are solutions where there are problems. The China-Pakistan Economic Corridor (CPEC) is one avenue through which the country can meet its energy needs. Through CPEC, a \$46 billion dollar investment endeavor, 73.5 percent of which is invested in various energy sectors, Pakistan is hoping to narrow its demand-supply gap (Jamal, 2017). The CPEC is expected to create more than 17,000 megawatts of energy through various coal, wind, solar and hydropower projects (Pakistan Observer, 2016). Punjab, with the largest population and greatest energy consumption can play a marked role in the CPEC project. In addition, Punjab's geography

also makes the province an ideal place for renewable energy, in particular in the hydro power and solar sectors. As of 2017, two CPEC projects have been implemented in Punjab, namely: Sahiwal Coal-Fired Power Plant with installed capacity of 1,320 megawatts and Quaid-e-Azam Solar Park in Bahawalpur with installed capacity of 1,000 megawatts (Pakistan Ministry of Planning & Development, 2018). The CPEC has the potential to address the energy shortages in Punjab and subsequently on the national level.

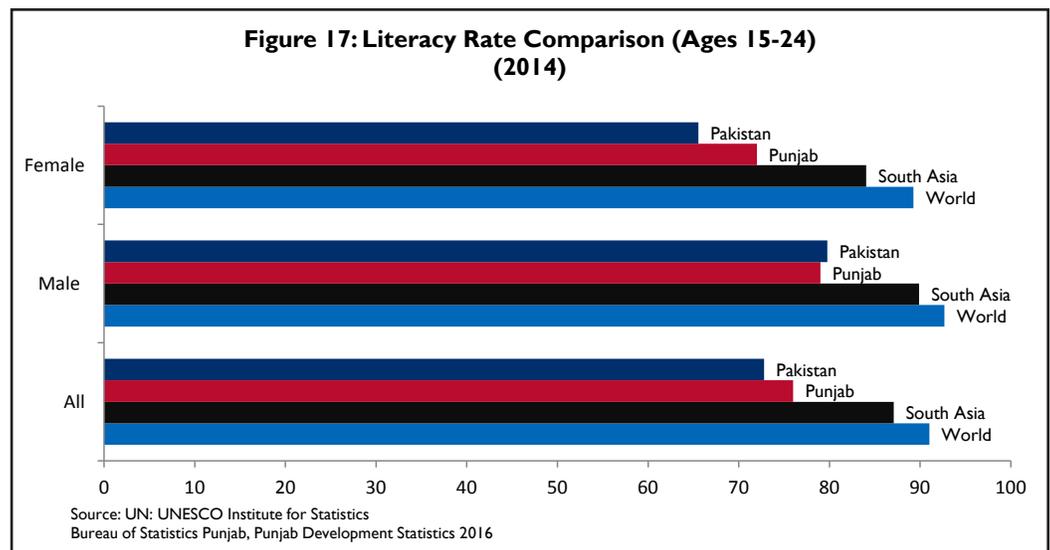
## SPOTLIGHT

One of USAID's main goals in Pakistan is to help the country meet its energy demands and in doing so, alleviate its energy crisis. Since 2011, USAID's efforts resulted in an addition of 2,400 megawatts of electricity to the national grid. In addition, USAID has implemented a program of repairing and installing over 250,000 electricity reading meters. In particular, the installation of Automatic Meter Reading (AMR) technology has resulted in customers receiving accurate bills, it has helped power distribution centers manage and regulate electricity, and it reduced electricity theft. In Punjab, USAID has funded the renovation of the Muzaffargarh Thermal Power Plant, which generates 978 megawatts of electricity (USAID, 2018).

## Education Sector

Punjab has seen improvements across many education indicators since 1998. However, when compared to international standards (e.g. South Asia and the World) there is still room for progress in order for Punjab to be on par with the rest of the world.

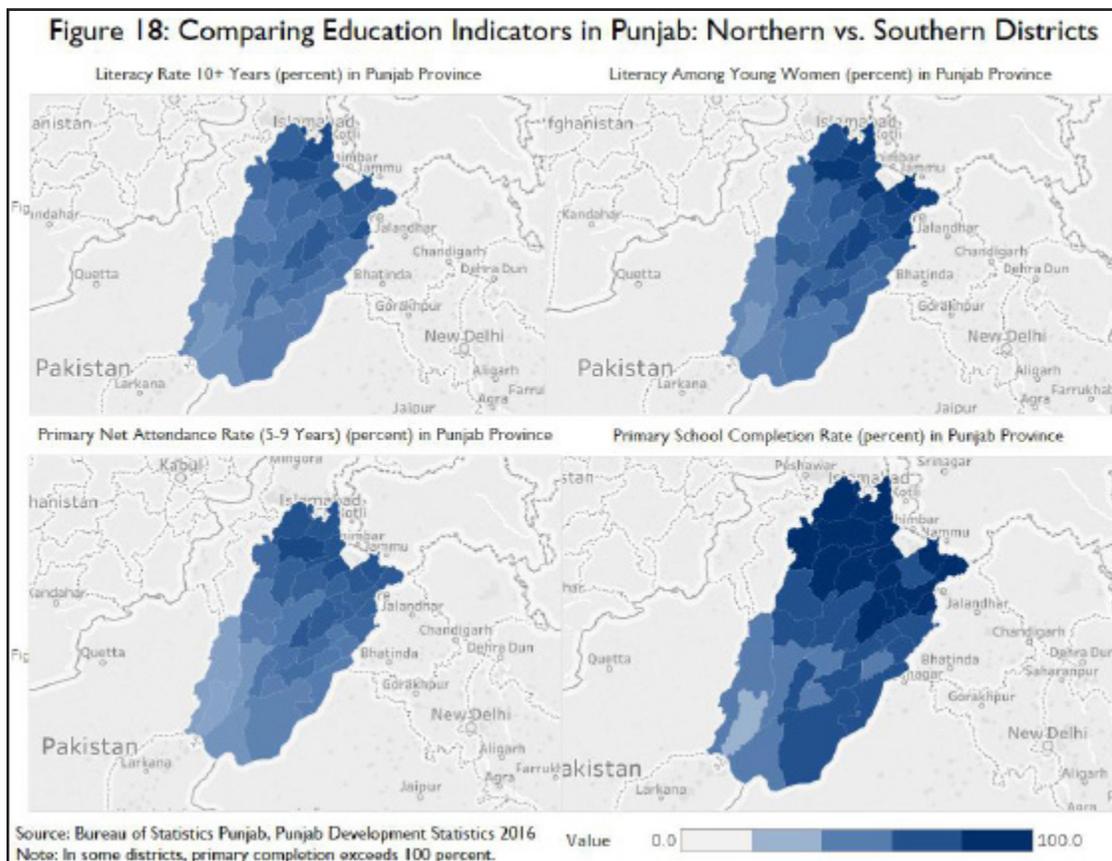
Literacy rates, which are key qualitative measures of education, are quite low across the board in the province. Overall the literacy rate in the province has improved when comparing the 1998 census with 2014—2015 data. The total literacy rate for the province went up from 46.6 percent in 1998 to 61.9 percent in 2014-2015. In the same time period, male and female literacy rates increased by 13.2 percentage points to 70.4 percent and by 18.5 percentage points to 53.6 percent, respectively. Despite the fact that female literacy had the largest improvement over the years, it is still markedly lower than the male literacy rate, indicating gender disparity in terms of educational attainment.



There was also improvement overall across genders when comparing literacy data in the urban and rural settings. The literacy rate in urban areas increased by 9.2 percentage points for males and 13.8 percentage points for females, while in the rural setting there was an increase of 14.6 percentage points and 19.8 percentages for males and females, respectively. Nevertheless, despite large improvements, the gap across gender when looking at rural and urban settings is still quite large. Per 2014-2015 data, the literacy rate for males and females in the rural areas is 65 percent and 44.6 percent respectively, compared with 80.1 percent for males and 71 percent for females in the urban areas. The data suggest that the female segment of the population living in rural settings failed to keep pace with the male population in terms of educational attainment.

While within the province the literacy rate has evidently improved, it is still strikingly low, when compared to international standards. As figure 17 shows, Punjab and Pakistan lag behind the World and the South Asian region when comparing the literacy rates for those between the ages of 15-24 and across genders.

Another indicator indicative of Punjab's inability to achieve universal primary education is the net intake rate<sup>3</sup> in primary education (5



years of age). As of 2014, Punjab's net intake rate was a mere 23 percent, indicating that a majority of Punjabis who are of primary school entrance age do not have adequate and equal access to primary education. This is in contrast to a policy goal of 100 percent net intake rate for the purpose of achieving universal primary education. These education disparities are even wider when examining districts in terms of different education indicators.

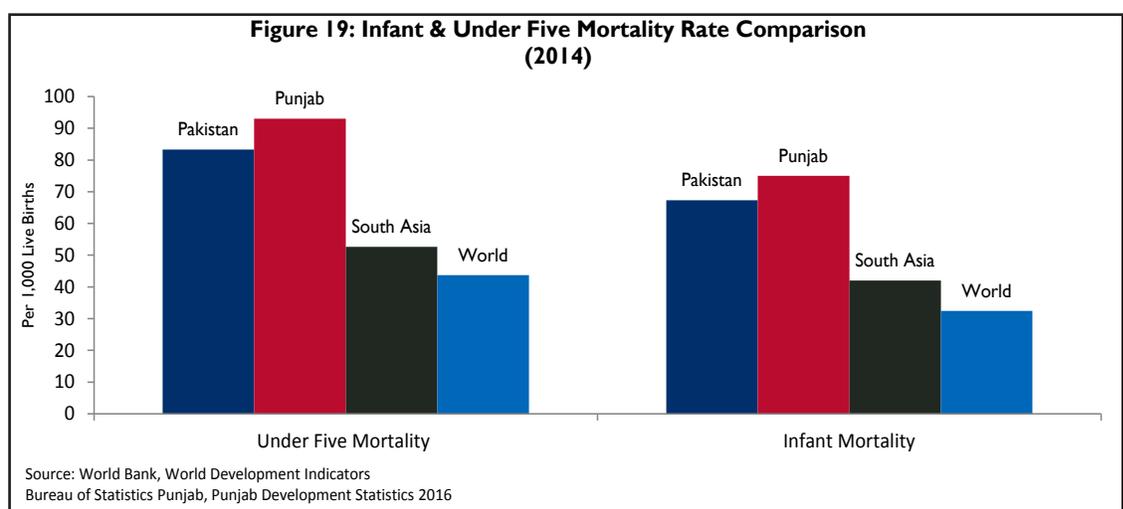
As seen in figure 18, within Punjab, the northern districts are doing much better than the southern districts across all education indicators that have

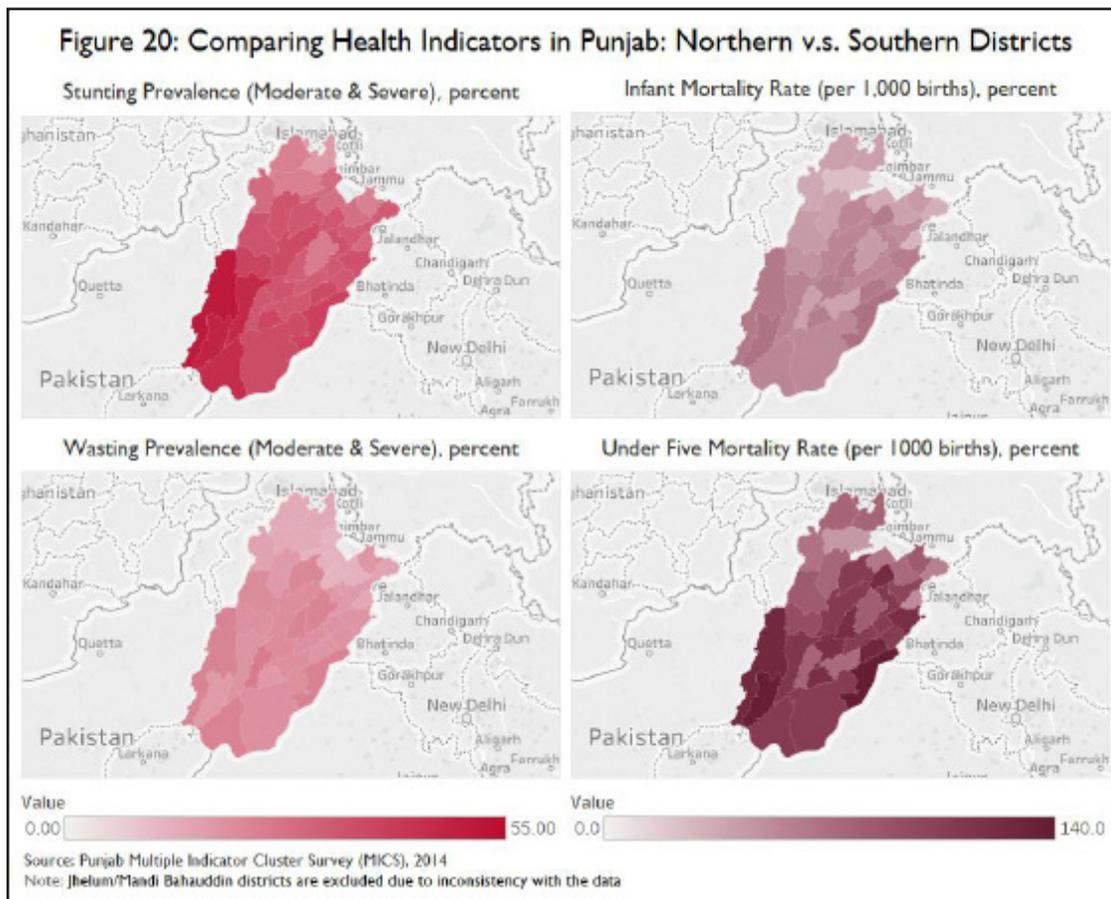
available data. The darker shaded regions in the map indicate better performance across all the education indicators included in the map, while a lighter shade of blue indicates worse performance. This is not surprising, as Punjab's northern area is home to highly industrialized clusters and urbanized districts of Lahore, Rawalpindi, Sialkot, Gujranwala, and other industrialized districts, compared with the southern counterparts (Hussain, Khan, Malik, & Faheem, 2012). The gaps between northern and southern districts become even more noticeable when looking at some actual statistics.

Per the latest available data in 2014, northern districts are doing on average 12.6 percentage points better than southern districts in terms of literacy rate for ages 10 +, 13.3 percentage points better in terms of the adult literacy rate, 16.6 percentage points better when it comes to the literacy rate among young women, and finally, 26 percentage points better when it comes to primary completion rates. Breaching the education gaps among districts will be an important challenge for the province moving forward.

**Health Sector**

Similar to the education sector, there is much to be desired in the health sector in terms of improvements, both in Pakistan in general, and in Punjab in particular. Infant mortality rates as well as mortality rates for those under the age of 5 are two very important markers of a country's overall quality of health. Reducing child mortality





was one of the top Sustainable Development Goals (SDG) goals set by the United Nations, a goal that both Pakistan and Punjab failed to achieve by 2015.

According to World Bank data, in 2014 Pakistan's under five mortality rate stood at 83 per 1,000 births. This is significantly higher when comparing with South Asia (53), and the World (44). The figures are similar when looking at infant mortality rate, with Pakistan faring much worse than others. Punjab, having the highest population in Pakistan seems to have been the main driver of this under-performance. According to the latest data from the Punjab Bureau of Statistics

in 2014, Punjab had an under-five mortality rate of 93 and an infant mortality rate of 75, which is higher than Pakistan and all other comparators (Figure 19).

The inefficacy of the health sector in Punjab is further illustrated by looking at several health indicators across different districts within the province. Similar to the education sector, the southern districts are doing much worse than their northern counterparts when looking at the different health sector indicators. The higher shaded area signifies bad performance for the selected indicators, while the lighter shaded areas means the districts are doing better for the selected indicators. When looking at the map, one can see that the prevalence of moderate and severe stunting, wasting, under five mortality rates, and infant mortality rates are quite high in the southern districts compared to their northern counterparts (Figure 20).

The current and burgeoning population of Punjab also creates a high demand for service delivery in the health sector. According to the latest data by Punjab's Bureau of Statistics, the number of hospitals and dispensaries per million populations was only 17 in 2015, while the number of beds in hospitals/dispensaries was 458 per million populations. This amounts to 58,823 Punjabis per hospital and 2,183 Punjabis per hospital/dispensary bed, a figure likely to increase due to population stress.

Over the years Punjab and Pakistan have improved in terms of overall human capital, but there still exists a wide gap when looking at comparator regions. As the most populous province of the country, improvements or lack thereof in Punjab's overall human capital will likely affect the performance of Pakistan and might help/hinder Pakistan in achieving its Sustainable Development Goals (SDG) in human capital.

## CONCLUSION

Punjab's position as the economic powerhouse and the most populous province in Pakistan provides unique opportunities and challenges for the economic growth of the country. Punjab has historically contributed more to Pakistan's economy than any other province; Punjab's agriculture sector alone comprises 7.9 percent of Pakistan's total GDP. Over the years the share of agriculture as a

percentage of the GDP has decreased both in Punjab and in Pakistan as a whole. Punjab and Pakistan also share a similar trait when it comes to agriculture employment: agriculture is the biggest employer of both Punjabis and Pakistanis. Punjab's fertile topography also enables the province to be a center of agricultural productivity and growth for the country, particularly in fertile rich divisions of Sargodha, Dera Ghazi Khan and Bahawalpur. The province is also the biggest producer of major crops in the country and as of 2013-2014 produces more than 50 percent of the top five crops in the country, namely: sugarcane, wheat, cotton, rice, and maize.

In terms of industry, the sector has the potential to spur growth in the province itself and in turn in the country. Currently the industry sector in Punjab makes up 12.5 percent of Pakistan's GDP and employs 23.3 percent of Punjabis. Over the years, the industry sector has shown volatility in terms of growth, an indication that there is room for growth in the sector. Within the industry sector, the textile manufacturing sector is the most important sub-sector in terms of employment and overall trade. The textile industry constitutes 60 percent of overall trade value in the country and can become the driver of manufacturing economic growth in the province.

Among all the sectors, however, service is by far the most important in terms of GDP contribution to the province and the country. Punjab's service sector contributes 34.1 percent to Pakistan's GDP, and makes up 57.7 percent of Pakistan's total service sector, making Punjab the most important province in terms of service sector contribution. However, the service sector's economic output over the years has not been complemented by service sector employment. Despite that, the sector will continue to be vital for Punjab's urban areas, as 55.8 percent of total employment in the urban areas is in the service sector. Within the service sector, wholesale and retail as well as transport make up the bulk of total service sector output (55.3 percent) and also provide the largest number of service sector employment at 59.4 percent. One sub-sector that is currently underutilized and has the potential for growth is the communication sector; in particular the ICT (Information Communication Technology) sub-sector.

As the most populous province of the country, the performance of Punjab will also be instrumental in addressing some of the ongoing and impending challenges such as energy shortages, low levels of human capital (education and health), and urbanization. As the largest consumer of electricity in the country, it is incumbent upon the province to provide solutions to some of the ongoing energy shortages that the country has been facing. One example of the ongoing energy shortages is in the electricity sector where both Punjab and Pakistan have been unable to meet the demand for electricity over the years. This lack of access to electricity has negatively impacted all sectors, but in particular the industrial sector, causing many factory closures. The CPEC (China-Pakistan Economic Corridor) provides one potential avenue through which both Punjab and Pakistan might be able to ameliorate some of the recent energy shortages, and the construction of Sahiwal Coal-Fired Power Plant and Quaid-e-Azam Solar Park are examples of what could be achieved. Additionally, water scarcity and lack of access to clean water are other potential challenges that need to be addressed by the burgeoning population in Punjab.

According to a 2016 World Bank report, investments in education and health sectors (human capital) will be determining factors in the overall improvement in the lives of everyday Pakistanis (Pakistan Development Update, Making Growth Matter, 2016). Unfortunately, Pakistan and its provinces have lagged behind other regions when it comes to human capital progress, as evidenced by Pakistan's inability to achieve the majority of the (SDGs) in health and education sectors by 2015 (Pakistan progress on the SDGs, 2018). Nevertheless, Pakistan is committed to meet the ongoing (SDGs) for education and health. As the most populous province in the country, Punjab's performance in achieving these goals will be key for the country.

Finally, the province of Punjab is expected to be highly urbanized in the coming decade. According to projections by the Punjab Bureau of Statistics, Punjab's urban population will be an estimated 52.2 million by 2025 and increase to 61.3 million by 2030, which means that the province will add close to two million urban residents per year. While urbanization brings many opportunities (e.g. a large middle-class that takes part in the economy), it also poses a number of challenges. Aside from infrastructure challenges and service availability challenges (e.g. in the health sector), urbanization also poses energy challenges to the province which has been acutely felt in the form of electricity shortages over the years.

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**DISCLAIMER:** The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government.

### Endnotes:

<sup>1</sup> The only source with data on Punjab's GDP as well as its components (Agriculture, Industry, and Service) was the Punjab Economic Research Institute paper which was published by the Government of Punjab. Unfortunately, the data shown in this paper contained some inconsistencies. For example, when looking at Annex I in Chapter I of the report, the Total GDP given for Punjab in the first table is different from the Total GDP obtained when aggregating across the total value of all the sectors, as shown in their own separate tables. We used our best judgment as well as research to analyze and select the figures from this paper that seem most accurate.

<sup>2</sup> The governmental tiers of Pakistan are as follows:  
Country (e.g. Pakistan) > Province (e.g. Punjab) > Division (e.g. Multan) > District (e.g. Vehari) and so on.

<sup>3</sup> Net intake rate in grade I for example is the number of new entrants in the first grade of primary education who are of official primary school entrance age, expressed as a percentage of the population of the corresponding age.

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