



CITIES AS DRIVERS OF GROWTH

METROPOLITAN COMPETITIVENESS INDEX REPORT



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Policy Research Institute of Market Economy (PRIME) is a public policy think tank striving for an open, free and prosperous Pakistan by writing, networking and campaigning for economic freedom.

This report, 'Cities as Drivers of Growth', aims at assessing the state of third tier governments and determining the competitiveness of five metropolitans of Pakistan, namely, Islamabad, Karachi, Lahore, Peshawar and Quetta, through the Metropolitan Competitiveness Index (MCI). The MCI is determined using three pillars of economic dynamism, infrastructure efficiency and livability aspects.

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Executive Summary

Urbanization has the potential to drive productivity, with cities as engines of growth. Cities create opportunities and play a key role in creating jobs, enhancing market competition and improving livability. However, if cities are managed poorly they may become centers of disease, crime, and despair. Considering these opportunities and challenges cities offer, Policy Research Institute of Market Economy (PRIME) has initiated a research stream on urban and city competitiveness. This report is one of the very few research endeavors in Pakistan to inform the dialogue on cities and urbanization in Pakistan. The importance of such a research has increased manifold as Pakistan's population is expected to reach 230 million, from today's 208 million, by 2030. The share of urban population will increase from 36% (2017) to 46.6%, with about 17 cities having populations of more than one million.

There are various attributes of cities—smart cities, sustainable cities, walkable cities, people friendly cities, art and cultural cities among others—that are generally driven by the sociopolitical choices of a society. However, this report is focused on competitiveness of Pakistan's five cities (Federal and provincial capitals). It presents an informed comparative analysis of the competitiveness of Pakistani cities with quantitative city-based data. It takes a broader view that incorporates the economic aspects alongside infrastructural and livability aspects. The main objective of the report is to collect, compile and update information and data at the local level from Islamabad, Peshawar, Lahore, Quetta and Karachi to create the Metropolitan Competitiveness Index (MCI) for each. In order to capture the perceptions regarding competitiveness, the study also presents findings of consultations arranged in each city and compares these perceptions to the MCI based on factual data. People from private sector, academia, local government and civil society participated in these talks. The main objective of these talks was to identify the city specific issues and problems.

The Metropolitan Competitiveness Index (MCI) is constructed on the basis of three main pillars: the first pillar is Economic Dynamism (ED); the second pillar is the Infrastructure Efficiency (IE) while the third pillar covers Livability Aspects (LA). There are 13 sub pillars and a total of 41 indicators.

The study evaluates each city based on all indicators. The analysis shows that out of 41 indicators, Islamabad ranked first 39 percent of the times. Lahore ranked first 27 per cent of the time. Karachi and Quetta ranked first 12 percent of the time. Peshawar

ranked first only 9 percent of the times. All except Islamabad ranked second more than 20 per cent of the time.

Islamabad is ranked first in economic dynamism, infrastructure efficiency and livability aspects. The index value for Islamabad is much higher as compared to the other cities. This indicates that there is a huge difference in the competitiveness of Islamabad and other cities.

Lahore is ranked second in economic dynamism, third in infrastructure efficiency and fifth in livability aspects. Overall, Lahore is ranked second in MCI. The value of MCI for Lahore is 0.50, showing that it is a moderately competitive city.

Karachi is ranked third in economic dynamism, fourth in infrastructure efficiency and second in stability and environment & recreation. Overall, Karachi is ranked third in MCI. The value of MCI is 0.45, which is slightly lower than Lahore.

Peshawar is ranked fourth in economic dynamism, fifth in infrastructure efficiency and fourth in livability aspect. It ranks fourth in MCI overall. An MCI value of 0.38 indicates low competitiveness for Peshawar. Quetta ranks fifth in economic dynamism, second in infrastructure and third in livability aspect. Overall, Quetta ranked fifth in MCI with a value of only 0.35.

These results correspond well with the feedback gathered during the consultative sessions. Attendees of the consultative session at Islamabad pointed out that Islamabad has grown a lot after its inception because it was a city which primarily focused on livability, consequently economic growth and prosperity followed. The session at Quetta helped identify a growing problem of lack of entertainment and recreational activities within the city along with dysfunctionality of basic systems being indicators of inefficient infrastructure. Furthermore, it was highlighted that businesses in Quetta are being driven away due to a lack of processing and storage units available and also due to the rising shortage of water. This puts Quetta's last place on the MCI into perspective.

Focus groups in different cities were helpful to know that stakeholders are keen to discuss and resolve pressing challenges in their cities. However, top-down planning has generally hindered this process. Many participants highlighted the need to develop city-based partnerships to address economic and social challenges. City governments were also open to professional advice for making their cities more competitive.

For a considerable length of time, planning in Pakistan viewed the emergence of cities as a threat rather than an opportunity. There has been a shift in the thinking since late 2000s, but it has yet to be translated into policies, programs and investment projects. Metropolitan governance is weak and under-resourced. The governing bodies are unsure regarding the city development pathway and general direction. All five metropolitans visited, lacked city visions and had no clear outlines of growth.

Now is the right time for Pakistan to acknowledge the role of cities in attracting investment and providing jobs to the youth. This goal can only be achieved with more competent and professional local governments, conducive business regulations, improvements in the quality of life through better provision of basic services such as education, health, water, and security, and research-based decision making.

1. Introduction

Pakistan's population is expected to reach 230 million, from today's 208 million, by 2030. The share of urban population will increase from 36% (2017) to 46.6%, with about 17 cities having populations of more than one million. (Business Recorder, 2016) If Pakistan manages its urbanization properly, it will have greater economic opportunities and higher economic growth for sustainable development and better living condition of its people. Urbanization has the potential to drive productivity with cities as engines of growth. Cities create opportunities and play a key role in creating jobs, enhancing market competition and improving livability.

Economic expansion has a peculiar relationship with growing urbanization. Developed economies are overwhelmingly urbanized, whereas urban population are burgeoning in most of the emerging economies with rising economic footprint. This ensuing trend is evident from the economic and population statistics of the 25 largest economies, as tabulated in **Table A** in the annexure. In developed economies, urbanization is ranging from 70% to 94%. Even on an average, 57.2% of population in largest 25-economies resides in urban centers. Pakistan urban ratio is 18% lower than this global ratio.

Growth opportunities for business sectors are effectively dependent on the quality of economic governance in major cities of the country. It is becoming an established fact that large cities drive economic growth of the countries. They concentrate resources and skill set that provides the requisite scale to undertake large industrial and service ventures. In actual, economic competition has become more between global metropolitan cities than their countries of origin. New York, London, Paris, Shanghai, Sao Paulo, Johannesburg, Mumbai, Istanbul, Bangkok, Kuala Lumpur and others are vying for global capital and inward investments for sustaining their competitiveness and quality of living.

Bulk of the year 2016 global trade of \$15.6 trillion and FDI flow of \$2.3 trillion originates and resides in major urban centers of the world. Location remains the game in the town for attracting funds and talents. Large urban agglomerations offers scale and competitiveness to businesses for economic expansion. Take the case in point of China. A country, which was able to pull over 400 million of its citizens out of poverty in a single generation, an unprecedented feat in human history. Its economic ascendancy and rapid urbanization has a peculiar relationship. In early eighties, its urbanization ratio was lower than Pakistan. As per latest figures, its urbanization ratio is 18 points ahead of Pakistan and its economy 22-fold larger than Pakistan.

Idea for this Metropolitan Competitiveness Index (MCI) emerged from the realization of importance of metropolitan regions in being the pivot for economic concentration and innovation. Pakistan is not a small country, it is sixth most populous country, but the 25th largest economy. The country has enormous untapped and unrealized economic potential. With a relatively young history, the country has been witnessed to various political and economic upheavals over the span of decades.

Pakistan is a federation, where the large major constitutional exercise for devolution took place in 2010, under the grab of 18th amendment. It devolved powers from federal government to four provincial governments. However, the journey for further devolution from provinces to local governments has been impeded. On one hand, provinces have grievances against center of acting more like a unitary state rather than operating in a federation spirit. On the other hand, provinces are now operating in a unitary manner with concentration of fiscal and political powers with the provincial elite. Now the question arises about the agility of such structure in addressing civic and economic issues in an effective and efficient way.

Islamabad, Karachi, Lahore, Peshawar and Quetta all have their own municipal corporations with elected mayors in place. City specific chambers and other business associations have also been operating for long. Under the constitution, provincial governments are authorized to legislate a local government system and hold its elections accordingly. However, devolution journey in the federal state of Pakistan is still continuing. Elections for local governments have been held and elected third tier setup is in place in all provinces and federal capital, but effective fiscal and administrative devolution is evolving.

Pakistani metropolitan cities have to be benchmarked on their capacity to service business sectors in order to ascertain requisite governance reforms. This project of developing a Metropolitan Competitiveness Index is meant to precisely serve this purpose. Major metros of Pakistan are struggling to meet the demands of their dwellers for the provision of quality municipal services, adequate infrastructure for sustaining competitiveness and job creation.

On standalone basis, Punjab, the largest province of Pakistan, will be 12th most populous country of the world. As per 2017 census, 75.6 million urban population of Pakistan makes up 36.4% of the total population. Though veracity of this figure is contested by number of independent economists, but even if it is taken as reference, then as of today there are 10 cities in Pakistan with a population of million and above. Data on the most populous cities of Pakistan is tabulated in **Table B** in the annexure.

For the first phase of this project, five of these cities have been selected to be analyzed in this report namely Islamabad, Peshawar, Lahore, Quetta and Karachi.

Economic competitiveness and resilience of these cities will influence the standing of Pakistan on the global economic parameters. It may be reiterated here that the role of urban economies in economic ascendancy of Pakistan will not be different than the contribution of urban agglomerations in the growth of other countries.

This study aims to contribute to the strategic initiatives of the “Pakistan Vision 2025” which emphasizes the increasing demand for city-wide data for knowledge communication in order to make cities the hubs of economic growth. This report is the first step to track the performance of Pakistani cities through the Metropolitan Competitiveness Index (MCI). Competitiveness of a city is defined as;

“The city that provides inclusive opportunities for social and economic mobility of individuals, businesses, and communities.”¹

The study has primarily built its framework of measurement of competitiveness on the preceding concept of competitiveness.

An informed comparative analysis of the competitiveness of Pakistani cities with quantitative city-based data has been presented in this report. It takes a broader view that incorporates the economic aspects alongside infrastructural and livability aspects. The index captures capability in human development, decent work and employment opportunities, besides reflecting the improvement of Pakistan’s ranking in the global competitiveness index.

In order to gather perceptions regarding city competitiveness, consultations in each city were also conducted. Participants included people from private sector, academia local government and civil society. The main objective of these sessions was to identify the major constraints regarding urban governance in each of the selected cities.

¹ As defined by Naveed Iftikhar, Research Fellow at PRIME

The report has three sections after the introduction, the literature review, the methodology and lastly city ranking. Literature review mostly comprises of academic papers and international organizations' report contextualizing the need for this project and putting into perspective the variables used in the study to be linked to growth of cities. The next section shares the methodology used for construction of MCI, providing the list of indicators along with data sources for each city, standardization methodology used for each indicator and weights assigned to each pillar. The last section tracks the performance and analyzes the current state of selected cities in terms of economy, infrastructure and livability.

2. Literature Review

Throughout history, cities have been a vital engine of growth and productivity, and have played a very crucial role for the future growth and competitiveness of nations. As urbanization is increasing rapidly and tremendously, competitiveness of cities needs to be emphasized.

Urbanization has so far been both promising and problematic for Pakistan. On one hand, it shows to boost the country's sagging economy. While on the other hand, we know that it will burden the labor market significantly, and test Pakistan's ability to provide housing, transport, education, jobs, healthcare, water, and energy to its urban population.

A primary focus of research studies as well as academic papers remains competitiveness. It is identified as an essential factor in growth of metropolitans which leads to job creation, private sector growth, poverty alleviation and many more positive externalities. According to the World Bank, enhancing the competitiveness of cities is a pathway towards eradicating poverty and increasing shared prosperity. A competitive city is one which facilitates its firms and local industries to create jobs, raise productivity and increase incomes of citizens over time. Improving the competitiveness of cities can result in eliminating extreme poverty and promoting shared prosperity. If only more cities performed like the world's most competitive cities, millions of additional jobs can be created.

Over the years, the primary source of job creation has been the growth of private sector which has nearly accounted for around 75 percent of job creation. Hence, city developers and city leaders must possess knowledge on the factors that help attract, retain and expand the private sector in order to increase productivity and development. (Competitive Industries and Innovation Program, 2015) It is therefore safe to conclude that increasing competitiveness not only leads to alleviating poverty, but the growth of private sector also accounts, eventually becoming a primary source of job creation.

Similarly the World Economic Forum's report "The Competitiveness of Cities" highlights the megatrends existing in cities which include urbanization, emerging class system, rising inequality, sustainability, technological change, inefficient governance system amongst others. It builds a strong case for sustainable productivity: efficiently using scarce resources to meet the needs of the current generation without compromising on the needs of the future generation.

This report states that in the coming decades we will get to witness the next wave of mass migration to cities, especially in Asia and Africa. One of the two chief factors identified for Pakistan's urbanization is the massive rural-to-urban migration. Megacities are believed to become the driving engines of growth, poverty reduction and prosperity over the course of this century. The objective of states should remain to encourage city leaders, policy-makers at local, regional, national and international levels, and academic and other experts to focus on city competitiveness and to encourage a rich global dialogue on this issue so it may lead to path-breaking initiatives that address the multiplicity of challenges facing today's cities. In the present day, cities are causing as well as affected by rising inequality. As a result of urbanization the development gap between cities, small towns and rural areas is increasing at a much faster pace than ever. (World Economic Forum, 2014)

Increasing competitiveness of megacities will generate growth, but the gap resulting from urbanization must be analyzed carefully, it is an alarming situation for the growth of a nation. To address issues created by rapid urbanization effective reforms need to be implemented and specific reforms can only be carried out by efficient government structures. This leads us to another important theme of governance structures in urban centers.

The Challenge of Urban Policy discusses the power dynamics in an urban society. Glaeser (2012) thoroughly analyzes the power dynamics in an urban society and explores the relationship between government control and decentralization with urbanization. He states that there is great heterogeneity of opinion about the appropriate level of control within the government and draws a comparison between various governments quoting examples of France and the United States. A vast majority of urban policies are considered tools for fighting local externalities, such as the provision of clean drinking water or constructing a road. The right strategy for such issues remains unclear; a right mix of engineering and economics is needed for positive effects. For matters concerning urban policy, laissez-faire may not be feasible as some regulations are required. Despite decades of debate, there is less clarity about private provision of city services and federalism. Glaeser while quoting Mumbai's example mentions that due to restrictions on building heights, buildings in the city center have an average floor area ratio of 1.33, meaning the average building height is one and a third stories.

One justification for these controls is that they were an attempt to reduce the growth of the city, but they don't seem to have had much success at that. Mumbai now has extremely high prices and an extremely sprawling cityscape, which has surely been

encouraged by these restrictions. We see that in Pakistan, Islamabad has a similar problem of city and suburban sprawl. The core powers of city governments are determined entirely by the state, and many states severely restrict local freedom. Strong arguments exist against local control as well. In the case of privatization, there are plenty of examples of both positive and negative results from moving away from public management. In the case of federalism, there is an abundance of theory and a paucity of compelling empirical evidence. While researchers have discovered important facts about urban policies, the state of knowledge is still woefully incomplete. Research has much to add to the policy debate, but still more to uncover. (Glaeser, 2011)

Manhattan and Shenzhen are some success stories that illustrate how humans can advance the society trying to increase living standards as well as achieving an increase in supply on the required scale. But for that a state needs a strong systematic government structure to be able to protect its citizen's rights, freedom, meeting their needs and most importantly increasing the economic conditions or scenario of a nation. In order to protect citizen's rights, a state must ensure a strong and a systematic governance structure. Once effective governance structures have been implemented in cities, the cities start growing and improving.

Literature pertinent to the growth of cities is important to review as Pakistan is urbanizing at an annual rate of 3 percent—the fastest pace in South Asia. However the economic growth potential of cities has largely been ignored due to a lack of urban policy, according to Nadeem ul Haque an economist and former Deputy Chairman of Pakistan's Planning Commission. Duranton and Puga discuss why cities grow in population, surface area, and income per person, and compare which cities grow faster and identify the reasons for varied growth speed in "The Growth of Cities". Consistent with the monocentric city model, according to them fewer roads and restrictions on housing supply hinder urban growth. In recent decades, cities with better amenities have grown faster. (Duranton & Puga, 2014) In our cities, we have witnessed that roads is given a lot of importance which is a positive sign for development. However, there should be a balance in priorities. In the annual development plan, budget allocated to roads is even higher than that of education. (Kugelman, 2014)

On the other hand, Chinitz identifies agglomeration economies and human capital as two significant phenomena leading to city growth. In his paper "Contrasts in Agglomeration: New York and Pittsburgh". He compares the aggregational differences between Pittsburg and New York. And talks about specification of a function which

relates external economies and diseconomies to industry structure, size being held constant, taking into account factors such as entrepreneurship as well. (Chinitz, 1961) Developing new and existing cities creates opportunities and improves our ability to come up with better solutions.

According to Fuller and Romer (2014) building new cities along with expanding the existing ones is an important goal towards development and urbanization. New cities may offer new and increased opportunities to people alongside an opportunity to experiment with finding innovative solutions to existing problems. It is critically essential that people adopt new social rules required to structure the interactions of city life as well as develop a mechanism that lets the rules evolve to keep up with the changes in our social and technological environment.

Pakistan unfortunately experiences quite the opposite as its urban problems have continued to balloon despite policies, master plans and community development projects. Cities where new rules are developed help them learn and grow but Pakistani cities seem to be running on archaic management systems and cities primarily being considered as residential units solely. Failure is a learning experience for cities. Taking risk is a big lunge but failure is nothing in comparison to the possible success we might achieve.

Using new cities to implement reforms and learn from them makes it easier to understanding how to develop a nation and ensure balance between protecting the interests as well as the rights of the community and allowing individual freedom. Some new emerging cities may perhaps fail just like when new firms enter the market and are a disappointment or failures. But, nonetheless, it is a learning point for us, startups of both types still create value because the cost of failure is so small as compared to the success or benefit of even one roaring success.

Taking advantage of the opportunity, skills and resources we have and seeing an increase in competition among countries to cater for the needs of people trying to attract more productive individuals into their nations, we as a developing nation should plan a strategy both for new cities and the dramatic expansion of existing cities focusing on providing the basic necessities to people and hoping to achieve at least a few Millennium Development Goals. At this point learning from developed nations is crucial for us so we too can develop to be a successful nation. The best way for achieving the intention behind those goals is to shift focus to a single overarching goal; every individual should be able to choose between several cities that compete to

attract its members as permanent residents by fulfilling their basic needs as well as providing them opportunities. (Fuller & Romer, 2014)

Over the years scientific, social, political, economic and technological innovations have happened in human agglomerations commonly known as cities. Unfortunately Pakistan's economic growth policy remains stuck in the phase of "factor accumulation, infrastructure development and aid" remarks Dr. Nadeem ul Haque in his paper *Flawed Urban Development Policies in Pakistan*. The productivity of cities tends to differ between rich and poor nations.

Austere policies alongside increasing demands from the government have denuded capacity everywhere. It is stated that the country now has no funding for research or for social policy interventions. Urban areas in Pakistan are getting densely populated, without proper planning and administration of these areas there will be an imbalance of population residing in urban and rural areas of Pakistan. 70 percent of Pakistan's population lives in areas that are dense enough to be called urban or urbanizing. Pakistan is an urban country where the policy narrative refuses to accept this reality and keeps formulating its policy in accordance with a rural setup. This approach has led to Pakistani cities developing as large suburban sprawls.

All Pakistani cities appear to have no downtowns or city centers - dense areas of mixed use concentrate residential, office, commercial and entertainment within an almost walkable district. Spread out development makes public transport provision almost impossible along with dismantling walkability within a city. Investments in urban transport infrastructure have so far ignored the travel demand needs of the majority of urban dwellers. These dwellers do not rely on cars, rather commute by walking, using public transport or motorized two-wheelers which is unfortunately not catered for. (Haider, 2014) In metropolitan cities, cars are not at a premium; walking and bicycling should be facilitated so that cities are environmentally friendly, and promote walkability. However, cities in Pakistan have failed to integrate land use and transport. Which has led to interrupted mobility and zero accessibility for low income commuters.

Cities in Pakistan focus on building wide avenues, flyovers and giant parking lots which are not people friendly, and slow down interaction and network development. Which is why they are discouraged internationally. Urban spaces in Pakistani cities lack not only entertainment but also social and community centers. Defense Housing Authority, an affluent Lahore suburb comprising the equivalent of about 15 percent of Karachi's metropolitan area, has 26 mosques—but only one library and one cinema.

(Kugelman, 2014) Furthermore, city administration is fragmented in most cities if not all; for example Karachi has 5 cantonments and 3 administrative districts with no metropolitan body to coordinate between the cantonments and administrative districts or even within the administrative districts. Haque notes that cinemas have actually decreased in every Pakistani City since independence and the data collected for MCI shows that cities such as Quetta and Peshawar have one cinema each for a population of over 10 million.

Planners in Pakistan remain grounded in yesterday's model and are pushing the suburban dream. For Pakistani cities to grow into urban spaces, city zoning needs to be deregulated to allow for the kind of city that is conducive to jobs and growth. (Haque, *Flawed Urban Development Policies in Pakistan*, 2015) Pakistan lacks adequate city administration and the authorities on the other hand are focused on building infrastructure without proper planning. Urbanization of cities and city zoning can only be done through proper planning and directions which is vital for the growth and development of Pakistan. (Fuller & Romer, 2014) There are international indices, which rank metropolitan cities based on multiple factors. Unfortunately though, amongst all of Pakistan's metropolitans only Karachi has been able to compete internationally. To top it off, it seems to not being too well on these rankings.

Astonishingly, Karachi is ranked 111th out of 120 cities in the Economist's report index of "Hotspots 2025: Benchmarking Future Competitiveness of Cities". Karachi receives a score of 37 out of 100, which has shown an improvement of 0.8 over a year. Karachi's population grew 80 percent between 2000 and 2010. (Kugelman, 2014) As per World Bank estimates, Karachi needs around US\$9 billion to US\$10 billion in financing over a 10-year period to meet its infrastructure and service-delivery needs in urban transport, water supply and sanitation, and municipal solid waste.

However, in the long term, policy makers must leverage more advanced sources of financing by creating an enabling environment via policy reforms and innovations, such as: explicit performance-based grants for local governments; instruments for land-value capture, which will enable sharing in the benefits of increases in private land and property values due to infrastructure improvements, especially around planned mass transit stations; sub national or municipal bonds, enhanced credit, and loan options through guarantees—such as those issued by sovereign entities or multilateral organizations—that will enable governments to obtain private and/or institutional financing; innovative public-private partnerships, special-purpose vehicles, and infrastructure funds to invest in Karachi's needs. (World Bank, 2018) Policy makers need to cater and bring about more advanced sources of financing to

attract investments in order to develop a nation as well as grow both economically and politically.

The quality of institutions such as a city's ability to tax, plan, legislate, enforce laws and its willingness to be held accountable by its citizens matters greatly for a city's economic competitiveness. The stronger the institutions the more developed a nation will be. Responsive local governance and efficient bureaucracy are institutional imperatives that flow directly from the collectivization of public life in urban areas. Systematization of the urban land (property) tenure system is also an essential prerequisite for making cities livable, prosperous, and just. (Qadeer, 2014)

Cities of all sizes can be competitive. There is no correlation between a city's size and its competitiveness. However, the quality of a city's physical capital, be it the quality of its physical infrastructure, public transport and telecommunications infrastructure, is highly correlated with its overall competitiveness. The more capital cities have the more they are able to compete with other cities and develop themselves. (The Economist, 2013) Acquiring physical, human and financial capital is vital for the development of a nation in order to progress and compete on international level. Without it nations cannot expect to flourish.

Throughout the literature reviewed the key findings focused primarily on competitiveness. Competitiveness not only leads to alleviating poverty, but the growth of private sector also resultantly leads to becoming a primary source of job creation. Increasing competitiveness of megacities does generate growth, but the gap resulting from urbanization must be analyzed carefully as urbanization can be overwhelming. Human capital, governance and infrastructure are also significant elements in the urbanization process of cities. Developing new and existing cities creates opportunities and improves our ability to come up with better solutions.

3. Construction of MCI

This chapter outlines the methodology used for construction of MCI. It also provides the list of indicators along with the data sources for each city. The construction of MCI requires a comprehensive data set specific to city. The chapter is divided in three sections. Section 3.1 discusses the indicators and data sources used for the construction of MCI. Section 3.2 provides standardization methodology used for each indicator. Section 3.3 discusses the methodology and weights assigned to each pillar.

3.1 Indicators and Data Sources

The MCI is constructed to track the performance of metropolitan areas in 5 cities of Pakistan, namely Islamabad, Lahore, Karachi, Quetta and Peshawar. It is constructed on the basis of 3 main pillars. These pillars are derived from the literature on urbanization and cities, and discussions with key experts in Pakistan on urban policy. The first pillar is Economic Dynamism (ED), while the second pillar is Infrastructure Efficiency (IE). Under the third pillar, Livability Aspects (LA) are covered. Together, these three pillars constitute the MCI. There are 13 sub pillars and a total 41 indicators.

Table 3.1: MCI, Pillars, Sub Pillars and Indicators

| | <i>Sub Pillars</i> | <i>Indicators</i> |
|----------------------------------|--------------------|-------------------|
| <i>Economic Dynamism</i> | 6 | 19 |
| <i>Infrastructure Efficiency</i> | 4 | 15 |
| <i>Livability Aspects</i> | 3 | 8 |
| <i>Total</i> | 13 | 42 |

Economic Dynamism consists of the following sub pillars: size and growth, employment, productivity, cost of doing business, investment and financial penetration. The list of indicators for each sub pillar is given in Table 3.2.

Table 3.2: Economic Dynamism: Indicators and their description

| <i>Variable</i> | <i>Description</i> | <i>Data Sources</i> | <i>Year</i> |
|--|---|--|--------------------|
| <i>Size and Growth</i> | | | |
| <i>Per Capita Income</i> | Annual household income from all sources divided by the total population of the city. | Pakistan social living standards measurement survey(PSLMS) | 2014-15 |
| <i>Real Growth Rate</i> | Real growth rate of household income | PSLMS | 2010-11 to 2014-15 |
| <i>Inflation Rate</i> | Growth rate of CPI | Monthly Bulletin of Statistics, PBS | 2016-17 |
| <i>Per Capita Federal Tax Collection</i> | Tax revenue collected by RTO and LTU office | FBR, Yearbook | 2014-15 |
| <i>Employment and Productivity</i> | | | |
| <i>Labor Force Participation Rate</i> | % of people age 10 & above looking for job during last one year | PSLMS | 2014-15 |
| <i>Employment to Population Ratio</i> | Total employed divided by total population of the city | PSLMS, Census PBS | 2014-15 |
| <i>Income earned by employed person</i> | Total earned income divided by total employed labor | PSLMS | 2014-15 |
| <i>Investment and Financial Penetration</i> | | | |
| <i>Registered firms by SECP</i> | Total number of registered firms with SECP | SECP | 2016-17 |
| <i>Registered firms by Chamber of Commerce (COC)</i> | Total number of registered firms with COC in each city | COC in each city | 2016 |
| <i>Bank Branches</i> | Total number of bank branches divided by population of the city | SBP | 2015 |
| <i>Cost of Doing Business</i> | | | |
| | 8 indicators | Doing Business report | 2010 |

Infrastructure efficiency includes education, health, other services and physical infrastructure. Each pillar is divided into three types of indicators - input indicators, output indicators and cost indicators. Table 3.3 gives the list of indicators along with the data sources and description.

Table 3.3: Infrastructure Efficiency: Indicators and their descriptions

| <i>Variable</i> | <i>Description</i> | <i>Data Sources</i> | <i>Year</i> |
|--|---|--|------------------|
| <i>Education</i> | | | |
| <i>Net Enrolment</i> | Net primary enrolment of age 6- 10 | PSLMS | 2014-15 |
| <i>Literacy rate</i> | Literacy rate age 10 & Above | PSLMS | 2014-15 |
| <i>Educational institutions</i> | Educational institutions divided by population | Academy of Educational Planning & Management | 2015-16 |
| <i>Cost of education</i> | Education price index (2007-08 =100) | Monthly Bulletin of Statistics, PBS | 2016-17 |
| <i>Health</i> | | | |
| <i>Population per Hospital</i> | Population divided by total number of hospitals in each city | Provincial development statistics and statistical year book, PBS | 2015-16 |
| <i>Population per Bed</i> | Population divided by total number of beds in each city | Provincial development statistics and statistical year book, PBS | 2015-16 |
| <i>Infant Mortality Rate</i> | Infant mortality rate per 1000 | Provincial Bureau of Statistics | 2010, 2014, 2017 |
| <i>Cost of Health index</i> | Health price index (2007-08 =100) | Monthly Bulletin of Statistics, PBS | 2016-17 |
| <i>Other Services</i> | | | |
| <i>Access to improved water</i> | % household access to tap water, motorized pumping water and filter water | PSLMS | 2014-15 |
| <i>Access to proper sanitation facilities</i> | % of household with proper sanitation facilities | PSLMS | 2014-15 |
| <i>Physical Infrastructure</i> | | | |
| <i>Vehicles (per 1000 persons)</i> | Total number of vehicles divided by population | City excise offices | 2014-15 |
| <i>Vehicles (per km)</i> | Total number of vehicles divided by road length | City master plans | |
| <i>International and National Flights (per 100,000 people)</i> | Total number of flights landed divided by population | Civil Aviation Authority | 2016 |
| <i>Cost of Transportation</i> | Transportation index (2007-08 =100) | Monthly Bulletin of Statistics, PBS | 2016-17 |
| <i>Cost of Communication</i> | Communication index (2007-08 =100) | Monthly Bulletin of Statistics, PBS | 2016-17 |

Livability aspect covers stability, environment, recreation activities and cost of living. Livability indicators and their descriptions are given in Table 3.4.

Table 3.4: Livability Aspects: Indicators and their descriptions

| <i>Variable</i> | <i>Description</i> | <i>Data Sources</i> | <i>Year</i> |
|---|---|---|-------------|
| <i>Stability</i> | | | |
| <i>Crime rate per 1000 persons</i> | Total number of crimes divided by population per thousand | Provincial Development Statistics, Islamabad police department | 2014-2016 |
| <i>Fatalities due to terrorist activities</i> | Total number of fatalities divided by total number of population | Center for Research and Security Studies | 2016 |
| <i>Number of policemen (per 1000 people)</i> | Total number of policeman divided by population per thousand | Local Police Department Number for Karachi and Lahore taken from Newspapers | 2013-2016 |
| <i>Environment & Recreation</i> | | | |
| <i>Number of Cinemas</i> | Total cinemas divided by population per million | Pakistan Bureau of Statistics | 2016 |
| <i>Air Pollution</i> | Concentration of suspended particulate matter in micrograms per cubic meter of air. | Ministry of Finance | 2016 |
| <i>Waste Generation</i> | Total waste generation divide by total population | Waste collecting agencies in each city | 2012-2016 |
| <i>Cost of Recreation</i> | Price of recreation activities (2007-08=100) | Monthly Bulletin of Statistics, PBS | 2016-17 |
| <i>Cost of Living</i> | | | |
| <i>Consumer Price Index</i> | Consumer price index (2007-08 =100) | Monthly Bulletin of Statistics, PBS | 2016-17 |
| <i>House rent</i> | Average House rent per month | Monthly Bulletin of Statistics, PBS | 2016-17 |

3.2 Standardization of the Indicators

Once the data is collected for each indicator, the next step is to normalize all the indicators. This will help us to avoid the problem of different units. We have used HDI score methodology to standardize the indicators.

$$SS_{i,k} = \frac{(X_{ik} - X_{i,min})}{(X_{i,max} - X_{i,min})}$$

$SS_{i,k}$ = Standardize score of i th indicator for k^{th} city

X_{ik} = Value of i th Indicator for k^{th} city.

$X_{i,min}$ = Minimum value of the i^{th} indicator

$X_{i,max}$ = Maximum value of the i^{th} indicator

There are some indicators for which the higher value is categorized as poor performance, for example, cost related indicators. For such indicators we have transformed the above formula and used it as follows:

$$SS_{i,k} = \frac{|X_{ik} - X_{i,max}|}{|X_{i,max} - X_{i,min}|}$$

$SS_{i,k}$ = Standardized score of i^{th} indicator for k^{th} city

X_{ik} = Value of i^{th} Indicator for k^{th} city

$X_{i,min}$ = Minimum value of the i^{th} indicator

$X_{i,max}$ = Maximum value of the i^{th} indicator

$SS_{i,k}$ can take values from 0 to 1. Cities with the value of $SS_{i,k}$ closer to 1 are considered as better and cities with the value closer to 0 are considered poor.

3.3 Weights and Construction of MCI

After standardization of all the indicators, the next step is optimal weights selection and construction of MCI. Equations 3.1, 3.2, 3.3 and 3.4 below give weights for each pillar and sub pillar.

$$MCI = 0.4 * ED + 0.4 * IE + 0.2 * LA \quad (3.1)$$

MCI = Metropolitan Competitiveness Index

ED= Economic Dynamism of the Metropolitan Area

IE = Infrastructure Efficiency

LA= Livability Aspects

$$ED = \frac{1}{6} * \text{Size and Growth} + \frac{1}{6} * \text{Investment and Financial Penetration} + \frac{1}{6} * \text{Employment and Productivity} + \frac{1}{6} * \text{Cost of Doing Business} \quad (3.2)$$

$$IE = \frac{1}{4} * \text{Education} + \frac{1}{4} * \text{Health} + \frac{1}{4} * \text{Other Services} + \frac{1}{4} * \text{Physical Infrastructure} \quad (3.3)$$

$$LA = \frac{1}{3} * \text{Stability} + \frac{1}{3} * \text{Recreation\&Environment} + \frac{1}{3} * \text{Cost of Living} \quad (3.4)$$

Simple average of all the indicators for the sub pillars that contain more than 1 indicator has been taken. Sensitivity tests are carried out to check the robustness of the weights.

4. City Rankings

As stated earlier, the main objective of this study is to analyze the performance of selected Pakistani cities in terms of economy, infrastructure and livability. Chapter 3 of the report presented indicator wise data sources and methodology used for constructing the MCI. Based on this methodology, this chapter analyzes the current state of 5 cities of Pakistan. The chapter is divided into four sections. Sections 4.1 analyzes the performance of each city in economy related indicators, Section 4.2 analyzes the state of infrastructure in each city. Section 4.3 covers the livability aspect of each city. Finally, Section 4.4 gives the ranking of each city in MCI.

4.1 Economic Dynamism

As explained in the previous chapter, Economic Dynamism covers following sub pillars: size and growth of the city economy, employment generation, investment opportunities, financial deepening, productivity, government intervention and cost of doing business. 19 indicators have been used to track the economic dynamism in the cities.

4.1.1 Size and Growth

This sub pillar consists of per capita real income of the city, real growth rate of income and inflation rate. A city is considered as better if it has higher per capita income and real growth rate and low inflation rate. Table 4.1 below gives the performance of each city in terms of the above-mentioned indicators.

Table 4.1: Per capita income, real growth rate of income, Federal tax collection and inflation rate by city

| Cities | Per Capita Income | Real Growth Rate | Inflation Rate | Per Capita Federal Tax Collection |
|------------------|-------------------|------------------|----------------|-----------------------------------|
| | Rs. | % | % | Rs. |
| <i>Islamabad</i> | 124,901* | 4.1 | 9.2* | 448,503* |
| <i>Karachi</i> | 86,547 | 9.3 | 8.4 | 103,002 |
| <i>Lahore</i> | 74,728 | 7.5 | 8.0** | 38,700 |
| <i>Peshawar</i> | 68,139 | 12.3* | 8.8 | 28,400 |
| <i>Quetta</i> | 45,335** | -1.5** | 8.3 | 25,458** |

* highest, ** lowest

It is interesting to note that although Islamabad has the highest per capita income, it also has a higher inflation rate. This implies the cost of living in Islamabad is very high. The city of Peshawar is the fastest growing city in terms of income. The per capita income and growth of income is the lowest in Quetta. In fact, Quetta has a negative growth of income. The per capita income of Quetta is less than half of the per capita income of Islamabad.

4.1.2 Employment and Productivity

The next sub-pillar is the state of employment and productivity of these cities. For this we have used three indicators. A city with higher labor force participation rate is considered to be better, because it has relatively low dependency ratio. The higher labor force participation rate requires higher employment opportunities. Otherwise, this will increase the unemployment rate in the city. Ability of a city to provide jobs is captured by the employment to population ratio. A city with highest employment to population ratio is considered better.

Income earned by the employed people is considered as the indicator of productivity of the city. It is possible that a city with higher level of employment rate has low productivity. This happens when the level of human and physical capital is low. Higher the value shows that the city is more productive.

Table 4.2: Labor force participation rate, employment to population ratio and Income per employed person by city in Pakistan

| | <i>Labor Force Participation Rate Age 10 & Above</i> | <i>Employment to Population Ratio</i> | <i>Income per Employed Person</i> |
|------------------|--|---|---------------------------------------|
| | % | % | Rs |
| <i>Islamabad</i> | 37.1 | 27.0 | 363,019* |
| <i>Karachi</i> | 38.0* | 29.3* | 273,601 |
| <i>Lahore</i> | 37.9 | 28.7 | 233,170 |
| <i>Peshawar</i> | 30.9** | 21.9** | 291,248 |
| <i>Quetta</i> | 34.5 | 22.5 | 192,370** |

* highest, ** lowest

Table 4.2 reveals that Karachi has the highest labor force participation rate and employment to population ratio and Peshawar has the lowest value of both indicators. It turns out that Islamabad has the highest productivity and Quetta the lowest.

In Karachi, during the consultative session it was established by the participants that Karachi was a cosmopolitan city composed of a varying ethnic, cultural and religious mixes. Karachi is the largest city and has a lot of opportunities in almost all avenues; hence people of all ages and from all classes often migrate to Karachi in order to find employment. Majority of the Multinational Corporations have their head offices situated in Karachi and generate a lot of jobs. Generally it was observed that Karachi also saw a higher number of women participation in the labor force. This could be a primary reason for our statistical results placing Karachi on the first position in both labor force participation rate and employment to population ratio.

4.1.3 Cost of Doing Business

A study by the World Bank on Doing Business in Pakistan at sub national level estimates the cost of doing business in Pakistani cities for the year 2010. This study uses the same data. Overall the cost of starting a business in Pakistan is relatively higher. The indicators given in Table 4.3 below have been taken from the afore-mentioned study. The result reveals that Lahore ranked first in the ease of doing business and Quetta ranked the lowest.

This corroborates well with the feedback gathered at the consultations. In Peshawar, the participants stressed that the government needs to find measures to speed up the process of registering businesses as Peshawar was experiencing a boom in terms of new businesses. In Quetta, participants regretfully informed that Quetta was losing out on its existing endowments and a lack of development projects and inadequate attention to secondary sector was pushing businesses to relocate out of Quetta. They mentioned that Quetta was a major producer of dry fruits however due to a lack of storage and preservation facilities a lot of businesses had to shut down operations as the cost of production was exceeding market prices because the fruit had to first be transported elsewhere for the second stage of dry fruit production. People from Karachi also identified several procedural issues for business activities.

Table 4.3: Doing Business in Pakistani Cities

| | <i>Time required to enforce a contract (days)</i> | <i>Time required to get electricity (days)</i> | <i>Time required to register property (days)</i> | <i>Ease of doing business ranking</i> |
|------------------|---|--|--|---------------------------------------|
| <i>Islamabad</i> | 1395 | 35** | 39 | 2 |
| <i>Karachi</i> | 976 | 215 | 50 | 4 |
| <i>Lahore</i> | 768** | 117 | 30** | 1* |
| <i>Peshawar</i> | 1498 | 40 | 42 | 3 |
| <i>Quetta</i> | 2190* | 70* | 52* | 5** |

* highest, ** lowest

4.1.4 Investment and Financial Penetration

This sub pillar analyzes the current state of investment and business competition and financial penetration in the cities. We have used two indicators – the number of registered firms with the SECP and the number of registered firms with Chambers of Commerce and Industry (CC&I) in each city. The higher indicator value indicates intense competition. Islamabad has the most number of registered firms with the SECP and CC&I per 100,000 of population. This also explains the highest productivity of Islamabad as compared to other cities.

The commercial bank branches in each city are used as a proxy for the level of financial development in each city. Higher value shows that a city is better in terms of financial development. The result reveals a strong relationship between the level of competition and financial development in Pakistani cities.

Table 4.4: Number of registered firms with SECP and CC&I and commercial bank branches by city

| | <i>Number of Registered Firms with SECP</i> | <i>Number of firms registered with Chamber of Commerce and Industry</i> | <i>Commercial bank branches</i> |
|------------------|---|---|---------------------------------|
| | (per 100,000) | (per 100,000) | (per 100,000) |
| <i>Islamabad</i> | 232* | 374* | 37* |
| <i>Karachi</i> | 10 | 141 | 12 |
| <i>Lahore</i> | 20 | 198 | 11** |
| <i>Peshawar</i> | 19 | 142 | 13 |
| <i>Quetta</i> | 9** | 120** | 15 |

* highest, ** lowest

Table 4.5 gives the index value for each of sub-pillar in economic dynamism. Islamabad is ranked 1 in all sub pillars except in ease of doing business. Karachi ranked 2 in size and growth and employment and productivity. It is ranked 4 and 5 in case of ease of doing business and financial penetration, respectively. Lahore ranked 1 in ease of doing business, 2 in competition and financial penetration and 3 in case of size and growth and employment opportunities. Peshawar ranked 3 in case of ease of doing business and competition & financial penetration and ranked 4 and 5 in case of size and growth and employment and productivity, respectively. Quetta is ranked 5 in size and growth and ease of doing business and ranked 4 in case of competition & financial penetration and employment & productivity.

The statistical results are very relevant to the discussion held at the consultative sessions. And so far the metropolitan competitiveness index remains representative of the on ground realities. Islamabad is a much younger city compared to other cities of the index, this is why the growth levels of Islamabad are high. And according to the participants at the session, Islamabad has seen an influx of companies primarily related to information technology and telecommunications, including several Chinese companies. There has been almost 100 percent growth at the I-9 industrial sector, and a lot of businesses locally were relocated from other cities to Islamabad. Peshawar and Quetta lack financial inclusion and penetration because both banks and the general population are wary of each other. Banks are reluctant to distribute loans to those who seek funds and people doubt banks and prefer borrowing from informal institutions rather than banks.

Table 4.5: City Rankings in Economic Dynamism by sub-pillar

| | <i>Size and Growth</i> | <i>Employment and Productivity</i> | <i>Ease of Doing Business</i> | <i>Competition & Financial Penetration</i> |
|------------------|------------------------|------------------------------------|-------------------------------|--|
| <i>Islamabad</i> | 0.60 (1) | 0.85 (1) | 0.75 (2) | 1.00 (1) |
| <i>Karachi</i> | 0.54 (2) | 0.83 (2) | 0.25 (4) | 0.04 (5) |
| <i>Lahore</i> | 0.51 (3) | 0.71 (3) | 1.00 (1) | 0.12 (2) |
| <i>Peshawar</i> | 0.41 (4) | 0.19 (5) | 0.50 (3) | 0.07 (3) |
| <i>Quetta</i> | 0.19 (5) | 0.20 (4) | 0.00 (5) | 0.05 (4) |

4.2 Infrastructure Efficiency

As discussed in the previous chapter, the second main pillar of the MCI is infrastructure efficiency. The infrastructure efficiency determines the current and future growth of the city. This pillar consists of two sub pillars, social infrastructure and physical infrastructure of the city. This will help us to determine the quality and cost of service delivery in each city.

4.2.1 Social Infrastructure

This sub pillar consists of 3 types of social services - education, health and other social services. For each service we have covered three types of indicators - output indicators, input indicators and cost of service delivery indicators.

4.2.1.1 Education

Human capital is important for the long-term growth of the economy. Table 4.6 gives the city-wise indicator values for education. The literacy rate tells us the state of existing human capital. Net primary enrollment is used as proxy for future human capital. Educational institution per 100,000 population measures the availability of educational infrastructure in each city. Education price index is used as a proxy for cost of education in each city.

Table 4.6: Net primary enrollment rate, literacy rate, education institute and cost of education by city

| | <i>Net Primary Enrollment (age 6-10)</i> | <i>Literacy Rate</i> | <i>Educational Institutions (per 100,000 population)</i> | <i>Cost of education Index (2007-08 =100)</i> |
|------------------|--|--------------------------|--|---|
| <i>Islamabad</i> | 87* | 87* | 31 | 470.89* |
| <i>Karachi</i> | 75 | 84 | 10 | 258.03 |
| <i>Lahore</i> | 77 | 82 | 6** | 215.53** |
| <i>Peshawar</i> | 79 | 68 | 26 | 277.23 |
| <i>Quetta</i> | 74** | 63** | 41* | 219.18 |

* highest, ** lowest

The above table reveals that Islamabad has the highest literacy and net primary enrollment rate. It also has the highest cost of education. Quetta has the lowest value of literacy and net primary enrollment rate, but it has the highest number of educational institutions per 100,000 of population. This reflects the underutilization of input. Lahore is an interesting case, as the cost of educational services is the lowest,

but it also has the lowest number of educational institutions per 100,000 of population.

4.2.1.2 Health

The state of health is given in Table 4.7 below. We have included 4 indicators - population per hospitals, population per bed, infant mortality rate and cost of health services. A city with a lower value of population per hospital and population per bed, low infant mortality rate and low cost of service delivery is considered as better.

Table 4.7: Population per hospital, population per bed, infant mortality rate and cost of health by city

| | <i>Population per Hospital</i> | <i>Population per Bed</i> | <i>Infant Mortality Rate (per 1,000 live births)</i> | <i>Cost of Health index (2007-08 =100)</i> |
|------------------|------------------------------------|-------------------------------|--|--|
| <i>Islamabad</i> | 44,123 | 158** | 53 | 256.08* |
| <i>Karachi</i> | 90,366 | 1,039* | 52** | 206.44 |
| <i>Lahore</i> | 206,042** | 748 | 53 | 192.29** |
| <i>Peshawar</i> | 39,401 | 330 | 79* | 232.64 |
| <i>Quetta</i> | 16,413* | 231 | 59 | 196.63 |

* highest, ** lowest

The result reveals a random pattern across cities. Population per bed is lowest in Islamabad, indicating relatively better infrastructure, but the cost of service delivery is also the highest in Islamabad. Lahore has the highest population per hospital, but the cost of service delivery is the lowest.

4.2.1.3 Other Social Services

This subsection provides the state of other social services in the cities. We have covered two other services - access to improved drinking water and access to proper sanitation facilities. Lahore has the highest access to drinking water. Almost 99 per cent of the households have access to drinking water. Access to drinking water is lowest for Quetta. Only 73 per cent of the households have access to improved water.

Table 4.8: Access to water and sanitation facilities by city (% of Household)

| | <i>Improved water source (% of household)</i> | <i>Household with proper sanitation facilities</i> |
|------------------|---|--|
| <i>Islamabad</i> | 85.7 | 98 |
| <i>Karachi</i> | 86.4 | 95 |
| <i>Lahore</i> | 98.8* | 99* |
| <i>Peshawar</i> | 95.9 | 89 |
| <i>Quetta</i> | 72.9** | 77** |

* highest, ** lowest

Access to proper sanitation facilities is also covered. Again, Lahore is at the top in access to proper sanitation facilities and Quetta is at the bottom.

During the consultations, water supply turned out as a one of the major problem in all cities except Lahore. In Lahore, the underground water is easily accessible. Due to lack of regulations, the level of ground water is depleting and has reached at alarming levels. There is no proper water supply system in all the cities, even Islamabad is facing issues now.

The rise in population causes a higher demand for social infrastructure however, fortunately, the social infrastructure of these cities is better than other cities. These cities have relatively higher number of education institutions, hospitals and access to better social services also causes intercity migration.

4.2.2 Physical Infrastructure

This second sub pillar in infrastructure efficiency is the physical infrastructure. As discussed in the previous chapter, we have used the total number of vehicles per 1000 of persons, total number of vehicles per kilometer, international and national flights per 100,000 people, bank branches per 100 companies, cost of transportation and cost of communication.

Table 4.9: Physical Infrastructure: Indicators by city

| | <i>Vehicles (per 1000 persons)</i> | <i>Vehicles (per km)</i> | <i>International and national flights (100,000 people)</i> | <i>Cost of transportation (2007-08 =100)</i> | <i>Cost of Communication (2007-08 =100)</i> |
|------------------|--|------------------------------|--|--|---|
| <i>Islamabad</i> | 690* | 1,952 | 3,910* | 198.1* | 130.1 |
| <i>Karachi</i> | 175** | 1,020 | 372 | 168.0 | 135.3* |
| <i>Lahore</i> | 385 | 3,392* | 314** | 163.8** | 119.8** |
| <i>Peshawar</i> | 308 | 1,444 | 512 | 194.3 | 127.9 |
| <i>Quetta</i> | 284 | 161** | 337 | 171.5 | 124.0 |

* highest, ** lowest

Islamabad has the highest number of vehicles and Karachi has the lowest number of vehicles per 1000 of persons. Vehicles per kilometers estimates the traffic congestion. Quetta has the lowest congestion and Lahore has the highest congestion. 3910 international and national flights landed in Islamabad in a year as compared to 314 flights for Lahore. The cost of transportation and communication reveal an interesting pattern. Lahore with highest congestion rate has the lowest commuting cost. Also, the communication cost is lowest in Lahore. Islamabad has the highest transportation cost and Karachi has the highest communication cost.

Table 4.10 gives the infrastructure efficiency index by composition of indicators. The result highlights important trends. First, the cost of services is highest in Islamabad. But in the output indicators and physical infrastructure also, Islamabad is ranked first. This indicates that output indicators and cost of services have a positive relationship. Second, Quetta is ranked lowest in terms of output indicators, but 1 and 2 in the case of input and cost indicators.

Another important finding is that Quetta is ranked second in terms of physical infrastructure and price of physical infrastructure related services. It is, however, important to note that there are a lot of variations in index values across cities.

Table 4.10: Infrastructure efficiency index composition by city

| | <i>Output indicators</i> | <i>Input indicators</i> | <i>Cost indicators</i> | <i>Social infrastructure</i> | <i>physical infrastructure</i> | <i>Cost of services</i> |
|------------------|--------------------------|-------------------------|------------------------|------------------------------|--------------------------------|-------------------------|
| <i>Islamabad</i> | 0.882 (1)* | 0.856 (2) | 0 (5) | 0.743 (1) | 0.815(1) | 0.168 (5) |
| <i>Karachi</i> | 0.658 (3) | 0.241 (4) | 0.806 (3) | 0.576 (3) | 0.250 (4) | 0.439 (3) |
| <i>Lahore</i> | 0.797 (2) | 0.110 (5) | 1.000 (1) | 0.656 (2) | 0.136 (5) | 1.000 (1) |
| <i>Peshawar</i> | 0.405 (4) | 0.752 (3) | 0.563 (4) | 0.516 (4) | 0.305 (3) | 0.294 (4) |
| <i>Quetta</i> | 0.148 (5) | 0.972 (1) | 0.959 (2) | 0.476 (5) | 0.406 (2) | 0.752 (2) |

**City rankings based on highest index value*

It was generally observed that the increasing population and domestic migration are one of the biggest challenges that these cities are facing. This leads to traffic congestion in the city. The physical infrastructure is not enough to cater the needs of the people. Traffic seems to be becoming a growing problem in these cities and it is affecting movement and hindering mobility within city.

The communication infrastructure of Islamabad and Lahore was indicated as better than other cities during consultations. It helps the connectivity of the city with other cities of the Province. The better connectivity improves the mobility of goods and services across cities. It is a main reason for relatively high services sector in these cities as compare to agriculture and industry. Further, better infrastructure leads to low cost of services delivery within city as highlighted by the data.

4.3 Livability Aspects

This pillar ranked cities in terms of three sub pillars – stability, environment and recreation, and, cost of living. Stability includes crime rate, number of policemen and fatalities due to terrorist activities, environment and recreation includes the number of cinemas in the city, cost of recreational activities and air pollution. Finally, cost of living includes the consumer price index and house rent.

Table 4.11A shows that crime rate is the highest in Lahore and lowest in Peshawar. The number of policemen per 100,000 people is the highest in Islamabad and lowest in Karachi. Peshawar and Quetta are the two most affected cities due to terrorist activities. It seems that people in Islamabad have more recreational facilities as compared to other cities. Table 4.11B shows that Lahore has the highest air pollution among all the cities. House rents are the highest in Islamabad and lowest in Peshawar. Finally, the cost of living is highest in Islamabad and lowest in Lahore.

Table 4.11A: Livability Indicators by City

| Variable | Crime rate (per 100,000 persons) | Number of policemen (per 100,000 people) | Fatalities due to terrorist activities (per million of population) | Number of Cinemas (Per million people) |
|-----------|-------------------------------------|---|---|---|
| Islamabad | 107 | 976* | 0** | 10* |
| Karachi | 271 | 179** | 0** | 2 |
| Lahore | 779* | 237 | 7 | 2 |
| Peshawar | 42** | 373 | 53 | 4 |
| Quetta | 208 | 685 | 135* | 1** |

* highest, ** lowest

Table 4.11B: Livability Indicators by City

| Variable | Air Pollution (suspended particles matter) (micrograms per cubic meter of air) | Waste Generation (Kg) Per capita per annum | House Rent (Rs.) | Cost of Living 2007-08 = 100 |
|-----------|---|---|---------------------|---------------------------------|
| Islamabad | 87 | 180* | 48,802* | 220* |
| Karachi | 53** | 162 | 10,982 | 207 |
| Lahore | 154* | 164 | 12,972 | 201** |
| Peshawar | 75 | 104 | 8,083** | 214 |
| Quetta | 64 | 90** | 11,525 | 205 |

* highest, ** lowest

Table 4.12 gives the livability index value by sub pillar. The result reveals that in terms of stability and recreation & environment Lahore is ranked least among all cities and Islamabad ranked first in both areas. Islamabad ranked lowest in cost of living and Lahore ranked 1 in cost of living.

Table 4.12: Livability index by sub pillar

| | <i>Stability</i> | <i>Recreation & Environment</i> | <i>cost of living</i> |
|------------------|------------------|-------------------------------------|-----------------------|
| <i>Islamabad</i> | 0.971 (1) | 0.63 (1) | 0 (5) |
| <i>Karachi</i> | 0.563 (3) | 0.61 (3) | 0.657 (3) |
| <i>Lahore</i> | 0.340 (5) | 0.06 (5) | 1.000 (1) |
| <i>Peshawar</i> | 0.617 (2) | 0.47 (4) | 0.315 (4) |
| <i>Quetta</i> | 0.470 (4) | 0.70 (2) | 0.767 (2) |

The session at Islamabad directed attention to the fact that most people working in Islamabad are not residents and commute from suburban areas and Rawalpindi since the cost of living is very high in Islamabad people do not find it feasible to live there. However, in terms of environment it seems to be the best option to live in.

4.4 MCI

Based on the above analysis, we are now ready to present the MCI values for each city. Table 4.13 below gives the pillar wise ranking for each city and overall MCI ranking.

Table 4.13: Metropolitan Competitiveness Index

| | <i>Economic dynamism</i> | <i>Infrastructure efficiency</i> | <i>Livability</i> | <i>MCI</i> |
|------------------|--------------------------|----------------------------------|-------------------|------------|
| <i>Islamabad</i> | 0.801 (1) | 0.688 (1) | 0.741 (1) | 0.744 (1) |
| <i>Karachi</i> | 0.414 (3) | 0.417 (4) | 0.589 (2) | 0.450 (3) |
| <i>Lahore</i> | 0.587 (2) | 0.486 (3) | 0.370 (5) | 0.503 (2) |
| <i>Peshawar</i> | 0.292 (4) | 0.393 (5) | 0.536 (4) | 0.381 (4) |
| <i>Quetta</i> | 0.109 (5) | 0.488 (2) | 0.571 (3) | 0.353 (5) |

Islamabad is ranked 1 in economic dynamism, infrastructure efficiency and livability aspect. The index value for Islamabad is much higher as compared to that of other cities. This indicates that there is a huge difference in the competitiveness of Islamabad and other cities.

Lahore is ranked 2nd in economic dynamism, 3rd in infrastructure efficiency and 5th in livability aspect. Overall, Lahore is ranked 2nd in MCI. The value of MCI for Lahore is 0.50, showing that it is a moderately competitive city.

Karachi is ranked 3rd in economic dynamism, 4th in infrastructure efficiency and 2nd in stability and environment & recreation. Overall, Karachi is ranked 3rd in MCI. The value of MCI is 0.45, which is slightly lower than Lahore.

Peshawar is ranked 4th in economic dynamism, 5th in infrastructure efficiency and 4th in livability aspect. It ranked 4th in MCI. An MCI value of 0.38 indicates a low competitiveness for Peshawar. Quetta is ranked 5 in economic dynamism, 2 in infrastructure and 3 in livability aspect. Overall, Quetta ranked 5th in MCI with a value of only 0.35.

These results correspond well with the feedback gathered during the consultative sessions. Attendees of the consultative session at Islamabad pointed out that Islamabad has grown a lot after its inception because it was a city which primarily focused on livability, consequently economic growth and prosperity followed. A senior analyst at Urban Unit Lahore commented at one of the sessions that Lahore is not being developed by a proper plan, it is being developed very haphazardly and causing a lot of over densification leading to several problems with respect to physical urban planning and the issues of sprawl.

Environmental degradation was identified to be increasing at a really fast pace and was marked an active threat to Lahore. While communication infrastructure is strong and connects Gujranwala, Gujarat, Kasur and other cities with Lahore, traffic seems to be becoming a growing problem for the city and is affecting movement and hindering mobility. Making the MCI results congruent to takeaways from consultative sessions.

The session at Quetta helped identify a growing problem of lack of entertainment and recreational activities within the city along with dysfunctionality of basic systems such as traffic lights being unable to manage traffic and the need for constables to manage the flow being indicators of inefficient infrastructure. Furthermore it was highlighted that businesses from Quetta are being driven away due to a lack of processing and storage units available and also due to the rising shortage of water. This puts Quetta's last place on the MCI into perspective

According to the Chief Commissioner Islamabad, currently the local government neither has the capacity nor has the attention span to form a city vision, further adding that political tools will be needed to create a city vision just like problem solving needs

political will. It was observed that this was a problem not specific to Islamabad only. All the cities lacked “vision” for development.

4.5 Summary of the Analysis

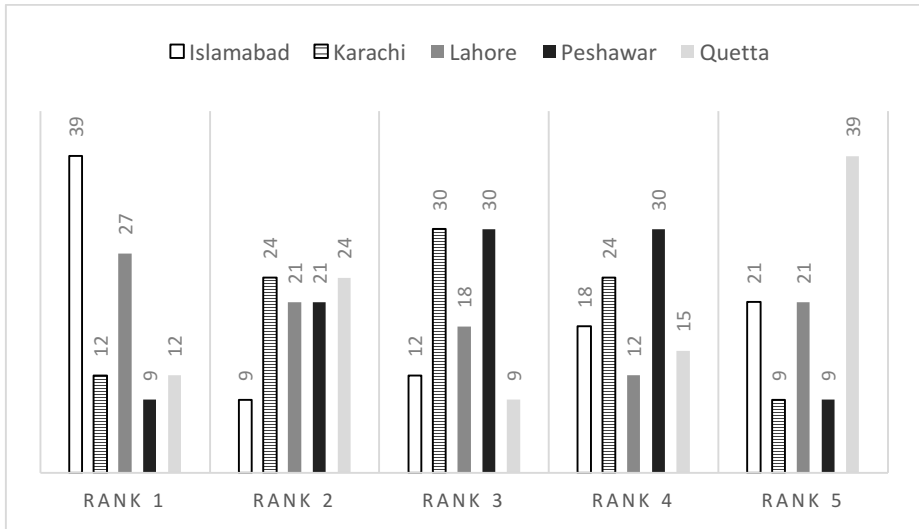
This study shows that Islamabad is more competitive compared to the other four cities analyzed. Further, it is the only city that is competitive in all three pillars. Lahore and Karachi are moderately competitive cities. Karachi is the only city that is moderately competitive in all three pillars. It is important to note that Quetta is doing as good as Lahore or Karachi in infrastructure and livability aspects, but is way behind in economic dynamism. The low economic dynamism ranking causes the low competitiveness of the Quetta. Peshawar has very low competitiveness in economy and infrastructure related indicators, but it is doing as good as Karachi in livability aspects.

Table 4.14: City rankings according to competitiveness by pillar

| <i>Categories</i> | <i>Economic Dynamism</i> | <i>Infrastructure Efficiency</i> | <i>Livability Aspects</i> | <i>MCI</i> |
|---|--------------------------|----------------------------------|------------------------------|------------------|
| <i>Highly Competitive (0.7 & above)</i> | Islamabad | Islamabad | Islamabad | Islamabad |
| <i>Moderately Competitive (0.4 to 0.7)</i> | Lahore, Karachi | Karachi, Lahore, Quetta | Peshawar, Karachi and Quetta | Lahore, Karachi |
| <i>Least Competitive (0.4 or less)</i> | Peshawar, Quetta | Peshawar | Lahore | Peshawar, Quetta |

Chart 4.14 gives the ranking of each city in all indicators. The analysis shows that out of 42 indicators, Islamabad ranked 1st 39 percent of the times. Lahore ranked 1st 27 per cent of the times. Karachi and Quetta ranked 1st 12 percent of the times. Peshawar ranked 1st only 9 percent of the times. All except Islamabad ranked 2nd more than 20 per cent of the times.

Chart 4.1 City ranking in individual indicators (% of total indicators)



Limitations

The study has faced constraints in collecting secondary and primary data. Statistical agencies in Pakistan have not yet paid any attention to the important aspect of data collection at the level of cities. However, we understand that our work will generate the dialogue to collect data on urbanization and cities. The analysis also points towards a major concern that Lahore, and Karachi (both being the business hubs in Pakistan) have performed relatively poorly in comparison with Islamabad. Being the capital city of the country, Islamabad may have been gaining traction due to its law and order situation, infrastructure investment, and lucrative real estate opportunities but it should not divert attention from the fact that the hotchpotch governance and unfriendly business regulations in Islamabad have long deterred business in the city.

Thus, the competitiveness ranking of this report may not be construed as definite and consistent. A little change in the methodology and data can alter the rankings. However, researchers build on each other's work. We expect that this research will encourage further investigation on the reliability and validity of these estimates from a different vantage point of competitiveness. Such a dialogue is the need of the time to reap benefits of rapid urbanization in Pakistan.

Conclusion

For a considerable length of time, planning in Pakistan viewed the emergence of cities as a threat rather than an opportunity. There has been a shift in paradigm since late 2000s, but it has yet to be translated into policies, programs and investment projects. Metropolitan governance is weak and under-resourced, without any “vision” for city development. Cities are not competitive for foreign investors. High cost of doing business and unfriendly regulations deter local investors as well.

The research analysis presented in this report shares the significance of cities as centers of growth for the country. Given the increasing population and consequent urbanization, these cities need to be well equipped for the challenges urbanization brings in. Competitiveness of cities plays an integral role in how these cities can be pivotal not only in boosting the economy but also in improving the standard of living for the people living in these cities.

The study shares data analyses of Karachi, Lahore, Peshawar, Quetta and Islamabad to develop the MCI. The MCI ranking has turned out to be highest for Islamabad and lowest for Quetta. It is clear that improved planning especially in terms of infrastructure and livability is required in all the cities to improve their competitiveness. Since urban areas in Pakistan are getting densely populated, proper planning and administration is now essential. There are numerous infrastructure problems primarily relating to the health and sanitation facilities. Authorities are instead focused on building roads without proper planning or improving walkability.

Urbanization of cities and city zoning can only be done through proper strategic planning which is vital for the growth and development of Pakistan. Policy makers and civil society needs to join hands to develop a city “vision” and work towards its practical implementation. This can help us grow economically and make Pakistan more competitive.

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Annexure

Table A

| Ranking | Countries | GDP (\$ millions) | Ranking | Population | Urban Population | Urban Ratio |
|---------|-----------------|----------------------|----------|----------------------|----------------------|----------------|
| 1 | China | 21,290,000 | 1 | 1,379,302,771 | 798,616,304 | 57.9% |
| 2 | USA | 18,570,000 | 3 | 326,625,791 | 267,833,149 | 82.0% |
| 3 | India | 8,662,000 | 2 | 1,281,935,911 | 429,448,530 | 33.5% |
| 4 | Japan | 5,238,000 | 10 | 126,451,398 | 119,243,668 | 94.3% |
| 5 | Germany | 3,980,000 | 19 | 80,594,017 | 61,009,671 | 75.7% |
| 6 | Russia | 3,751,000 | 9 | 142,257,519 | 105,555,079 | 74.2% |
| 7 | Brazil | 3,141,000 | 5 | 207,353,391 | 178,738,623 | 86.2% |
| 8 | Indonesia | 3,032,000 | 4 | 260,580,739 | 143,840,568 | 55.2% |
| 9 | UK | 2,786,000 | 22 | 64,769,452 | 53,823,415 | 83.1% |
| 10 | France | 2,734,000 | 21 | 67,106,161 | 53,684,929 | 80.0% |
| 11 | Mexico | 2,316,000 | 11 | 124,574,795 | 99,410,686 | 79.8% |
| 12 | Italy | 2,235,000 | 23 | 62,137,802 | 43,061,497 | 69.3% |
| 13 | Turkey | 1,988,000 | 18 | 80,845,215 | 60,148,840 | 74.4% |
| 14 | South Korea | 1,934,000 | 27 | 51,181,299 | 42,326,934 | 82.7% |
| 15 | Saudi Arabia | 1,751,000 | 47 | 28,571,770 | 23,857,428 | 83.5% |
| 16 | Spain | 1,687,000 | 28 | 48,958,159 | 39,166,527 | 80.0% |
| 17 | Canada | 1,682,000 | 38 | 35,623,680 | 29,282,665 | 82.2% |
| 18 | Iran | 1,455,000 | 17 | 82,021,564 | 61,024,044 | 74.4% |
| 19 | Australia | 1,187,000 | 56 | 23,232,413 | 20,839,474 | 89.7% |
| 20 | Thailand | 1,165,000 | 20 | 68,414,135 | 36,054,249 | 52.7% |
| 21 | Egypt | 1,132,000 | 14 | 97,041,072 | 42,018,784 | 43.3% |
| 22 | Taiwan | 1,132,000 | 55 | 23,508,428 | 18,336,574 | 78.0% |
| 23 | Nigeria | 1,091,000 | 7 | 190,623,261 | 94,172,337 | 49.4% |
| 24 | Poland | 1,054,000 | 36 | 38,476,269 | 19,430,516 | 50.5% |
| 25 | Pakistan | 988,200 | 6 | 204,924,861 | 81,355,170 | 39.7% |
| | | | | 5,097,120,873 | 2,922,279,661 | 57.20% |

*Source: CIA World Fact Book

Table B

| | <i>Cities</i> | <i>Population</i> | <i>Province</i> |
|----|---------------|-------------------|-----------------|
| 1 | Karachi | 14,910,352 | Sindh |
| 2 | Lahore | 11,126,285 | Punjab |
| 3 | Faisalabad | 3,203,846 | Punjab |
| 4 | Rawalpindi | 2,098,231 | Punjab |
| 5 | Gujranwala | 2,027,001 | Punjab |
| 6 | Peshawar | 1,970,042 | KP |
| 7 | Multan | 1,871,843 | Punjab |
| 8 | Hyderabad | 1,732,693 | Sindh |
| 9 | Islamabad | 1,014,825 | ICT |
| 10 | Quetta | 1,001,205 | Balochistan |

About Metropolitan Competitiveness Index

“Metropolitan Competitive Index”, is a project covering major metropolitan cities of Pakistan. The current report analyses MCI for the federal capital and four provincial capitals of the country. Its aim is to develop a benchmark for economic governance of large metropolitan cities of Pakistan. Related information has been generated through research, interactive sessions and public debate between business chambers, associations and local governments. Insights obtained at these sessions have been included in the final Index report. The index is designed on three pillars of Economic Dynamism, Infrastructure Efficiency and Livability Aspects respectively. It aims to highlight the pivotal role played by metropolitan cities in the development of Pakistan. In 2018-2019 PRIME is extending this project to include six more metropolitans of Pakistan; namely, Faisalabad, Rawalpindi, Gujranwala, Multan, Sargodha and Hyderabad.

The Team:

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