9

Enhancing Economic Competitiveness

Ishrat Husain

Pakistan will celebrate its centenary in 2047, just twenty-five years from today. To achieve its aspiration of becoming an upper-middle-income country by then, the nation must accelerate and sustain growth at a rate of 6-8 percent annually. While Pakistan's actual performance was at 6 percent in the first forty years (1950–1990), it has since slipped to 4 percent in the last thirty years. Therefore, to resume the trajectory of higher growth, Pakistan must enhance productivity in both industry and agriculture, adopt an outward-looking strategy, actively participate in international trade, and attract foreign direct investment.

History shows that no country has achieved prosperity by relying solely on its domestic markets. The spectacular success of China, despite having a large market of 1.4 billion people, is primarily attributed to its integration into the world economy. Within a mere three decades, China has risen from almost zero to become the world's top exporting nation.

To increase its share in the global market, Pakistan has to become competitive, surpassing other countries in pricing, quality, reliability, and timely delivery of goods and services in demand. This chapter, therefore, focuses on the essential elements that would enhance Pakistan's competitiveness in the global market, allowing it to recapture lost market share, accelerate economic growth, provide jobs for its youth, and reduce its excessive dependence on external borrowing. This approach aims to break Pakistan's repeated cycle of entering external financial crises and subsequently resorting to the IMF and friendly countries for bailouts.

The future of globalization is uncertain, driven by geopolitical tensions, such as those between China and the US and Russia and Western countries. The pandemic-induced disruptions to the supply chain are pushing advanced nations towards protectionism. Differing theories exist on globalization's impact, with some viewing it as detrimental, particularly to weaker nations, fragile states, and disadvantaged populations. Others believe that breaking down boundaries and dismantling barriers could distribute benefits globally. However, one undeniable aspect is increased uncertainty in the coming decades. The global financial crisis of 2008–2009 and the Covid-19 pandemic caught the world off guard, revealing the unpredictability of

such events. The emergence of climate change impacts, like heat waves, floods, droughts, and glacier melting, adds another layer of unpredictability to this already uncertain landscape. Countries aiming to leverage globalization must adapt strategies to navigate this roller coaster of unpredictability.

The encouraging news is that the once prevalent belief in a trade-off between economic growth and carbon emissions has been dispelled by empirical data. Over the past decade, thirty-three countries, with a collective population of 1 billion people, have managed to reduce emissions while sustaining economic growth.[1] This data, which includes estimates of emissions from imports, provides a comprehensive view of a country's environmental impact. In the United States, for instance, emissions decreased by 15 percent, yet GDP per capita increased by 23 percent. This positive trend can be attributed to the decline in energy intensity per dollar of GDP, driven by the shift from manufacturing to services, which emit significantly less carbon dioxide. Furthermore, imports from low-income countries tend to have a lower carbon footprint. Consequently, countries like Pakistan, with a relatively small share in global trade and exports that are less carbon-intensive, have a substantial opportunity to enter advanced markets.

Recent evidence also provides a glimmer of hope for smaller players such as Pakistan due to the shift in Chinese imports from OECD countries to emerging Asian nations—of which Pakistan is a part, albeit with limited success thus far. Over the past four years, while China's imports to the US have remained static, other emerging Asian countries have witnessed substantial increases. Vietnam's imports to the US, for instance, surged by 170 percent, followed by Bangladesh and Thailand at 80 percent, and Indonesia and India at 60 percent.[2] These remarkable figures indicate that, with enhanced competitiveness, Pakistan stands to benefit significantly from this shift in trade direction. Once again, this challenges the pessimistic notion that emerging countries are perpetually at a disadvantage compared to their advanced counterparts.

The challenge of improving competitiveness becomes more intricate as nations themselves do not directly compete; rather, it is the myriad firms, enterprises, and companies within these nations that engage in competition. While factors like endowments, public policies, institutions, macroeconomic conditions, and business environment elements such as tariffs, taxation, regulations, utility pricing, and the ease and cost of doing business certainly play a role, the primary responsibility lies with the individual firms participating in the international markets for goods and services. Consequently, a comprehensive analysis of

[1] *The Economist*, 12 November 2022
[2] Ibid.

competitiveness necessitates a two-layered approach—one at the national level and another at the firm level.

At the national level, a conducive environment entails well-functioning governance institutions, streamlined investment climate, emphasis on human capital—especially female labour participation—rationalized tariffs and taxes, and targeted policies promoting exports. For firms to excel in global competition, investments in the workforce, professionalized management structures, collaboration with international experts, engagement in joint ventures with foreign companies, participation in global value chains, service exports, innovation, and digitalization are imperative. External drivers of globalization influence the decisions countries must make. The firms thriving under these circumstances must be agile and quick to respond to the ever-changing global dynamics. The pursuit of fixed points, baselines, benchmarks, and milestones would prove futile.

Economists initially struggled to explain the significant 'residual' in accounting for growth, later attributed to technological change and labelled total factor productivity (TFP). While capital and labour inputs were analysed, human capital concepts were introduced. Research indicates that the residual is largely explained by differences in technology, governance, and institutions. Extractive institutions hinder growth, while inclusive institutions foster broad-based development. However, the connection between human capital, technology, and growth-inducing institutions is not automatic. How can a country pursue this goal effectively?

Before delving into a detailed discussion on defining the roles of government and firms for enhancing competitiveness, it's crucial to benchmark against successful countries in East Asia and draw insights from their experiences. While acknowledging historical, cultural, and institutional differences, it would be unrealistic to assume that all lessons from their experiences can be replicated or universally applied.

It is valuable to explore what can be adapted to our unique circumstances. Notably, our neighbouring countries, India and Bangladesh, have also progressed since 1990 by choosing a similar or modified path to suit their conditions. Those advocating for insularity may find this approach flawed, but the crucial factor is whether one believes in integration with the world economy or prefers the country to remain isolated. While some opinion and policy makers are sceptical of foreign involvement, the majority of developing and emerging countries, except a few, have embraced the integrationist approach and are beginning to reap benefits from international trade and financial flows.

The World Bank[3] indicates positive links between trade and productivity in Pakistan, highlighting that publicly listed exporting firms are more productive than domestically oriented ones. The country faces a $2.8 billion annual gap in foreign direct investment (FDI) inflows.[4] There's a widespread consensus among political parties to adopt an inclusive growth model, sharing economic benefits with the majority. Retaining Pakistan's 0.15 percent share in global exports could have generated $48 billion annually, preventing recurring crises and reliance on external borrowing, preserving social cohesion and economic sovereignty.

Lessons From East Asia's Experience[5]

Around thirty years ago, the World Bank published a pivotal report, 'The East Asia Miracle,'[6] encapsulating the success stories of eight economies in East Asia. These high-performing economies, including Japan, the four tigers (Hong Kong, Singapore, Korea, Taiwan), and three ASEAN countries (Indonesia, Malaysia, Thailand), exhibited remarkable growth—three times faster than Latin America and South Asia and five times faster than Sub-Saharan Africa from 1965 to 1990. Sustaining high growth in the 1990s, they averaged 8 percent annual growth. These economies not only expanded their share in world trade but also witnessed significant improvements in income distribution, ensuring widespread benefits from economic growth.

During those 25 years, these economies uniquely achieved high growth, poverty reduction, and decreased inequality. Japan's per capita income reached 85 percent of the US in 1990 (now 70 percent). 'The East Asia Miracle' study identified two key factors in their rapid growth. First, they prioritized fundamental elements such as high domestic savings, widespread human capital, effective macroeconomic management, trade openness, foreign direct investment, and technology adoption. Second, government policy interventions were carefully designed to manage costs, keeping price distortions mild, using international interest rates as benchmarks, and maintaining manageable explicit subsidies. Quick

[3] World Bank Group, *From Swimming in Sand to High and Sustainable Growth: A Roadmap to Reduce Distortions in the Allocation of Resources and Talent in the Pakistani Economy*, (World Bank, Washington DC, 2022).
[4] World Bank Group, ibid.
[5] Ishrat Husain, *East Asia's inclusive Growth Model [Part—I] The News*, 25 February 2022; *East Asia's inclusive growth model [Part—II], The News*, 4 March 2022.
[6] Nancy M. Birdsall; Jose Edgardo L. Campos; Chang-Shik Kim; W. Max Corden; Lawrence MacDonald [editor]; Howard Pack; John Page; Richard Sabor; Joseph E. Stiglitz, *The East Asian miracle: economic growth and public policy: Main report (English)*. A World Bank policy research report (Washington, DC, World Bank Group, 1993).

adjustments or abandonments were made to interventions that posed threats to macroeconomic stability.

Upon the World Bank report's release, debates ensued regarding the factors behind these countries' success. One perspective attributed it to competitive market forces, trade openness, and integration with the world economy. Conversely, Robert Wade[7] and Alice Amsden[8] argued that the East Asian economies' remarkable performance resulted from proactive government intervention, including selecting specific sectors, providing concessional financing, foreign exchange, tax exemptions, and subsidies.

Since then, empirical evidence has discredited the outdated binary view of markets versus government. The current understanding emphasizes the need for both a robust, effective government and well-regulated competitive markets. Collaboration between the public and private sectors is essential, leveraging their comparative advantages to achieve common goals. Acknowledging the existence of market and government failures, the key is to address these failures to keep the country on the right track.

The global financial crisis, pandemics, inequality, and the climate change agenda have underscored the need for timely and appropriate government interventions to address these issues. However, it is generally considered unsuccessful for the government to actively engage in running businesses, based on the experiences of many countries.

There was scepticism also about the sustainability of the East Asian model over time. Paul Krugman, the Nobel Prize winning economist,[9] contended that the substantial GNP growth in East Asian countries resulted from input-driven factors such as heavy capital investment, high savings, and significant educational advancements. However, he argued that this growth might plateau without a substantial increase in productivity. A World Bank study indicated that one-third of the growth in these economies was attributed to enhanced efficiency or total factor productivity, a significant proportion compared to other nations and as a share of output growth.

A more recent 2018 study[10] updating productivity growth since 1990 suggests that East Asia's productivity has been steadily approaching that of the US, outpacing other low- and middle-income countries. This improvement is attributed to enhanced technology and management

[7] Robert Wade, *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*, (Princeton paperbacks, Princeton University Press, 1990).
[8] Alice H. Amsden, 'Why isn't the whole world experimenting with the East Asian model to develop?: Review of the East Asian miracle,' *World Development*, vol. 22, issue 4, 627-633 (1994).
[9] Paul Krugman, 'The Myth of Asia's Miracle.' *Foreign Affairs*, 1 November 1994. https://www.foreignaffairs.com/articles/asia/1994-11-01/myth-asias-miracle.
[10] World Bank, (2018).

practices, leading to increased productivity in firms. Additionally, the shift of labour from low- to high-productivity activities has boosted the relative income share of the bottom 40 percent of the population, contributing to overall income growth and poverty reduction.

This group of eight, later joined by China in the 1980s and Vietnam, shifted from inward-looking economic models to inclusive growth by integrating with the world economy. China, under Deng Xiaoping, embraced private sector participation and foreign investment. Vietnam followed a similar path, aligning with the East Asian growth model, characterized by shared prosperity benefiting the majority of the population.

Thirty years after the groundbreaking study, overwhelming evidence demonstrates the remarkable success of East Asian economies. Not only have they achieved exceptional economic growth and poverty reduction, but they have also effectively navigated through crises such as those in 1997, 2008, and the pandemic in 2020, outperforming other developing nations. Since 2000, their GDP has surged more than threefold, lifting over a billion people out of poverty and propelling them towards a transition from middle to high-income status. Social indicators reveal substantial progress, with improvements in school enrolment, educational attainment, infant and child mortality, as well as enhanced access to clean water and sanitation compared to the early 2000s. Additionally, gender disparities in labour force participation, wages, and educational achievement have significantly narrowed.

Asia's share in world GDP (at PPP $) has risen from 24 percent in 1973 to almost 40 percent. Foreign currency reserves of Asian central banks now account for 70 percent of world currency reserves and financed more than half of the current account deficit of the United States.

Japan, which took the lead in the post-World War II era and is now considered one of the advanced countries, faces a distinct set of challenges typical of mature economies. These challenges are further exacerbated by an aging population, resulting in a shrinking workforce. Four other countries from the original eight have also transitioned to the high-income group. Korea has already joined the OECD, while Taiwan boasts a per capita income of over $32,000, establishing itself as a technology powerhouse, particularly in semiconductors. Singapore and Hong Kong, classified as high-income countries by the World Bank, have export/GDP ratios exceeding 200 percent.

These countries are no longer classified within the East Asian Developing or Emerging countries group, as they have surpassed the economic transformation stage shared by other nations. Consequently, the group of East Asian developing economies now includes the original

three—Malaysia, Indonesia, and Thailand—along with China, the Philippines, Vietnam, Cambodia, Laos, and Myanmar.

In 1980, China ranked among the world's poorest countries, with 80 percent of its population earning less than $1 per day, and only a third of all adults were able to read or write. Its per capita income was identical to that of India. By 2000, the proportion of the population living in poverty (with income less than $1 per day) had decreased to around 16 percent. Between 2008 and 2018, China's GDP skyrocketed fourfold from $4.6 trillion to $18 trillion, making it the second-largest economy in the world in nominal dollar terms. Today, its per capita income of $10,000 is five times that of India. More remarkably, China has lifted an astounding 700 million people out of poverty, with 500 million enjoying middle-class lifestyles. It stands as the world's largest exporting nation, boasting the highest foreign exchange reserves globally at $3.2 trillion—equivalent to 13 months of imports.

In 1960, Korea and Pakistan shared identical per capita incomes of $100. However, Korea has since graduated to become an OECD country, boasting a per capita income of approximately $27,500, while Pakistan has struggled to surpass the $1600 threshold.

In the late 1960s, Pakistan's exports exceeded the combined exports of Indonesia, Malaysia, Thailand, and the Philippines. Both Malaysia and Thailand have virtually eradicated extreme and moderate poverty. Indonesia has successfully reduced the share of its population living below the poverty line by more than half. Despite the devastation of war, Vietnam managed to increase its average per capita income twelvefold between 1985 and 2020, with an impressive exports/GDP ratio of over 100 percent. The poverty headcount in Vietnam dramatically dropped from 70 to 8 percent. Notably, there has been a significant surge towards economic security and a burgeoning middle class, now encompassing almost two-thirds of the population compared to just a fifth two decades ago.

Two decades ago, Pakistan's exports were $10 billion and those of Vietnam $14 billion. In 2020, Vietnam crossed $281 billion while we are almost one tenth their level. While all these countries have moved ahead, Pakistan is still struggling with a per capita income of $1600, poverty headcount of almost 24 percent and a $30 billion export target.

Not only has Pakistan's growth rate lagged behind others, but the benefits of this growth have largely favoured a small elite. Had Pakistan sustained the economic progress of the 1960s while embracing inclusive growth principles, its economy would resemble those of East Asian nations, positioning it in the middle-income group by now. However, Pakistan has remained stagnant in the low-middle-income category for an extended period with minimal upward mobility. Whereas it took the UK almost a century, and the US fifty years to double their per capita

incomes, most of the ASEAN +3 countries (Japan, China and Korea) achieved this goal in less than half a century. Japan did this in forty years, Korea in twenty-five years and China in ten years. What are the lessons from the East Asian economies which should be followed to achieve sustained and inclusive growth and graduate to the middle-income category? These are analysed below.

First, there are no trade-offs between growth, inclusion, and sustainability. The longstanding belief that rapid growth requires sacrificing goals of inclusion and sustainability has been debunked by the East Asian economies' 50-year experience. They have not only significantly raised per capita incomes but also lifted approximately one billion people out of poverty, demonstrating the compatibility of growth with widespread benefits and inclusivity.

Second, in East Asian countries, the government facilitates, guides, and supports the private sector for economic growth. By ensuring macroeconomic stability, articulating a long-term vision, and implementing consistent policies, these governments instil confidence in local and foreign investors. Strengthened political, administrative, and financial powers empower local governments to compete in attracting investment, developing infrastructure, and enhancing the business environment.

Third, in these countries, strong leadership, effective governance, and robust institutions have been key. Visionary leaders committed to long-term direction and reforms have ensured policy continuity. Economic governance, marked by a high-quality and politically independent civil service, translated vision into action. State interventions, when employed, aligned with market signals. Meritocratic practices in hiring and promotion led to the emergence of robust institutions supporting entrepreneurs, firms, farmers, exporters, and businesses while delivering essential public services to the population.

Fourth, is that the private sector played a pivotal role in production, distribution, and trade, exemplified by Japan's Keiretsus/Zaibatsus and Korea's Chaebols. Taiwan prioritized industrialization through small and medium enterprises, while China, Thailand, Indonesia, the Philippines, and Malaysia promoted foreign direct investment and joint ventures. In China, the share of state-owned enterprises decreased from 100 percent to 30-40 percent. Local government-owned town and village enterprises in China acted like private entities, guided by market signals. Vietnam, despite its size, attracted $250 billion in foreign direct investment.

Fifth, a key factor in the success of East Asian countries is their open economy, marked by low tariffs (mostly in single digits) and minimal non-tariff barriers. Robust efforts to access global markets have led to trade-GDP ratios exceeding 100 percent in Malaysia and Vietnam. China and India, with nearly identical export levels in the late 1970s, diverged

due to China's more open trade policy, resulting in exports of over $2590 billion compared to India's approximately $276 billion last year. All Asian countries welcome foreign direct investment (FDI) for the benefits it brings, including new technology, improved managerial skills, global supply chain connections, and foreign capital infusion. In 2020, FDI flows to East Asia totalled $292 billion (with China receiving $150 billion), and a significant portion of China's export growth over the last decade (65 percent) was driven by foreign firms and their joint ventures.

Sixth, regional integration has been instrumental in East Asian countries effectively navigating global economic turbulence, including the Asian crisis of the mid-1990s, the 2008 global recession, and the Covid-19 pandemic. The increased share of intra-regional trade served as insulation, mitigating the impact of external shocks significantly. Intra-regional trade in East Asia grew at an annual rate of 16.4 percent between 1975-2001, outpacing the global export growth rate of 8.2 percent per annum. China has emerged as a central figure, with global supply chains relying on components and parts shipped from various Asian countries for final assembly and subsequent export from China.

Seventh, East Asian countries have achieved significant economic growth and improved social indicators by investing in human development. This investment spans education, health, drinking water, sanitation, nutrition, and family planning services. Emphasis on primary health care, especially in rural areas, targeted diseases affecting the poor. Widespread access to primary and secondary education has resulted in a workforce with educational attainment a third higher than the previous generation. Notably, female education efforts led to reduced fertility, easing population pressures and augmenting the supply of educated labour. East Asian countries boast nearly 100 percent literacy rates, high life expectancy, low infant and maternal mortality, and universal primary education. Elevated social indicators contribute markedly to productivity, a key determinant of economic growth.

Eighth, the quality of the labour force in East Asian countries is closely tied to human development and continuous skill enhancement. These nations not only hire educated and literate workers but also invest in ongoing training for acquiring new knowledge and production techniques. In 1991, a US manufacturing worker was 40 times more productive than a Chinese counterpart, but by 2000, the gap had narrowed to only 10 times. China's labour productivity has quadrupled in the past decade, reducing unit labour costs in manufacturing. Significant attention has been dedicated to science, technology, higher education, and research in both private and public sectors. This includes sending scientists to top global universities for advanced degrees and providing lucrative incentives upon their return to contribute to local academia, research institutes, and industrial development. Technology

parks on university campuses foster collaboration between advanced degree candidates and industrial firms, exemplified by the dominance of Taiwanese and Korean firms, such as TMC and Samsung, in the semiconductor industry—a direct outcome of these science and technology investments.

Ninth, East Asian countries maintain robust average savings rates, typically between 30 and 40 percent, supplemented by substantial Foreign Direct Investment (FDI) inflows. In 2020, the gross domestic savings in East Asia and the Pacific stood at 36 percent, with gross fixed investment at 34 percent, including a 2 percent contribution from FDI. China consistently surpasses a 40 percent domestic savings rate, while Malaysia and Thailand boast rates of 43 percent and 33 percent, respectively. During the early 2000s, East Asian countries retired a net amount of $28 billion in debt. Their external debt-to-GDP ratio in 2020 was only 19 percent, with a debt service-to-export ratio of 10.1 percent—among the lowest for developing countries, as they primarily relied on their own savings to finance investments.

Next, a strong culture of tax compliance in these nations, with low incidence of tax evasion, facilitated investment in public infrastructure, education, and health. Broadening the tax base allows for lower tax rates, reducing the burden on a small segment of the population by distributing it among a larger group of taxpayers.

Lastly, East Asian society exhibits a non-economic trait marked by a robust work ethic, discipline, and trust. The labour force in these countries is highly disciplined, diligently executing supervisors' orders with a focus on their tasks. Workers prioritize productivity, maintaining a commitment to their responsibilities without disrupting others. The emphasis on trust and social capital positively influences development quality by fostering collective action, mitigating risks, ensuring accountability, and reducing transaction costs. In Korea and Japan, where trust prevails, there is a higher production of scientists and engineers compared to lawyers. These countries avoid prolonged litigation, which is seen as a drain on productive time and energy. The commitment to trust extends to contract fulfilment in China. When a contract is awarded for goods production, service delivery, or project construction, one can be confident it will be completed ahead of schedule, within specified parameters, and without cost overruns. This reliability, coupled with low costs, has positioned China as the world's largest manufacturing hub, attracting nearly all Fortune 500 companies to establish their facilities there.

The lessons above highlight that Pakistan can adapt key elements of the inclusive growth model for future progress. Despite differences in factor endowment, culture, and political structures, there are commonalities that can be applied to suit Pakistan's circumstances.

Enhancing global competitiveness requires a collaborative "whole of nation" approach, with the government, private sector, academia, and research institutions working together. Success hinges on clearly defining and delineating the roles and responsibilities of the government and private sector, fostering collaboration instead of mutual blame.

Role and Responsibilities of the Government Institutions

Successful countries enhance their citizens' well-being through markets, trade, investment, and exchange. The state must equally contribute by nurturing competitive markets, preventing collusion and monopolies, building people's skills, setting transparent rules, and fairly resolving disputes. Upgrading the capacity, competencies, and responsiveness of state institutions, along with refining rules, enforcement mechanisms, organizational structures, and incentives, is essential for effective governance. According to Acemoglu and Johnson (2003)[11] good institutions ensure two desirable outcomes—that there is relatively equal access to economic opportunity (a level playing field) and that those who provide labour or capital are appropriately rewarded and their property rights are protected.

In Pakistan, there is both excessive and insufficient accountability in public affairs. Laws and institutions, such as Anti-Corruption Bureaus and the National Accountability Bureau, have instilled fear and hindered decision-making among civil servants. Simultaneously, corruption, malpractices, and inefficiencies prevail, with a focus on procedural compliance over substantive concerns for welfare and justice.

To enhance accountability, simplify rules and regulations, codify and upgrade them, and leverage e-governance tools like dynamic websites and information kiosks. This will enforce internal accountability standards and facilitate hassle-free transactions for citizens. Organized civil society advocacy, media, political parties, private sector, and think tanks applying pressure on specific sectors or activities can further compel government departments and ministries to be more accountable for results.

The research and development institutions in Pakistan have performed poorly. To meet the growing demand for essential goods, they need to innovate. In contrast, scientists in leading global universities and research institutes have achieved significant financial success through hard work and leveraging their intellectual capital. For instance, a 2012 study revealed that companies linked to Stanford faculty and alumni generate approximately $3 trillion in annual revenue and have created

[11] Daron Acemoglu, Simon Johnson, *Unbundling Institutions*, National Bureau of Economic Research Working Paper Series, vol. 9934, September 2003, http://www.nber.org/papers/w9934.

over 5.4 million jobs. Similar success stories exist at MIT, where faculty, alumni, and graduates have founded 2784 companies, including notable ones like Dropbox and LinkedIn. These institutions demonstrate the potential benefits of effective research and development efforts.

How many companies have the combined faculty of all 220 universities in Pakistan established? The current record is dismal, attributed to structural rigidities and flawed incentive systems. To foster innovation, researchers should be permitted to retain financial benefits from their intellectual capital, inventions, and patents. Additionally, pooling and sharing research laboratories and expensive equipment among universities can address financial constraints and promote collaborative research.

Promotion criteria should shift from relying solely on impact factor journal publications to a blend of publications, patents, inventions, and contributions addressing economic challenges. Recognition and rewards, such as awards, promotions, and privileges, should favour researchers who, for instance, develop pest-resistant high-yielding crop varieties with significant national impact. Overcoming resistance to hiring highly qualified expatriate scholars is crucial for fostering collaboration and leveraging diverse expertise to tackle real-world issues, benefiting both local and international faculty.

Investment Climate and Deregulation

Pakistani businesses grapple with an intrusive government demanding numerous permits, licenses, and clearances, coupled with a taxing structure that burdens those already in the tax net. This overregulation and high entry barriers disadvantage firms in the formal sector, with only 5 percent of businesses accounting for 76 percent of exports. To promote reform, there is a critical need to deregulate the economy, eliminate outdated rules, and create a conducive environment for new entrants, streamlining processes in land acquisition, utilities, and finance for emerging technologies. The persisting difficulties in navigating bureaucracy and securing necessary approvals hinder business growth and innovation.

The pervasive ‘informalization’ of the economy, notably by small and medium enterprises (over 96% as per the 2005 economic census), reflects the dominant role of the government. Ambivalent attitudes of government functionaries towards private businesses hinder competitive forces. Facilitating ease of entry and exit is crucial to break monopolistic practices, promote efficiency, and encourage new ventures. Weak contract enforcement and protracted litigation act as barriers, keeping resources trapped in low-productivity firms, especially in the informal

sector and the unregulated real estate sector. Substantial opportunities exist to enhance efficiency by addressing these distortions.

To reduce state intrusiveness, the federal, provincial, and local government sizes, structures, and scopes must be clearly defined. Civil servants' skill sets, incentives, and competencies need revamping, and processes should be simplified and made transparent. Introducing e-governance to minimize physical interaction between officials and businesses is essential. A comprehensive review and redesign of the entire human resource policy chain, from recruitment to compensation, is needed. Clarifying functions and responsibilities across government tiers, streamlining hierarchies, and redefining relationships within ministries are crucial. Inducting specialists and fostering continuous professional development are vital for enhancing public sector capacity.

Pakistani regulators grapple with a dilemma. Large firms bring development benefits through economies of scale and innovation. While innovation should thrive without excessive control, curbing excessive market power is crucial. The embodiment of ideas in customs, laws, and institutions is essential, encompassing rules, patent law, competition law, bankruptcy law, and social norms. Determining the boundaries for tech companies within these rules remains an unresolved question.

Human Capital

One of the major areas of concern is that Pakistan's female labour force participation rate is only 21 percent compared to 36 percent for Bangladesh. The World Bank[12] has produced a startling estimate that about 7.3 million new jobs would be created if Pakistan were to close its female employment gap with Bangladesh. The share of working age women in employment would increase from its 2018 level of 22 percent to 34 percent. Most of the newly created jobs for women would be in the agriculture sector, accounting for 56 percent of the total increase in employment (2.7 million additional jobs in absolute terms equivalent to 5.2 percent of the working age population). The second- and third-largest sectoral contributors of new female jobs would be the government, personal services and manufacturing sectors, adding 2.2 million (about 4.2 percent of the WAP) and 1.4 million jobs (2.6 percent of the working age population), respectively.

Leveraging underemployed talent, particularly among women, would significantly boost the country's overall productive capacity. However, deep-rooted social attitudes and beliefs hinder women's full-time paid employment. The use of the internet presents a promising avenue, allowing educated females flexibility in professional work while

[12] World Bank, (2022), ibid.

managing domestic responsibilities. Telemedicine has successfully re-engaged female medical professionals who had left the workforce. Addressing the wide gender gap in educational attainment requires policy intervention, especially in rural areas where the disparity is more pronounced. In 2018, over half of working-age women (51%) had never attended school, compared to 28% of working-age men.

The evolution towards a knowledge economy or the Fourth Industrial Revolution is driven by an increasing demand for a distinct skill set in the workforce. According to the US Department of Labor, 65 percent of today's schoolchildren will work in jobs yet to be invented. Advances in Artificial Intelligence, machine learning, and data analytics are reshaping how knowledge is organized and rendering routine, repetitive, low-tech jobs obsolete, particularly in mass-produced, labour-intensive products for global markets.

The proliferation of new technologies has spurred advanced production and processing methods, significantly elevating the need for knowledge-based skilled workers. Recent economic rate of return studies indicate substantial income increases in developing countries for individuals with higher degrees and skills compared to those with high school diplomas or lower skills. A highly skilled workforce is crucial not only for sustaining economic growth but also for enhancing the investment environment and gaining a competitive edge in the global economy. In light of this, the skill shortages confronting the Pakistani economy present a formidable challenge to future growth and competitiveness.

Platform economies, encompassing online sales, technology frameworks, and transaction platforms such as digital matchmakers or the gig economy, are gaining traction. A 2020 World Economic Forum survey identified roles like data entry clerks, administrative and executive secretaries, management and organizational analysts, middle-level managers, sales workers, news and street vendors, assembly and factory workers, accountants and auditors, and legal secretaries as potentially becoming redundant. In contrast, there will be a rising demand for AI and machine-learning specialists, digital transformation experts, digital marketing and strategy professionals, data analysts and scientists, Big Data specialists, etc. The automation and digitalization of business processes in both the government and private sectors will further underscore these needs.

The rising significance of creative industries, emphasizing intellectual contributions, has prompted a re-evaluation of traditional Science, Technology, Engineering, and Mathematics (STEM). This evolution incorporates arts like advertising, architecture, design, fashion, TV, videos and film, music, photography, publishing, and performing arts, resulting in a new paradigm known as STEAM—Science,

Technology, Engineering, Arts, and Mathematics. Robust property rights, openness to trade and investment, fast internet connectivity, reduced communication costs, and streamlined cross-border services trade have positioned STEAM as a key driver of growth. China's impressive achievements in STEM education and production of graduates and PhDs underscore the transformative impact of STEAM, with China leading in graduate students within the top science and engineering departments of leading U.S. universities.

Establishing a conducive ecosystem for innovation and a knowledge economy in Pakistan is a gradual, imperative endeavour. Initiating this process must begin promptly, free from the customary excuses of financial constraints. The journey starts with childhood education and extends across all educational levels, fostering a culture of lifelong learning.

In the 1950s and 1960s, Pakistani universities, like the University of Sindh in Hyderabad, had a notable presence of students in science subjects. Faculty members held doctorate degrees from prestigious institutions such as Ivy League schools, London, Oxford, and Cambridge, fostering a highly committed academic environment.

In the last fifty years, there has been a shift in student enrolment from science to fields like commerce, business studies, Islamic studies, and local languages, resulting in high graduate unemployment rates. The demand for science, mathematics, and IT professionals exceeds the current graduation numbers, with only 25,000 IT graduates annually against a need for at least 100,000. Vacancies for science and math teachers in schools and colleges remain unfilled. To encourage STEAM education, substantial scholarships should be offered to talented students, especially females. Presently, only a few faculty members in science departments have received training at top foreign or reputable local universities like Quaid-i-Azam University, Lahore University of Management Sciences, and the National University of Science and Technology.

The proliferation of universities, numbering over 220, provides commendable access to tertiary education. However, the focus should shift from quantitative metrics, like the creation of departments or institutes, to the relevance and impact of their contributions in addressing societal issues. Currently, the performance indicators lack emphasis on the quality and impact of academic output. An AKU study shows that 'more than 90 percent of primary and lower secondary school students have only weak or basic understanding of science and mathematics. The average math score of 15000 students in grades 5, 6, and 8 in 153 public and private schools across the country was 27 out of 100 and the science score was 34 out of 100. Only 1 percent of the students scored over 80 in either subject. The study found that high quality teaching practices of

nearly 9 out of 10 teachers were graded weak and roughly 1 in 10 were mediocre. The teachers read and explained words from the textbooks instead of encouraging students to ask questions or participate in activities that bring concepts to life. Professional development opportunities to improve subject matter knowledge and pedagogical tools were wanting in teachers.

We need to revamp curriculum and teaching methods to foster critical thinking, collaboration, continuous learning, and soft skills. By grades XI and XII, students should have a solid foundation in theory and applications, enabling them to branch off into various fields. Unfortunately, at the university level, threats of poor grades often stifle critical inquiry, and students are discouraged from challenging rote learning. This approach hampers a conducive academic environment and yields negative outcomes.

A PIPS report on university students in Khyber Pakhtunkhwa reveals a concerning trend: a majority of Pakistani youth lack fundamental critical thinking and reasoning skills, even at the university level. Many struggle to apply basic reasoning to process information and tend to accept pre-established narratives and outdated conspiracy theories.

The current transactional education model in Pakistan, where teachers lead, students follow, and the focus is on obtaining certificates and degrees, needs a fundamental redesign. The new approach should foster curiosity, encourage questioning, critical thinking, and analytical skills from an early age. The existing system, characterized by a one-way flow of information, rote learning, and an emphasis on grades, should be dismantled to create a more engaging and knowledge-oriented learning environment.

Despite the loud discourse on industry-academia collaboration, few science or technology parks exist near industrial zones. Agricultural universities also lag in developing and disseminating innovations locally. Faculty qualifications, often from less prestigious institutions, hinder cutting-edge research. To promote excellence, scholarship programs like the Higher Education Commission and Fulbright should prioritize sending faculty and scholars for advanced degrees and research programs in STEAM subjects to top universities in the US, UK, Canada, Australia, and Germany.

Despite ample talk on the demographic dividend, little has been done to create an ecosystem to nurture emerging needs. Incremental steps like technical training and establishing expensive centres of excellence on weak educational foundations will not make a substantive difference.

Tariff and Tax Rationalization

Pakistan's highly protected economy relies heavily on high output tariffs, a significant source of rents for shielded firms. Sectors with strong trade protection demonstrate profitability more than double that of other industries, leading to persistent pressure from political and business lobbyists to maintain high tariffs. While economists agree on time-bound, performance-related protection for infant industries, Pakistan has adopted an open-ended approach with continuous extension of concessions and high tariff rates. This has resulted in low entry and exit rates for exporting firms, reduced product diversification, unchanged sectoral composition since the 1990s, and heightened geographical concentration.

Though the latest estimates of effective rates of protection (ERP) are unavailable, a prior PIDE study suggested a decline in the early 2000s. However, the introduction of additional custom duty and regulatory duty in the last five years has increased ERPs. Despite the rationalization of average tariff rates and the number of tariff lines, recent tampering has raised the average rate from 12 percent in FY15 to almost 20 percent in FY20—double that of our competitors and five percent in China. In a world dominated by global value chains, tariffs on imports of components, ancillary supplies, and intermediate inputs act as a tax on exports. Studies indicate that reducing import duties helps minimize input costs, enabling downstream industries to become competitive in third-country markets.

The iron and steel industry, with high import tariffs despite relying on 90% imported inputs (including energy), exemplifies protection at the expense of downstream industries—automobiles, construction, consumer electronics, engineering goods. Despite the protection, auto-grade steel isn't domestically produced, hindering the fabrication of certain auto parts. Similarly, the pharmaceutical industry faces challenges as active ingredients are imported. High tariff rates impede industries in sunrise sectors from scaling up, reducing unit costs, and becoming competitive globally. In fast-moving market dynamics, static input-output coefficients lose relevance.

The National Tariff Commission, tasked with tariff setting due to the Federal Board of Revenue's focus on revenue maximization, has made positive strides by removing additional and regulatory duties on raw materials for certain industrial products. However, more needs to be done, and serious consideration should be given to aligning average tariff rates with those of Pakistan's competitors. Announcing a phased-out timetable for the next few years would enable companies to make necessary adjustments.

While it's argued that FBR refunds import duties, it's important to note that, historically, the process took years, requiring exporters to seek refunds through the banking sector, incurring financing charges. While

big and well-connected firms may navigate this process, the associated delays and costs impact their margins.

Small and medium-sized firms face hurdles in fulfilling codal formalities for indirect exports, putting them at a disadvantage. Despite the global growth of indirect exports, Pakistan faces unique obstacles. In contrast, Nepal, a smaller economy, achieved $1 billion in indirect exports in 2019, up from $337 million in 2009. Acknowledging the importance of imports in obtaining hi-tech goods, raw materials, and machinery is crucial for economic growth. The notion that 'imports should be discouraged' needs a more discerning approach, as long as they are financed through export earnings, foreign direct investment, and remittances, making a positive contribution to production and exports. Agricultural products, where we have a comparative advantage, should be substituted by domestic produce. Openness to trade has proven beneficial for economies with large domestic markets, like China and India.

Specific Export Promoting Policies and Incentives

Examining high-growth emerging economies like China, Korea, Hong Kong, Singapore, Malaysia, Indonesia, Thailand, and potential newcomer Vietnam, notable is their exceptional performance in global export markets. Despite China's vast domestic market of 1.4 billion, its unprecedented growth since 1980, making it the world's largest exporter with over 10% market share, emphasizes active participation in international trade. China surpasses the US and Germany in exports, despite having a per capita income one-fifth of the US. Hong Kong, Singapore, Vietnam, and Malaysia boast export-GDP ratios of 100 or more, while Thailand's ratio is 50. In October 2021, Indonesia's exports surged by 53% to $22 billion, nearly matching Pakistan's annual exports in 2019-20.

Contrastingly, Pakistani exports have faced a decline in global market share, dropping from 0.2 percent to 0.1 percent in 2020, with the Export-GDP ratio falling to 10 percent from over 17 percent in 1992. In comparison, India and Bangladesh saw substantial increases, with India's share rising from 7 percent to 23 percent by 2013 and Bangladesh's from 6 percent to 19 percent. Both countries surpassed Pakistan in global exports share (India 1.71 percent, Bangladesh 0.24 percent). Despite favourable global economic conditions, including the 2008 crisis, world trade growing twice as fast as world output, and the rising share of developing countries, Pakistan's export capacity, which once financed 90-97 percent of imports at the turn of the millennium, has dwindled to only 47 percent.

Not only has export growth plateaued, but the composition of our exports has also remained stagnant for three decades. The majority, two-thirds, is concentrated in agricultural raw materials and unskilled and semi-skilled labour-intensive products like textiles, rice, and leather. We persist in traditional, slow-moving, and stagnant exports rather than embracing dynamic, fast-growing strategic products in medium-tech and hi-tech sectors. The share in hi-tech exports remains static at less than 2 percent, while low-tech exports constitute two-thirds of the total, a decrease from half in the 1980s.

A simplistic explanation, such as currency depreciation, falls short in accounting for this trend. From 2000 to 2007, despite a stable Pak rupee-dollar exchange rate, exports doubled from $8.6 billion to $17 billion. During this period, foreign exchange reserves surged from $2 billion to $16.5 billion by 2007. The current account saw a surplus in three out of six years, and the external debt-to-GDP ratio halved from 47.6 to 27.8%. The accumulation of foreign exchange reserves by a multiple of eight challenges the notion that this outcome is solely due to artificial exchange rate adjustments.

Despite a sharp 55% currency depreciation between 2007-2008 and 2012-2013, export growth was only 24%. Conversely, from 2013-2014 to 2018-2019, exports declined from $24.8 billion to $23.2 billion with a relatively stable exchange rate. This evidence underscores the ambiguity of the exchange rate's standalone impact on exports in Pakistan. While the exchange rate remains a crucial variable, other factors need examination to explain the competitiveness issues in our exports.

The defence production, strategic planning divisions, and the Pakistan Atomic Energy Commission have excelled in research and development in their respective fields. It's crucial to institutionalize the dual use of these technologies for civilian purposes through collaborative efforts between defence research establishments, government scientific research institutions, the private sector, and academia. Incentivizing the private sector to scale up production and export technologies developed by Defence is essential.

Role and Responsibilities of Firms

According to the International Trade Centre, 'export competitiveness' involves the capacity of firms to produce, distribute, and sell products and services more effectively and efficiently than their competitors. It's crucial to recognize that firms, not countries, are the ones competing. While the government's role in export promotion is important, the main actors in making exports competitive are the firms responsible for production, distribution, and sales. Both the state and firms play essential roles, with the latter having an equally, if not larger, responsibility.

Export sector leaders should shift their focus away from seeking concessions and subsidies in Islamabad. Relying on government support can perpetuate low productivity. Instead, they should unlock hidden industry wealth by improving labour productivity, hiring professionals, restructuring organizations, optimizing logistics, engaging in joint ventures, attracting foreign direct investment, and mobilizing capital for expansion and investment in emerging industries through IPOs.

Following government announcements of medium-term trade, e-commerce, and services export policies, exporters should focus on exploring new markets, developing products, conducting research and development, ensuring quality, managing supply chains and logistics, timely delivery, and maintaining positive customer relations. This sustainable approach to cost-saving and revenue increase surpasses the benefits of government concessions and subsidies, which are subject to unpredictable changes. Instead of frequent visits to Islamabad, exporters should direct their efforts towards international markets like Shanghai, Lagos, Johannesburg, Manila, Jakarta, Tashkent, Tehran, and Istanbul.

Investing in the Workforce

Addressing low productivity is crucial in our export industries, with rates only reaching 30-40% of China's. Despite being a low-wage country, when adjusted for productivity, efficiency, quality, reliability, and innovation, Pakistan is relatively expensive. The labour force's average schooling of five years and a 40% illiteracy rate put the country at a disadvantage compared to competitors. It is imperative for exporting firms and the government to collaborate in overturning this situation and not accept the current state of affairs.

Treating labour wages as a financial burden, relying on transient and contractual workers, and neglecting resources for training exacerbates the issue. Firms investing in fair treatment, training, and welfare of workers experience low attrition rates, high morale, and unwavering loyalty.

The simple arithmetic of this approach envisions a 20 percent increase in overall productivity by attracting, retaining, training, compensating well, and motivating workers. The resulting gain could be a split of 10 to 15 percent for the owner in higher profits and 5 to 10 percent for workers based on labour output. Investing in a trained, healthy, motivated, and satisfied workforce for increased productivity presents a clear business case. A PIDE study suggests that raising productivity to 3 percent and above can boost GDP growth to over 6 percent. The challenge lies in achieving this higher productivity.

To reduce private costs and enhance efficiency, it is proposed that export firms collaborate by forming Sectoral Export Councils with

transparent rules and self-regulations. Only genuine exporters should be part of these councils. The management of technical and vocational institutes related to export sectors, like those under TEVTA in Sialkot, should be handed over to these councils, enabling them to design and deliver hands-on training courses. Enrolled individuals can receive practical training through short attachments with exporting companies, along with continuous short courses on new technologies. Upon completing the courses, successful trainees may secure apprenticeships, leading to regular job opportunities for those who excel.

Transitioning from a credential-based, supply-driven approach to a performance-based, demand-driven, and privately managed training and apprenticeship model would enhance overall productivity and ensure better value for improved quality products. Workers in exporting firms should receive variable wages, with one fixed component tied to the average inflation rate and another variable component linked to performance. This approach would encourage diligent work and employee retention, recognizing the added productivity of experienced workers.

Empower provincial TEVTAs and the National Vocational and Technical Training Commission with legal and regulatory authority, along with financial allocations. Their roles would include establishing standards, facilitating international accreditation linkages, offering financial assistance to talented and needy students (especially women), bringing in foreign experts, and sending high-performing faculty members abroad for professional development. Additionally, provide competitive grants for innovation and applied R&D to instructional staff in these institutes, universities, and colleges.

Providing healthcare for families and educational facilities for workers' children serves as a key motivator for retention. Owners should establish arrangements with social security institutions, charitable hospitals, or ensure access to Sehat Health cards. This proactive approach contributes to a healthier workforce, reducing absenteeism. Utilizing connections, owners can facilitate enrolling workers' children in quality schools, such as The Citizens Foundation, promoting education for low-income families.

Transfer the responsibility of collecting contributions to the workers' welfare fund from the government to sectoral export councils. These funds can be supplemented by mortgage loans from banks to facilitate low-cost housing for workers and their families. Ownership of a home enhances mental satisfaction and security, motivating better performance. The Trade and Development Authority should monitor the proper use of funds for their intended purpose.

Organizations possess ambitious middle-level managers eager to start their own businesses. Firms should support them through tie-in

arrangements, including purchase agreements for materials, components, logistics, and other services required by their employers. Leveraging the managers' intimate knowledge can lead to cost-effective solutions, extending the loyalty nexus to these suppliers as well.

Professionalization of Management

Addressing the professionalization of the management cadre is crucial. It's encouraging that some offspring of our first-generation industry leaders, educated at reputable universities, are returning with innovative ideas. However, relatives, friends, and associates should only be accommodated in companies if suitably qualified, well-trained, and capable contributors. Loyalty is important, but it must be coupled with professional and technical skills for optimal productivity. Encourage competition with external professionals to maximize potential.

Professionalization must be complemented by automation and digitalization. While many firms have implemented ERPs, they need to advance beyond this initial step. The tasks of managing, continuously upgrading production, distribution, and marketing are increasingly complex and should be entrusted to those with the necessary capabilities. IBA graduates often prefer joining multinationals over Pakistani-owned companies because career progression and job fulfilment in the former depend on their performance. In contrast, some Pakistani companies with a '*seth*' mentality evoke apprehension among graduates, fearing the imposition of relatives, potentially hindering progress despite their hard work, devotion, and performance.

Export firms should hire professionals, aligning their compensation with market standards, offering opportunities for advancement, and providing profit-sharing incentives. The benefits to the companies far outweigh the minimal costs incurred. Simultaneously, eliminating incompetent individuals without any considerations of favouritism is essential.

Use of Expert Advice

Engaging management consultancy firms is crucial for evaluating strategic positioning, work processes, factory layouts, inventory management, logistics, and supply chain management. These firms can provide valuable insights by benchmarking against competitors in other countries, offering strategic recommendations for implementation. Unlike many Pakistani firms, Indian companies regularly collaborate with international consultancy firms, leveraging their expertise to acquire significant assets worldwide, attract foreign direct investment, and establish joint ventures and marketing arrangements. Multinationals,

including Amazon and Apple, actively seek partnerships with Indian companies, with these consultancy firms acting as informal ambassadors. Despite concerns about high costs, the long-term benefits of working with global consultancy firms, as highlighted by the UNCTAD World Investment Report, can significantly contribute to the growth and global presence of Pakistani firms in promoting exports.

Global Value Chains

Pakistan, according to a recently published Asian Development Bank report,[13] is at the bottom of global value chain (GVC) trade participation rates. GVC trade's significance is evident, exemplified by Apple's iPhone, which relies on over 90% of its components from various countries, including Korea and Taiwan. However, punitive tariffs, cumbersome trade facilitation, and high logistics costs hinder the process, despite the anticipated reduction in transaction costs with the National Single Window implementation in 2022. Evacuating goods from North to South remains a challenge.

Looking forward, China recognizes a diminished advantage in labour-intensive goods production. Leveraging ICT and reduced communication costs, China is reallocating fabrication to low unit labour cost countries and outsourcing labour-intensive aspects to low-income countries. This allows China to specialize in areas requiring skilled labour, technical expertise, and capital.

Export of Services

In the last decade, global trade in services has outpaced goods trade by over 60%. Given its faster growth, it's plausible that services trade might equal or even surpass global goods trade in the coming decade. In Pakistan, exports have typically referred to goods, but the globalization facilitated by the spread of knowledge and technology has enhanced the tradability of services internationally. Electronic platforms and internet connectivity have notably expanded access for individuals, as well as small and medium enterprises, overcoming traditional barriers faced in exporting goods.

Despite services contributing 50% to global GDP and employing more workers than manufacturing, there persists a belief that job creation is solely linked to manufacturing physical goods. In Pakistan, services now constitute 62% of GDP, employing a similar proportion of the non-agricultural labour force. However, the export performance of services,

[13] Asian Development Bank, Islamic Development Bank Institute. *Pakistan's Economy and Trade in the Age of Global Value Chains*, (Manila, Philippines, January 2022). https://www.adb.org/publications/pakistan-economy-trade-global-value-chains

especially in business process outsourcing and offshoring by advanced countries, has been disappointing until recently.

We need to move away from the outdated belief that industrialization and goods exports are the sole drivers of economic well-being. Instead, we should actively promote services trade, especially in the digital technology sector. Services contribute significantly to the value chain of traded manufactured goods, encompassing R&D, design, engineering, sales and marketing, finance, and human resources. Unlike goods, services trade is driven by higher efficiency, cost-effectiveness, customer satisfaction, and rapid turnaround time, without relying on government subsidies. Additionally, the services sector has a lower carbon intensity compared to manufacturing, making it a valuable contributor to mitigating climate change risks.

Pakistan's annual services exports stand at $5-6 billion, a stark contrast to India's $200 billion, which is 40 times larger despite India's economy being only eight times the size of Pakistan's. India's IT industry alone employs 16 million talented individuals, with above-average wages that continue to rise. A study suggests that a single job created in the services sector generates four additional jobs due to increased incomes and subsequent consumption.

To enhance support staff skills in the services sector, there is a need for more technical and vocational training institutes with proper facilities and instructional staff. Those inclined towards practical skills, rather than traditional school learning, could find gainful employment. Drop-outs from formal education could also benefit from these institutes, with the potential for some to excel. The Ministry of ITT, in collaboration with private exporting firms, universities, and other agencies, has devised plans to boost exports in this service sub-sector to nearly $5 billion in the next two years. Recent evidence supports this goal, with telecom and IT services exports nearly doubling in the last two years, reaching $1.2 billion in 2019. Pakistan's technology sector has attracted more foreign capital in 2021 than in the previous six years combined. Locally, family offices of major business houses are entering the venture capital space.

To foster the digitalization of the economy and expand IT services, it is counterproductive to impose punitive taxes on telecom and mobile phone usage and levy charges on digital payments. Given Pakistan's youth bulge, aligning the services sector's absorptive capacity with annual additions to the labour force is crucial. Upfront capital costs in services are low, and the sector boasts relatively high female participation, particularly in IT, offering a potential solution to narrow the gender gap.

Beyond the ICT sector, professional and business services globally lead, including accounting, legal, engineering, management consultancy, architecture, and health services. Despite success of individual Pakistanis

in these professions abroad, minimal efforts have been made to incentivize local firms to export these services. Public policy interventions, aligned with stakeholders, should focus on facilitation, removing barriers, and inclusion in bilateral and regional trade agreements, following the guiding principle of 'Do no Harm.' Accelerating the flow of quality graduates in these professions is essential, as current limitations hinder growth, and top firms are reluctant to take risks in highly competitive global markets.

Innovation, Technology and Digitalization

It is increasingly evident that sustained economic growth in the twenty-first century hinges on innovation, technological diffusion, and human capital. The traditional pursuit of resource discoveries like oil, gas, or precious minerals is unlikely to significantly impact living standards. While short-term gains from physical or natural capital persist, countries must prepare for the transition towards building capabilities and ecosystems for a technologically advanced world. Those dismissing globalization fail to recognize the inevitability of technological advances dismantling geopolitical barriers.

Efficiency-driven economies require modern machinery, better technical and managerial skills, promotion of a culture of firm level learning, innovation and knowledge. Human capital development, training of scientists and engineers, R&D, and lifelong learning practices are the foundations of the new knowledge economy.

An impetus to the human-capital-technology nexus was received by the endogenous growth theory. Paul Romer,[14] Nobel Prize winner for this theory, opened a new vista in the exploration of economic growth. He argued that traditional inputs like capital and labour which have diminishing rates of return account for only half the differences in countries' output—and suggested that ideas, knowledge and technology which have increasing rates of return account for the remaining half.

The explosive growth of technology companies, driven by network effects, validates Romer's theory. Startups can evolve into unicorns based solely on innovative ideas. However, existing antitrust laws in advanced countries struggle to address the growing influence of the big five companies. Digital technology has shifted from being a driver of marginal efficiency to an enabler of fundamental innovation and disruption. According to McKinsey, Big Data, as one of the disruptive technologies, has significantly altered the landscape, contributing to a 10% increase in global GDP and $2.8 billion to annual trade over a decade.

[14] Paul M. Romer, 'The Origins of Endogenous Growth', *Journal of Economic Perspectives*, vol. 8, no. 1, (Winter 1994), pp. 3–22.

Data is crucial for enhancing efficiency, productivity, supply chains, and fostering innovation. According to a study by the US Bureau of Economic Analysis, workers in the digital economy earn an average compensation of $132,223, significantly higher than the $68,506 per worker for the total US economy. In the health sector, telehealth tools have empowered Pakistani female doctors to overcome social and cultural barriers, allowing them to connect with patients in remote areas, contributing to both their professional development and the economy.

Where do we stand in our state of preparedness to embark on this journey? UNCTAD has developed a Country Readiness Index that assesses national capabilities to equitably use, adopt and adapt these innovative technologies. The index comprises five building blocks: (a) ICT deployment—internet users, speed; (b) Skills—expected years of schooling; (c) R&D activity—publications, patents; (d) Industry activity—hi-technology; and (e) Access to finance—domestic credit provided. Pakistan's score on this index for 2020 is 0.20 and it is ranked 123 out of 158 countries, placing it in the low category of readiness. By contrast, India, though ranked 43, is an over-performer in relation to its GDP per capita because of its impressive human resources.

With a youthful population of 60 percent below the age of 30, Pakistan is well-positioned to address labour shortages in aging societies. Countries like Japan and the UK have adjusted immigration policies to attract skilled workers. To seize this opportunity, Pakistan must focus on digitalizing the economy and upskilling its IT graduates. The current output of 20,000-25,000 graduates annually, with only a quarter deemed employable, is insufficient. To enhance workforce readiness, efforts should include expanding university enrolment, ensuring high-quality education, and organizing certification courses and boot camps nationwide.

UNCTAD forecasts a nine-fold increase to $3.2 trillion in the global market for eleven frontier technologies. Presently, Pakistan lags in the lowest quartile of the Country Readiness Index. To tap into this potential, immediate measures are crucial. Introducing Science, Technology, Engineering, and Mathematics (STEM) subjects extensively at secondary and higher secondary levels is paramount. Qualified STEM teachers promoting critical thinking should receive double the salary. Schools need robust infrastructure, including high-speed internet, devices, and cloud computing. A World Bank survey exposed deficiencies, with only 9,800 of 33,500 schools having optical fiber nodes, and 2,200 facing poor cell phone connectivity.

Utilize universal service funds for 4G/LTE expansion to secondary cities and rural areas, establishing new cell towers and exploring satellite internet via 12,000 low earth orbit satellites. Public expenditure on connectivity, laboratories, and performance-linked compensation for

qualified teachers is an investment in human capital, not a recurrent expense. Extensive recruitment and training of STEAM subject teachers, emphasizing academic rigor, intellectual grounding, and pedagogical adaptability, are essential. Replicate hands-on interactive Science Museums nationwide to make learning enjoyable and foster foundational understanding. Encourage students to learn through trial and error, fostering innovation and preparing them for lifelong learning and future challenges.

Provide stipends and scholarships to Pakistani students admitted to graduate and post-graduate STEM programs in reputable universities, as well as for pursuing PhD degrees in academically advanced countries. Offer liberal financing for post-graduate studies and sabbaticals for faculty members in STEM subjects. Establish laboratories and procure equipment through collaboration with the private sector and philanthropists.

Joint Venture Collaboration

Attracting Foreign Direct Investment (FDI) in export-oriented industries is crucial for productivity and efficiency. While Pakistan's FDI has been primarily market-seeking, studies show a strong link between export growth and FDI flows. Unfortunately, the export sector in Pakistan has missed opportunities to tap into global supply chains, technology, design, branding, and managerial practices due to limited FDI. Countries like China and Vietnam have greatly benefited from foreign investors in export manufacturing, influencing domestic firms to adopt best practices in production, skills, and marketing innovation.

Furthermore, domestic firms benefit from the expertise of multinational executives, especially in key positions. In Pakistan, prominent banks have CEOs with training and experience from multinational banks, and many non-financial corporations are led by individuals who previously worked in both local affiliates and overseas branches of multinational companies. This pool of skills and talent should be continually expanded and replenished as older cohorts retire. The positive spillover effects of multinational presence are evident in the growth of some domestic pharmaceutical companies. To maximize contributions to export earnings, these firms must invest in research and development, pursue innovation, and obtain certifications from regulatory agencies such as the FDA or European counterparts. Eliminating regulatory hurdles in government price setting is crucial to ensure fair competition on a level playing field.

A recent World Bank study[15] has documented that foreign-owned exporting firms in Pakistan are 66 percent more productive than domestic exporting firms and the productivity of firms that are acquired by multinationals tend to increase after the acquisition. This is a lesson for Pakistani-owned companies to catch up to the levels achieved by MNCs. The cumulative effect of 30 percent productivity gains would translate into additional annual exports of $8 billion to $9 billion without incurring huge costs.

Pakistan should leverage its growing economic ties with China, emphasizing trade, investment, and technology transfer. While maintaining and strengthening relations with the US and Europe, the most dynamic economic opportunities lie in Asia. Political challenges currently hinder regional integration in South Asia, but it presents a low-cost, high-payoff opportunity. Historical trade routes connected the entire subcontinent, and positive steps have been taken with Central Asian Republics and Iran. Utilizing the Gwadar port can enhance trade with Central Asian Republics. Attention should shift towards East Asia, the fastest-growing region.

Pakistan, an active partner in CPEC with a free trade agreement (FTA) with China, should seize this opportunity to attract Chinese companies to special economic zones. Collaborative joint ventures between Pakistani business entities and Chinese counterparts are crucial. Concurrently, strengthening ties with ASEAN nations is vital, considering their growth trajectory. Exploring participation in the Regional Comprehensive Economic Partnership (RECP) is a strategic move. The countries within this FTA represent 30 percent of the global GDP, with projections indicating an additional $500 billion in international trade by 2030.

Pakistan's exports under FTAs represent only 10 percent of the total, with no FTAs with major destinations like the US, UK, Germany, and Afghanistan, which collectively make up 37 percent of total exports. Engaging in fair and equitable FTAs can enhance competitiveness by offering lower tariffs compared to other competing countries. The ongoing development of Special Economic Zones (SEZs) in Gwadar, Rashakai, Faisalabad, and Dhabeji, under the second phase of CPEC, provides an attractive proposition for Chinese companies looking to relocate due to rising labour costs in countries like Vietnam, Cambodia, and Laos. The success hinges on Pakistan's ability to match the speed and response capacity of the Chinese.

[15] World Bank Pakistan Development Update, Macroeconomics, Trade and Investment Global Practice, *Pakistan Development Update October 2021: Reviving Exports*, 28 October 2021, https://thedocs.worldbank.org/en/doc/4fe3cf6ba63e2d9af67a7890d018a59b-0310062021/original/PDU-Oct-2021-Final-Public.pdf

Under FTA II with China, 83 percent of Pakistan's global exports have been liberalized, encompassing textiles, garments, leather, chemicals, seafood, and meat. Eliminating duties and reducing transport costs enhances the competitiveness of Pakistani products in the Chinese market compared to other sources. Gaining a one percent market share of Chinese imports could boost total exports by $20 billion. Collaborating with Chinese companies to design, brand, and market goods manufactured in Pakistan globally adds further mutual benefits. Stable conditions in Afghanistan create opportunities for Pakistani goods in Central Asian Republics, especially those manufactured in SEZs and transported under the TIR convention. World Bank and ADB regional projects connecting these countries through railways and highways would be highly advantageous.

Promotion of Tourist Industry

The government prioritizes the tourism sector to boost service export earnings. Neighbouring countries like India, Sri Lanka, Nepal, and the Maldives generate significant foreign exchange through organized tourism. Pre-Covid-19, India's earnings were $30 billion, with Sri Lanka and Nepal ranging from $600-700 million annually. Pakistan offers diverse attractions, including eco-tourism in Gilgit-Baltistan, Chitral, Swat, and Azad Kashmir. Religious tourism can attract Buddhists and Sikhs worldwide, while Sindh and Balochistan provide affordable coastal areas for sea resorts and water sports. The country's rich history is an exploration opportunity for Mughal and British empire enthusiasts and archaeologists.

Of course, this requires robust infrastructure for transportation, local travel, accommodation, cleanliness, hygiene, safety, and security, along with trained and courteous guides and service providers. Additionally, streamlined visa and border facilitation, along with networks and linkages with international tourist operators, are crucial. Relaxing travel advisories and resuming air travel by leading airlines globally are imperative. To compete with India's package tours, we can enhance our offerings by including destinations like Iran, Turkey, or the Central Asian Republics. Currently, a well-coordinated tourism strategy involving federal, provincial, and local governments, along with private operators, is lacking, hindering effective marketing of Pakistan as a tourist destination.

Conclusion

In summary, collaboration between the private sector and policymakers is crucial to achieving a target of $60 billion in exports of goods and

services over the next five years. The focus should be on revamping the educational system to produce a skilled workforce, fostering adaptability, creativity, and problem-solving skills. Additionally, a multipronged disruptive strategy is needed to elevate Pakistan's standing on global innovation and readiness indices, involving exposure to STEAM subjects, investment in R&D, collaboration with expatriate scholars, incentivizing university faculties, and substantial investment in labs and ICT infrastructure. The prospects of penetrating the world's largest market are promising, especially with the combination of FTA II and SEZs under CPEC. Achieving an annual average export growth of 14 percent is feasible, drawing inspiration from past accomplishments and leveraging regional trade opportunities.

To achieve aggregate export targets of $60 billion, a division between goods and services is necessary, with a faster rise expected in IT and IT-enabled services. Goods can be further categorized into traditional and sunrise sectors. Sectoral growth rates should be collaboratively developed by exporters, analysts, and potential entrants, considering global trends. These plans should be discussed with government agencies, forming a consensus-based strategy document with timelines, milestones, and responsibilities. The completion of the Regulatory Guillotine exercise and the National Single Window is crucial. Export incentives should focus on new products and markets, including ensuring a competitive energy supply. The government's proposed policies, incentives, and institutional facilitation should be clearly communicated, such as the results of NTC's tariff rationalization exercise, with a phased implementation plan over the next five years for realistic outcomes.

The Ministry of Commerce, acting as the lead coordinator, will present policy proposals to relevant forums, including the ECC and federal and provincial cabinets. The views of the Standing Committees of the National Assembly and Senate will be incorporated. The Export Promotion Board, chaired by the prime minister, will monitor progress quarterly, taking remedial actions as needed.

The private sector must undergo a radical mindset shift, with a focus on owners rethinking their approach. While blaming the government is common, export competitiveness relies on private sector exporting firms. Owners should reconsider their attitude towards workers, recognizing them as key partners and collaborators, as demonstrated by the Japanese model where the insights of floor shop personnel and salespersons are valued and implemented.

The professionalization of the management cadre, utilization of management consultancy, and the adoption of international benchmarks and best practices are additional enablers that warrant consideration. Furthermore, attracting foreign multinationals as partners could

significantly enhance export competitiveness. It is crucial to initiate meticulous and detailed efforts for the export of services promptly.

While the outlined targets may encounter bumps along the way, the end result remains achievable. Flexibility is key in the dynamic world, allowing for updates based on external and internal developments. The crucial factors for success include consistency, coherence, coordination, and predictability. Past experiences underscore the importance of these factors in achieving strategic trade policy objectives.

Addressing apparent inconsistencies and contradictory policies promptly is crucial. In a global value chain-oriented trade landscape, high tariffs hinder export promotion. Adopting low average tariff rates, akin to competing nations, with simplified, computerized, and automated procedures—eliminating arbitrary powers of tax collectors—will enhance the success of the strategy. While targets and action plans may evolve, maintaining consistency, coherence, coordination, and predictability is paramount.