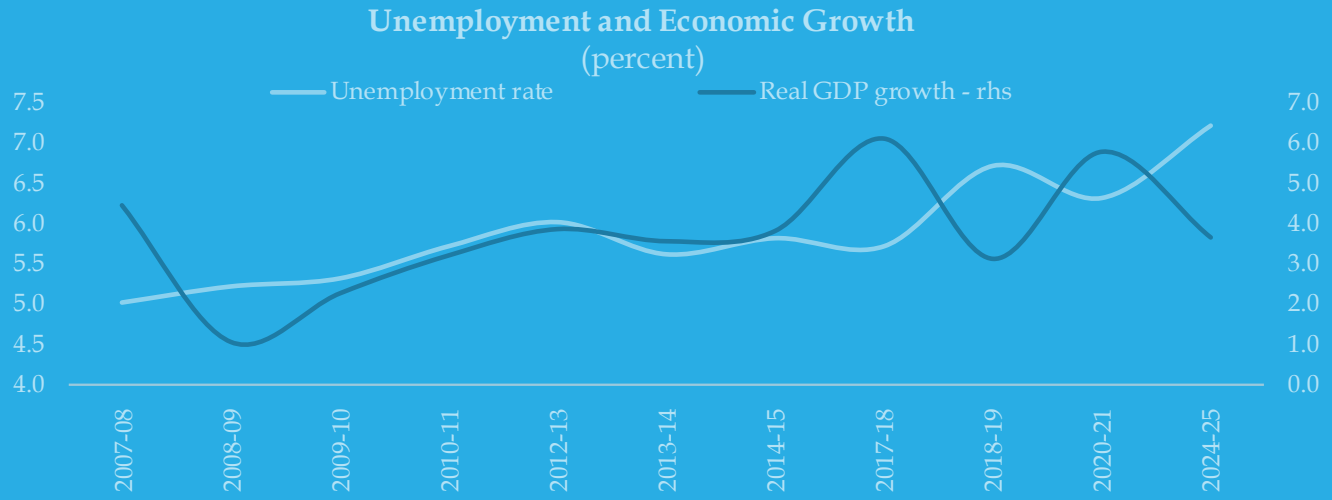


6

Structural Challenges to Job Creation in Pakistan

Pakistan has a predominantly young population, with over 60 percent under the age of 30 years, offering significant potential for a demographic dividend. Realising this potential, however, depends on the economy's ability to generate sufficient and productive jobs. This chapter shows that the country's unemployment and other labour-market challenges are not merely cyclical but also structural. The latter is reflected in several indicators including weak real wage growth; high working poverty; and consistent increase in labour migration. From macroeconomic perspective, a key structural challenge is Pakistan's inability to sustain high economic growth, compounded slow pace of structural transformation amid signs of premature deindustrialisation. These challenges are exacerbated by low labour force participation – particularly among women – high youth unemployment, a large NEET population, and pervasive informal employment. Emerging trends, such as 4IR, the green transition, and geoeconomic fragmentation add further pressures through technological gaps, reskilling needs, investment constraints, and intensifying global competition. Addressing these challenges will therefore require not only sustainable higher economic growth, but also a deeper transformation of the production structure and of the labour market to ensure that Pakistan's growing working-age population can be absorbed into productive and decent employment.



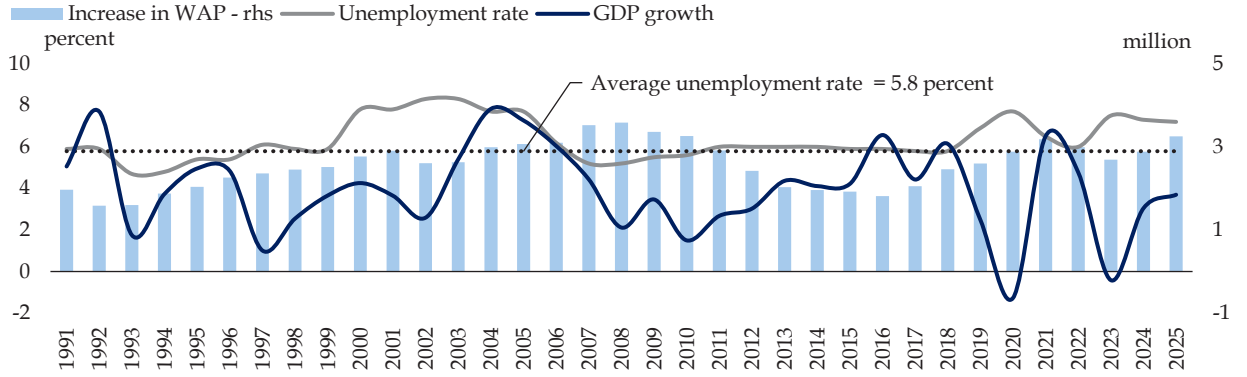
6 Structural Challenges to Job Creation in Pakistan

6.1 Introduction[1]

Generating sufficient employment opportunities for Pakistan's growing working-age population (WAP) remains one of the country's key economic challenges amid frequent boom bust cycles.[2] In this context, the unemployment rate (UR), which has remained elevated since 2019, is a concern. The recent increase in UR coincides with subdued and volatile economic growth, including a significant contraction in FY23 (**Figure 6.1**). The UR increased to 7.2 percent in FY25, compared with 6.3 percent in FY21 and 5.7 percent in FY18 (PBS, 2026). At the same time, average GDP growth declined to 2.80 percent during FY19–FY25, from 4.2 percent in the preceding seven-year period. This underscores the importance of achieving sustained, higher and more inclusive economic growth to generate sufficient employment opportunities and absorb the expanding WAP.[3] These UR trends need to be considered alongside broader macroeconomic and labour-market challenges, which point to significant structural constraints to job creation, especially of productive and decent jobs.

From macroeconomic perspective, historically low and volatile GDP growth has been one of the biggest challenges, alongside, slow pace of structural transformation (ST) amid signs of premature deindustrialisation (PD). The latter is particularly concerning as manufacturing has historically been a key driver of growth and labour absorption in high-income and East Asian economies. In this context, **Box 6.1** discusses the country's PD and slow pace of ST; the technologisation of global manufacturing processes that increasingly requires less labour; the evolving global economic environment; increasing servicification of manufacturing industry globally;[4] and overall rising share of services in GDP. These present a big challenge for labour absorption in Pakistan, especially for its largely unskilled labour.

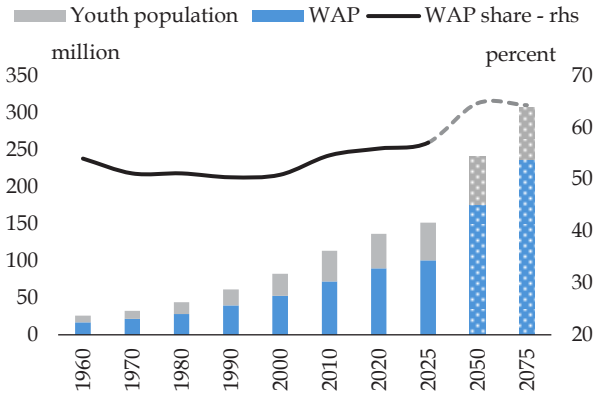
Unemployment Rate, Working Age Population, and Real GDP Growth **Figure 6.1**



Note: As PBS LFS data is availbale at discrete interval, IMF estimates are used to construct a continous employment series. IMF estimates are broadly consistent with LFS estimates.
Sources: WB; IMF

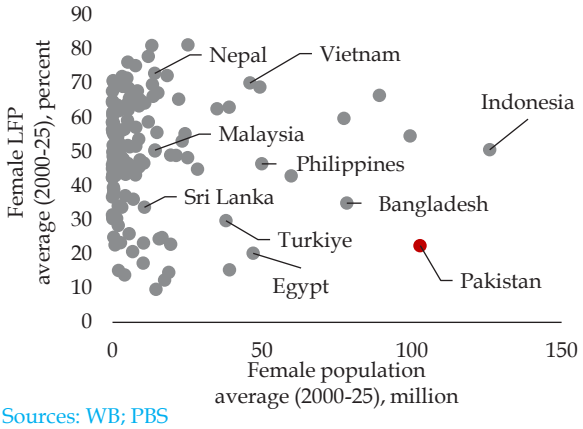
[1] Unemployment and other labour market statistics in this chapter are based on the 19th ICLS where available at PBS; otherwise, statistics based on 13th ICLS are used. This does not materially affect the trends or overall narrative. Unemployment rates are for population aged 15 years and above.
[2] WAP is used as a proxy for potential labour-market entrants because consistent age-disaggregated historical data of the labour force participation are not available. While WAP does not capture changes in labour force participation, it provides a reasonable proxy for the potential expansion of the labour supply in the absence of sufficiently detailed labour force data.
[3] Empirical studies consistently find that low GDP growth along with low foreign direct investment, weak governance quality, and rapid population growth to be significant determinants of unemployment in Pakistan (Khan et al., 2024; WB, 2025a).
[4] The servicification of manufacturing refers to the increasing use and importance of services within manufacturing activities, including services that are purchased as inputs, produced in-house by manufacturing firms or bundled with manufactured products.

Working Age Population (WAP) **Figure 6.2**



Note: Median variant forecast from 2025 onward
Source: UN

Female Population and Labour Force Participation **Figure 6.3**



Sources: WB; PBS

These constraints are compounded by deeply entrenched labour market fragilities. First, is the rising WAP and growing youth bulge, with over 60 percent of the population already under the age of 30 years. Moreover, compared to the preceding five decades, i.e. between 1975-2025, during which Pakistan added around 115 million people to its WAP, the projected increase in WAP in the next fifty years (2025-2075) is around 156 million people **(Figure 6.2)**.

Such a demographic profile can potentially yield a substantial dividend, but only when economies generate sufficient productive employment (UNFPA, 2021). In Pakistan, however, youth UR is at 12.8 percent, which is substantially higher than aggregate UR. (PBS, 2025a). A large number of young people who are 'not in employment, education, or training' (NEET), and low investments in education raise serious questions about harnessing the potential demographic dividend (PBS 2025a; SBP, 2022).

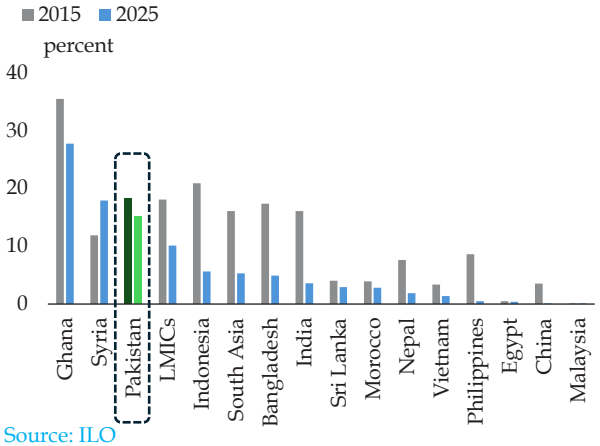
Second, is low labour force participation (LFP) mainly due to low female LFP rate.[5] Pakistan's female LFP is one of the lowest among the cohort of regional and income level peer economies, averaging around 24 percent in the last 17 years (PBS, 2026). The combined effect of a large sized female population and low female LFP **(Figure 6.3)** is a binding constraint on household income and aggregate productivity (WB, 2022a). In addition to low female LFP, female UR has also remained consistently higher than that for male (PBS, 2026).

Third, is the issue of pervasive informality. Informal employment accounts for an estimated 81.7 percent of the total employed and 72 percent of non-agricultural employment (PBS, 2025a). It also extends beyond informal markets, with informal employment common in formal firms.[6] This limits the transition towards more productive and better-paid employment and leaves workers with limited job security, bargaining power, and social protection, reinforcing vulnerable and precarious employment (Schmidt et al., 2023).

In addition to Pakistan's structural weaknesses, three major emerging global trends present a new set of challenges. First, automation and artificial intelligence (AI) are reshaping labour demand in developing economies. Second, the green transition presents both adjustment risks and employment opportunities, but capitalising on these opportunities will require re-skilling and up-skilling of labour (ILO, 2018a; Fankhauser et al., 2018). Third, geoeconomic fragmentation is reshaping global investment and production, favouring economies with stronger infrastructure,

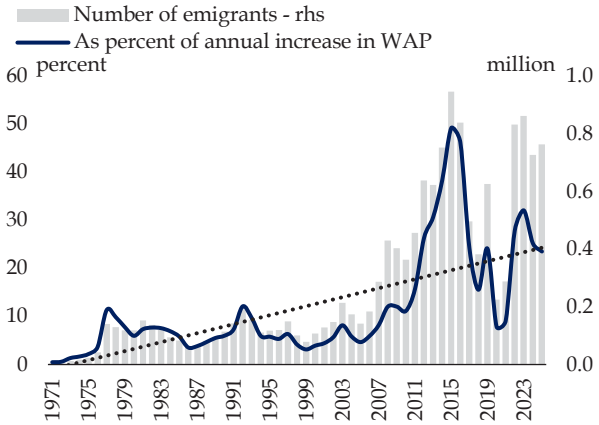
[5] LFP refers to the share of the working-age population that is either employed or actively seeking work.
[6] Zhou (2017) documents how informal and home-based workers are linked to formal enterprises through subcontracting and supply-chain arrangements in textile and garments sector in Pakistan.

Working Poverty Rate **Figure 6.4**



Source: ILO

Annual Flow of Emigrants **Figure 6.5**



Sources: BEOE; UN

skills, institutions, and global value chain (GVC) integration (Estevadeordal et al., 2025). These challenges are consequential for economies like Pakistan that are already facing industrial stagnation and slow pace of ST amid demographic constraints (WB, 2019; Rodrik, 2016).

These challenges are also increasingly evident in other indicators of labour market. For instance, real wage growth in Pakistan has remained weak in recent years (SBP, 2025a). This reflects the prevalence of informal and low-productivity employment along with weak worker bargaining power (ILO, 2024a). The same reflects in working poverty, which is comparatively high due to low wages, and informal employment amongst other structural challenges (ILO, 2019).[7] In the past ten years Pakistan has managed to shed only 3.2 percent in working poverty compared to 15.3 percent in Indonesia, 12.5 percent in both India and Bangladesh and around 8 percent in LMICs **(Figure 6.4)**. Similarly, consistent increase in outward labour migration over the last two decades, also points to limited job opportunities in domestic economy **(Figure 6.5)**.

In light of the foregoing discussion, this chapter is organised as follows. **Section 6.2** discusses the macroeconomic challenges to job creation. This is followed by discussion on labour market issues in **Section 6.3** that mainly sheds light on low female LFP and high female unemployment; high informal employment; and high youth unemployment and NEET. **Section 6.4** discusses challenges stemming from the future of job creation. **Section 6.5** summarises and concludes the chapter.

6.2 Job Creation: A Macroeconomic Perspective

Macroeconomic conditions play a central role in determining an economy's capacity to create jobs. Employment outcomes of economic growth not only depend on the pace of output expansion, but also on its sustainability, sectoral composition, and employment intensity (Cho & Majoka, 2020; UNDP, 2024). Job creation is also affected by price stability, as high and volatile inflation discourages investment (Ahmed & Qayyum, 2007) that impacts job growth.

Similarly, limited fiscal space can constrain investment, while high government financing needs can crowd out private sector borrowing (IMF, 2024), thereby weighing on employment generation. Low levels of domestic private investment further constrain job creation. In contrast, stronger exports and deeper integration into the GVCs expand external demand and support job creation (WB, 2025a). Against this

[7] ILO defines working poverty as the proportion of the employed population living in households with an income or consumption level below the international poverty line.

backdrop, the following sub-sections discuss the key macroeconomic drivers of job creation in Pakistan: GDP growth, structural transformation, inflation, exports, and fiscal conditions.

GDP Growth

Pakistan's GDP growth has remained low over more than three decades relative to LMICs (**Figure 6.6a**). Moreover, it has been increasingly volatile, characterised by recurring boom and bust cycles **(Figure 6.6b)**. These stylised facts reflect structural weaknesses in the economy that have constrained investment, productivity, and job creation (Qasim, 2024). The per capita income difference between Pakistan and low-income countries (LICs) has also been narrowing over the last 7 years **(Figure 6.6c)**. The persistence of this trend can adversely affect job creation by discouraging both domestic and foreign investment.

While classification as an LIC per se does not constrain investment, economies at lower income levels generally face higher borrowing costs, weak investor confidence, and greater investment risks, deteriorating infrastructure and weak governance. This discourages investment and limits FDI in manufacturing and other job-intensive sectors (WB, 2025b; UNCTAD, 2025a). In addition, the relationship between Pakistan's GDP growth and employment has weakened over the years. GDP-employment elasticity was estimated at 0.6 during 1972-78 (GoP, 2003). Subsequently, PIDE (2019) estimated it at 0.2 during 2000-18, while WB (2018) found Okun's coefficient[8] at around 0.2 during 1991-2016.

Against this backdrop, **Box 6.2** updates this relationship using the latest data and finds that employment elasticity in Pakistan has weakened further to 0.11 during 2000-25, with sectoral estimates broadly reflecting a similar trend. Together, these trends reflect the economy's limited capacity to generate employment commensurate with growth.

Structural Transformation (ST)

The decline in employment elasticities in Pakistan cannot be interpreted in isolation. Literature suggests that employment intensity of growth also depends on the nature and pace of ST.[9] Economies that have undergone successful ST — such as Vietnam and China — have also witnessed declining employment elasticities. However, these largely reflect rising labour productivity driven by capital deepening, technological upgradation, and within-sector productivity improvements (Mason & Shetty, 2019).

Pakistan, on the other hand, presents a markedly different pattern. The weakening of employment

Figure 6.6a Average GDP Growth in Selected Economies (1990-2025)

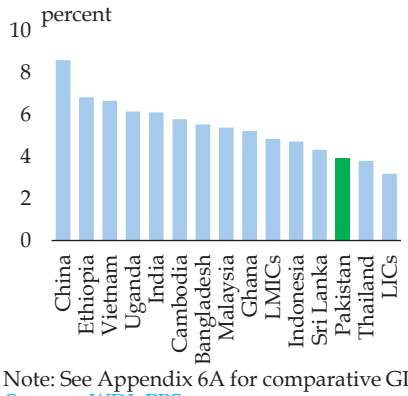


Figure 6.6b GDP Growth Volatility in Pakistan

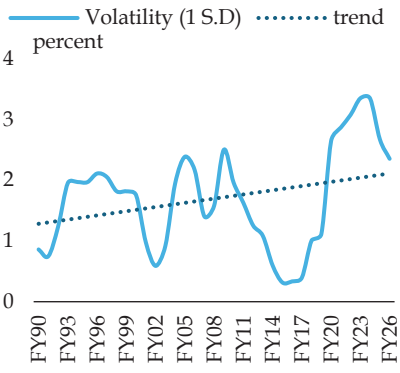
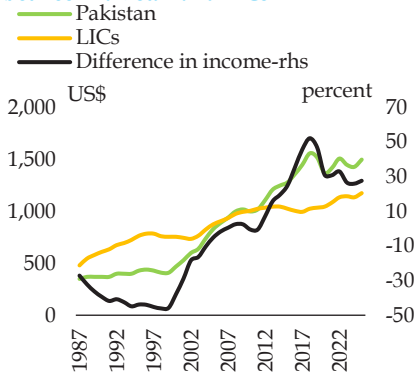


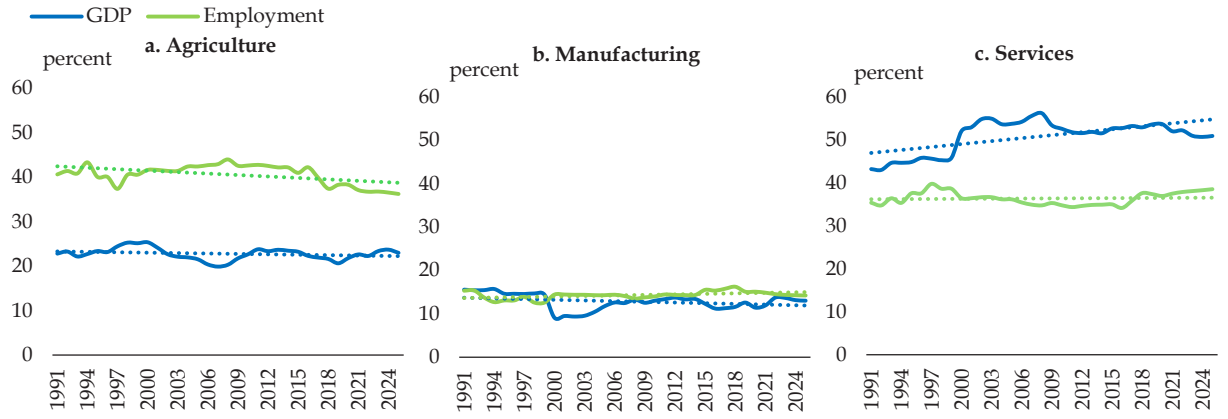
Figure 6.6c Per Capita Income difference between Pakistan and LICs



Note: See Appendix 6A for comparative GDP growth, per capita income and their coefficient of variation
Sources: WDI; PBS

[8] Okun's law (1962) establishes a short-run empirical relationship between cyclical output and unemployment, whereby higher output is associated with lower unemployment (Source: IMF, 2017).
[9] Arias-Vazquez et al. (2012); Can & Doğan (2017); UNDP (2024).

Share in GDP and Employment - Pakistan **Figure 6.7**



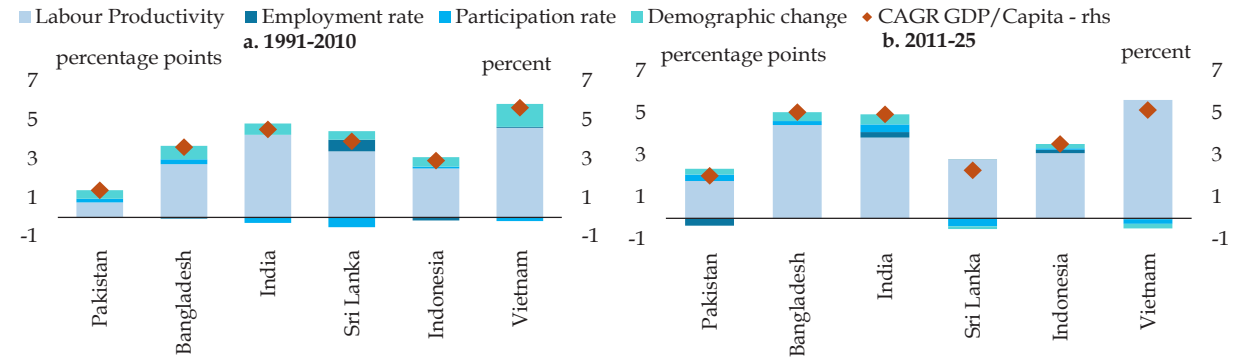
Sources: ILO;WB

response has occurred alongside slow pace of ST and limited productivity gains (Cho & Majoka, 2020; Choudhary & Pasha, 2015). Although labour has gradually moved from agriculture to services, the country seems to be undergoing premature deindustrialisation with share of manufacturing falling over the last three decades, amid rising share of services sector (**Box 6.1) (Figure 6.7**). In essence, Pakistan has largely missed the phase of large-scale industrialisation, which according to Yan and Rodrik (2025), has historically underpinned job creation in East Asian economies.

This contrast is also evident in the decomposition of growth in GDP per capita. Pakistan's per capita growth improved during 2011-2025 relative to 1991-2010, largely on account of labour productivity **(Figure 6.8)**. However, compared to its peer economies, Pakistan recorded the lowest productivity contribution and per capita growth in both periods. Moreover, the negative contribution of the employment rate during 2011-25 further weighed on per capita growth.

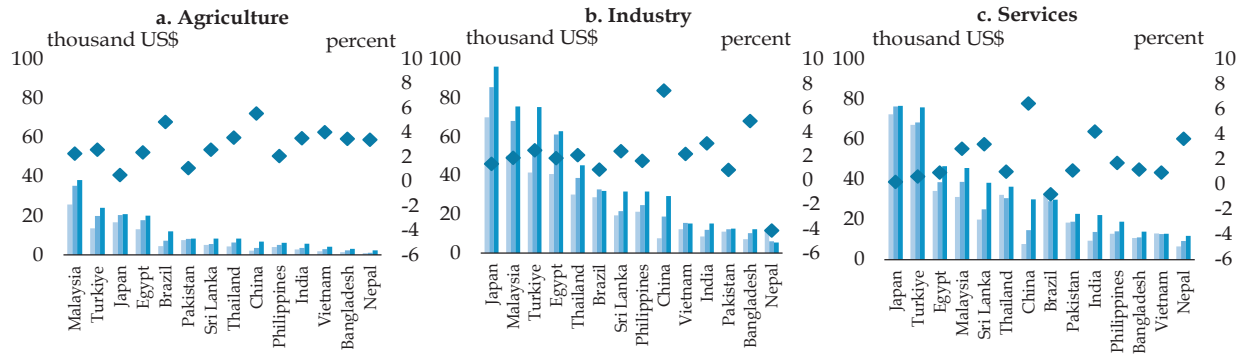
The sectoral movement of labour in Pakistan has been predominantly toward informal and non-tradable sectors, such as construction, real estate, transport, and wholesale & retail trade that have relatively limited potential for productivity improvements compared to manufacturing, business services, or financial services (SBP, 2025b). Pakistan's productivity gains in agriculture and industry have also been weak compared to peer economies **(Figure 6.9)**. However, the relatively better productivity of

Decomposition of Growth in GDP per Capita **Figure 6.8**



Note: Compound annual growth rate (CAGR) of GDP/capita is decomposed using the Shapley method into contributions from labour productivity, employment rate, labour force participation rate, and demographic change.
Source: SBP staff calculations using WDI data

Labour Productivity **Figure 6.9**



* Compound annual growth rate indicating productivity gains between 1990 and 2018

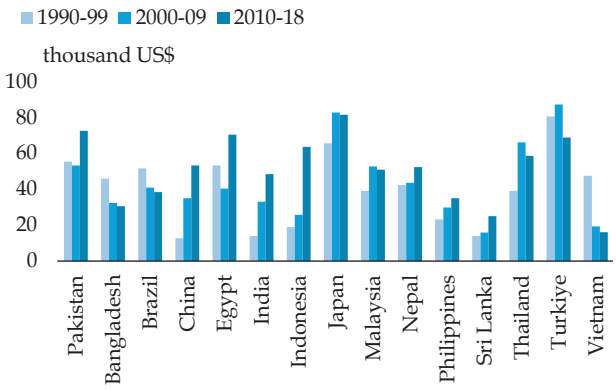
Sources: SBP staff calculations based on UNU-WIDER ETD and WDI data

services sector is driven largely by real estate rather than productivity improvements in modern tradable services (SBP, 2025b).

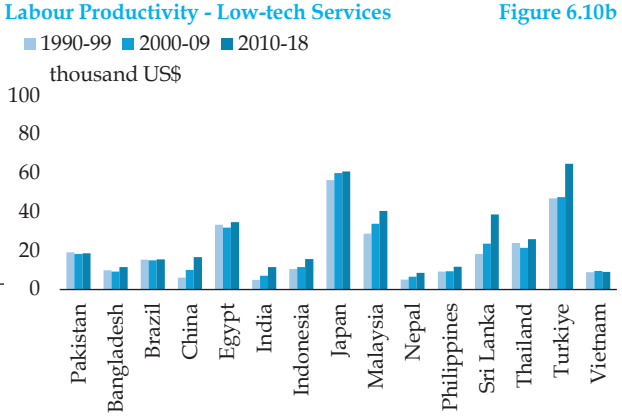
A closer look at Pakistan's services sector productivity (excluding real estate) reveals mixed trends. In high-tech services, productivity is understandably higher compared to low tech services **(Figure 6.10a and 6.10b)**.[10] In fact, it is at par or even better than some of the regional and income level peer economies. Pakistan's share of high-tech services in GDP is also somewhat high relative to its income level (**Figure 6.11a**). However, share of low-tech services in GDP is relatively higher (**Figure 6.11b**). Employment within services sectors is also concentrated in low-tech service sectors, rather than high-tech services (**Figure 6.12a & b**). Moreover, the increase in share of employment in high-tech services in Pakistan has been among the lowest within the cohort of regional and income level peer economies (**Figure 6.12a**), whereas increase in the share of employment in low-tech services is comparably higher (**Figure 6.12b**).

In the context of job creation, amid the constraints to reversibility of PD as discussed in **Box 6.1**, the foregoing discussion raises two important concerns. First, the slow pace of ST and signs of PD are limiting both aggregate productivity

Labour Productivity - High-tech Services **Figure 6.10a**



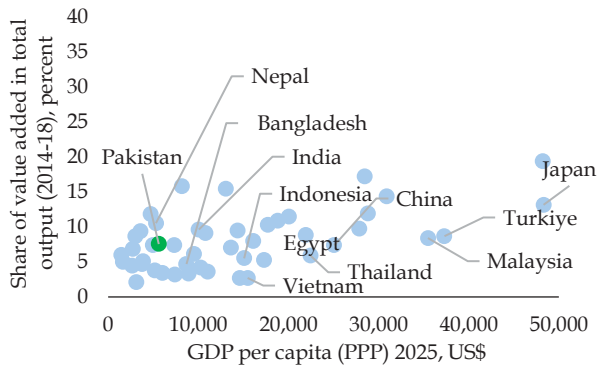
Labour Productivity - Low-tech Services **Figure 6.10b**



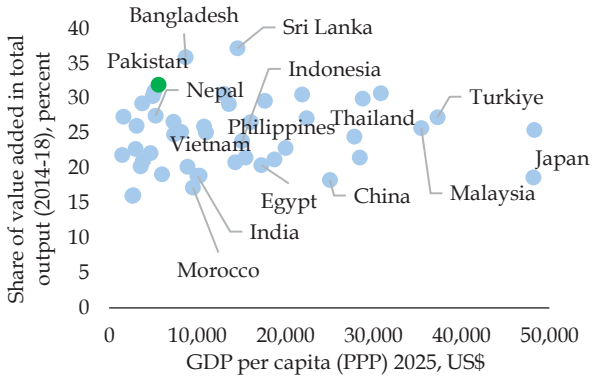
Sources: SBP staff calculations based on UNU-WIDER ETD and WDI data

[10] Following Sufi (2025), 'high-tech' services include information and communication; professional, scientific and technical activities and administrative and support service activities, whereas 'low-tech' services include wholesale and retail; repair of motor vehicles and motorcycles; accommodation & food service, transportation & storage activities.

Share of High-tech Services in Total Output **Figure 6.11a**



Share of Low-tech Services in Total Output **Figure 6.11b**



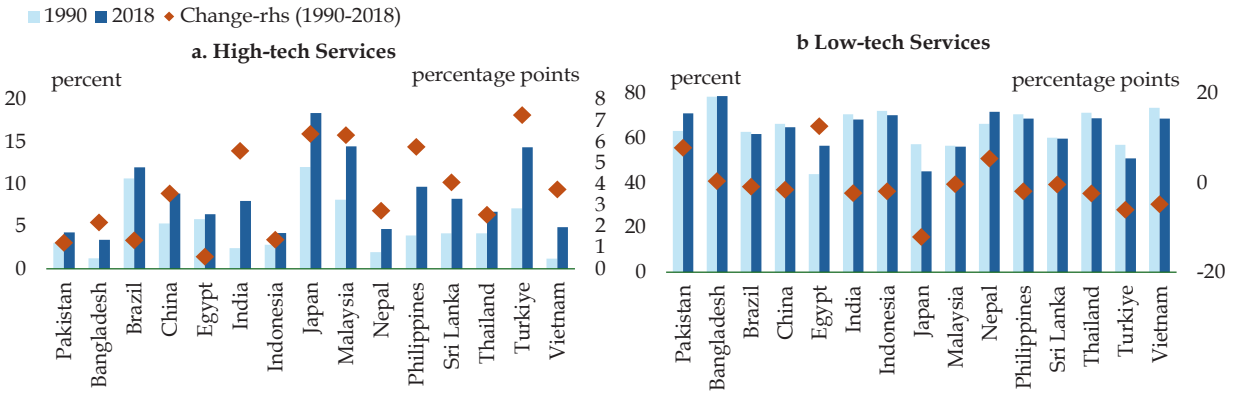
Sources: SBP staff calculations based on UNU-WIDER ETD and WDI data

growth and the quality of jobs in Pakistan (SBP, 2025b). Considering that high productivity, especially labour productivity, is associated with higher employment growth,[11] Pakistan's weak productivity does not bode well for sustained job creation. Therefore, while manufacturing may not be the sole pathway for job creation in today's context, it remains important for its capacity to absorb semi-skilled labour force, generating exports, and creating productivity enhancing linkages with agriculture and services.

Second, whilst focusing on high-tech services is important for productivity growth both within the sub-sector, and through its spillover effects, it may not be construed as an effective policy for employment generation—especially for countries with large population, such as Pakistan. Even Japan, which is one of the most developed economies that has relatively high share of high-tech services in its GDP (**Figure 6.11a**), employs less than 20 percent of its workforce in high-tech services (**Figure 6.12a**).

This is because services sub-sectors differ substantially in their productivity, tradability, skill intensity, and employment potential (Nayyar et al., 2021). High productivity, tradable services, such as IT and finance can support growth, but they mainly employ skilled workers and cannot

Share of Employment in Services **Figure 6.12**



Sources: SBP staff calculations based on UNU-WIDER ETD and WDI data

[11] For example, Shi and Michelitsch (n.d.) found that higher labour productivity is associated with higher employment rate in the subsequent 2 to 3 years. Similarly, OECD (2018), Dutz et al. (2011), and Calligaris et al. (2023) also suggest the same. Lower productivity impairs GDP growth, and international competitiveness, both affecting employment prospects (OECD, 2018).

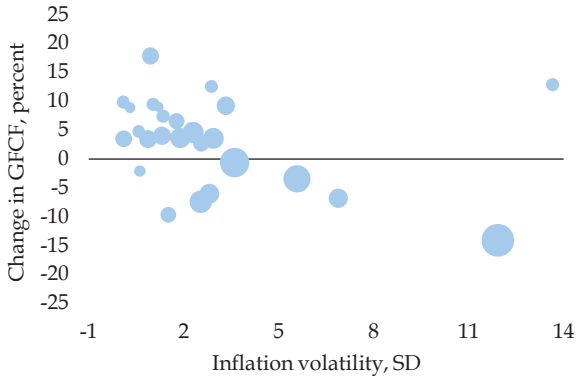
absorb the abundance of low-skilled labour typical of developing economies (Rodrik, 2016). Rest of the services are either not technologically dynamic, or they are non-tradable – such as wholesale and retail trade, real estate - which limits their ability to expand rapidly and is constrained by incomes.

Inflation

High inflation stemming from supply-side shocks raises firms' cost of production, without a corresponding rise in demand for goods or employment creation.[12] This seems to be the case in Pakistan as well, where supply shocks —such as global commodity price hikes and domestic floods – have frequently led to higher inflation while affecting production and supply chains.[13] This channel was particularly evident during the 2022–23 inflation surge. In FY23, inflation averaged 29.2 percent and GDP contracted by 0.2 percent (PBS, n.d.), while industrial employment fell by 2.2 and 12.2 percent in Punjab and Sindh, respectively (BoSP n.d.; SBoS; n.d.).

Further, periods of high and volatile inflation in Pakistan have generally coincided with weaker growth in investment, which constrains growth and thus employment generation **(Figure 6.13**). Inflation also erodes workers' purchasing power when increase in nominal wages do not keep pace with rising prices. Real wages in Pakistan have been on a declining trend since FY21;[14] between FY19 and Q1-FY25, real wages of low-skilled workers remained stagnant or even slightly declined (WB, 2025a). By inference, weaker consumption reduces firms' immediate demand for labour, whereas lower investment constrains subsequent expansion and job creation.

Inflation and GFCF in Pakistan (FY01-FY26) **Figure 6.13**



Note: Size of the bubble denotes average annual NCPI
Source: SBP staff calculations based on PBS

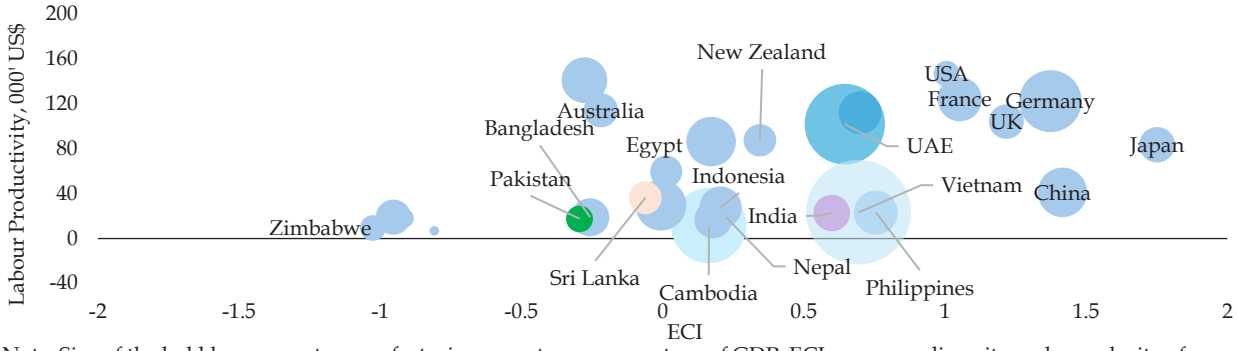
Exports

Exports support job creation both directly, through expanding employment in exporting firms, and indirectly, through demand for inputs and services from domestic suppliers (Winkler et al., 2023). Literature also points to a positive relationship between exports and job creation in Pakistan, particularly in labour-intensive sectors.[15] Moreover, export diversification also contributes to job creation (Shiferaw & Hailu, 2016). Despite its importance, Pakistan has been unable to sufficiently tap external demand to fully realise the employment gains. The country's exports (as a percent of GDP) declined from an average of 16.3 during 1990s to 9.5 during 2016-25, which does not compare favourably against the LMIC average of 16.6 and 21.0 during the comparable periods.[16]

Moreover, the export basket remains concentrated in low value-added textiles and agricultural products **(see Chapter 5).** Pakistan also lags peer economies in both economic complexity and labour productivity, which affects its manufacturing exports (SBP, 2025b) **(Figure 6.14).** Further, integration into GVCs remains weak, falling short of both its potential (ADB, 2022) and the level achieved by peer economies **(Figure 6.15).** This limits the country's ability to leverage

[12] Literature on US economy suggests that unlike demand-driven inflation, supply-side and cost-push shocks raise prices while decreasing employment (Gordon & Clark, 2023). RBA (2025) and RBNZ (2019) find similar for Australia and New Zealand, respectively.
[13] Hanif et al. (2017); Ejaz et al. (2021); Hussain et al. (2025).
[14] Real wages declined from Rs 11,697 in FY19 to Rs 10,968 in FY21 and further to Rs 9,748 in FY25. Source: SBP staff calculations based on PBS data.
[15] Tahir & Yu (2025); ILO & WB (2019); Nabi et al. (2025).
[16] Source: WB (n.d.a).

Labour Productivity, Economic Complexity Index (ECI), and Manufacturing Exports **Figure 6.14**



Note: Size of the bubble represents manufacturing exports as a percentage of GDP. ECI measures diversity and complexity of a country's export basket; higher values indicate greater export sophistication and knowledge intensity. Labour productivity is measured by output per worker.
Sources: UNIDO; Harvard; ILO

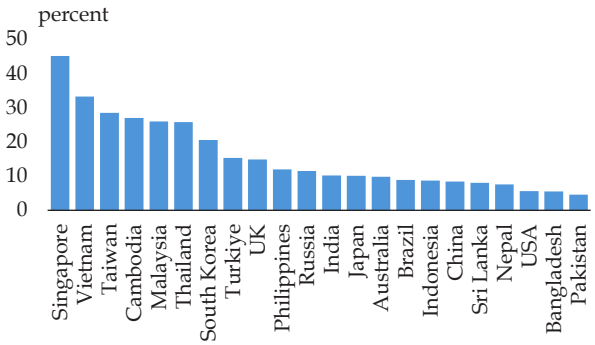
global supply chains for technological upgradation, productivity spillovers, employment generation, and better-paying jobs (ADB, 2022; WB, 2025b).

Fiscal Policy

Fiscal policy plays an important role in job creation both in the short and long run while also impacting the quality and nature of jobs (IMF 2014; Gaspar et al., 2019). It does so through a variety of channels including an expansionary fiscal policy that can address both cyclical and structural challenges to job creation. Moreover, quality and design of public investment, including spending on human capital, can improve education, and reduce skills-mismatch between demand and supply of labour. In addition, tax policy also has a bearing on the informal economy and informal job creation (Waseem, 2018).

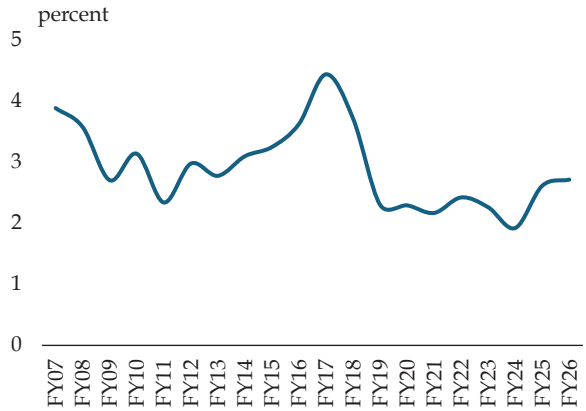
In the case of Pakistan, persistent fiscal deficits amid low tax-to-GDP ratio reflect weaknesses in domestic resource mobilisation and constrain fiscal space for priority investments, particularly in human capital (GoP, 2026).[17] At the same time, public expenditure is highly skewed towards rigid, current expenditures - such as interest payments, salaries, and pensions,[18] leaving limited room for productivity enhancing developmental spending. The development expenditure, on the

GVC related Output as percent of Total Output (FY20-24) **Figure 6.15**



Note: Selected economies from lower-middle, upper-middle, and high-income economies.
Source: WITS

PSDP Expenditure as percent of GDP **Figure 6.16**



Sources: MoF; PBS

[17] Pakistan's tax to GDP ratio averaged 10.0 percent during 2020-24, compared with the averages of 20.3 and 31.3 percent for low-income developing countries and emerging market economies, respectively (Source: IMF, n.d.).
[18] Government's current expenditure averaged 90.1 percent of its total expenditure during FY20–FY26. Source: MoF (n.d.)

other hand has been declining as percent of GDP over the last two decades **(Figure 6.16)**. It is also becoming increasingly less effective in generating employment over time **(Box 4.1)**.

6.3 Labour Market Issues

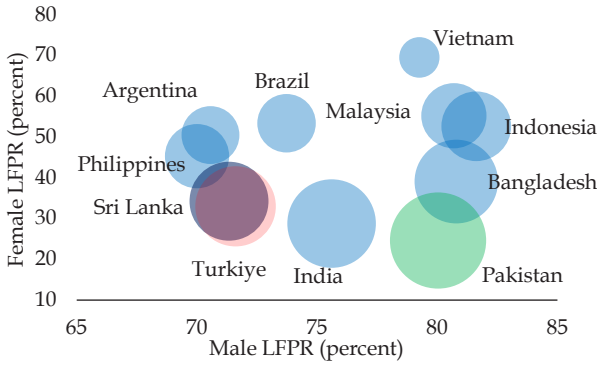
A low and gender-skewed LFP; the dominance of informal employment; and a high youth unemployment amid rising number of young people reaching the working age each year are some of the foremost labour market issues facing Pakistan's economy. These issues are a symptom of weak job creation due to low GDP growth and other macroeconomic challenges discussed in **Section 6.2**. At the same time— as the following discussion shows— they also present a structural constraint to sustained employment growth and economic development in the long run.[19] Driven by the economic structure, socioeconomic factors and lack of enforcement of labour laws and regulations, these issues in Pakistan's labour market have remained persistent.

Gender-skewed LFP and Employment

Pakistan's LFP rate has averaged 52.8 percent over the last ten years and remains significantly below in comparison to regional and income group level peers (**Figure 6.17**). Whilst male labour force participation rate (LFPR) in Pakistan is at par with other economies, female LFPR is substantially lower, which drags the country's total LFPR. The gender gap in Pakistan's LFP is among the widest in the world (**Figure 6.18a**). As a result, sizeable proportion of the population remains economically unproductive. This gap has been persistently high (around 60 percent) for nearly three decades.[20] The female UR is also quite high at 10.7 percent in 2024-25, compared to 6.0 percent for male, and the aggregate UR of 7.2 percent (**Figure 6.18b**).

Low LFPR, particularly of females, constrains economic growth, while higher UR for females suggests limited job creation for them. The former limits the economy's effective labour supply and

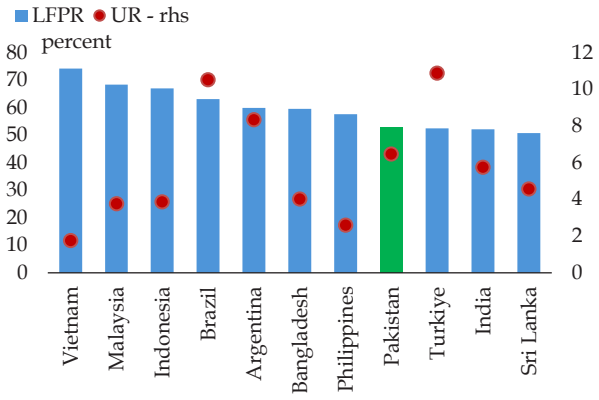
Labour Force Participation Rate and Gender Gap - Average (2016-25) **Figure 6.18a**



Note: Size of bubble is showing gender gap (male - female)

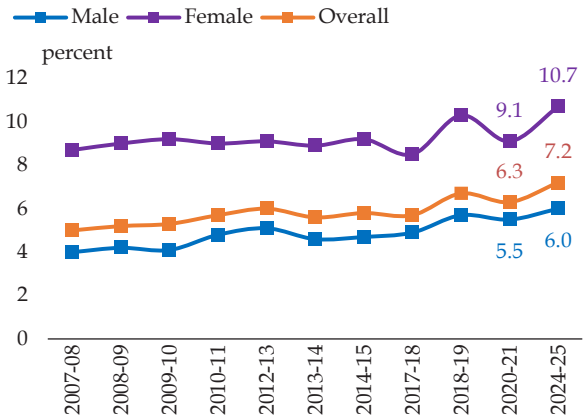
Sources: PBS; WB

Labour Force Participation Rate - Average (2016-25) **Figure 6.17**



Sources: PBS; WB

Pakistan's Unemployment Rate **Figure 6.18b**



Source: PBS

[19] PBS (2025b); WB (2017); IMF (2016); Rodrik (2016).

[20] Average during 1990-2025 based on PBS and ILO data.

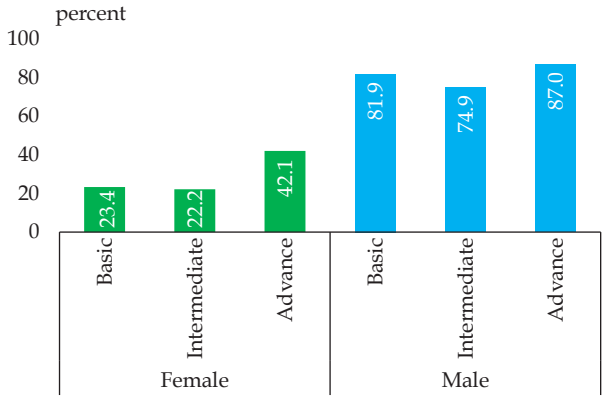
skills base, reducing potential output, productivity and the scope for business expansion and future job creation. A higher LFPR and a reduction in unemployment —particularly among women—can significantly raise aggregate output by improving the utilisation of human capital.[21] Educational attainment; social norms; mobility; fertility rate; child-care responsibilities; and low wages are some of the key determinants of female LFPR and their employment.[22]

Level of education: In Pakistan, the LFPR for both male and female is higher for those with advance level of education compared to those with basic level of education.[23] However, the rise in LFPR does not match the availability of jobs, leading to a rise in UR for those holding advance level of education (**Figure 6.19a and 6.19b**). For females, this challenge is more pronounced. At advance level of education, the female LFPR is less than half of the male LFPR, while their UR is more than thrice of male UR. Even though female educational attainment has improved in recent years,[24] it has only reflected in their LFPR, but has not translated into their employability. This implies that other factors also have major impact on their participation and employment level. Besides, the probability of women getting a formal job with qualifications below intermediate level or having technical training is quite lower than getting an informal job (Sabir, 2015). Moreover, barring age factor (too old or too young to work), social norms —including family's permission—is an important factor for female LFPR and employment (PBS, 2025).

Social norms and restricted mobility: Urbanisation and education are among the key drivers of women's employment and results in higher female LFP.[25] In contrast, data for Pakistan shows the opposite trend, where rural female LFP is nearly twice the urban female LFP. Nonetheless, it is significantly lower than male LFP in both areas (**Figure 6.20**).

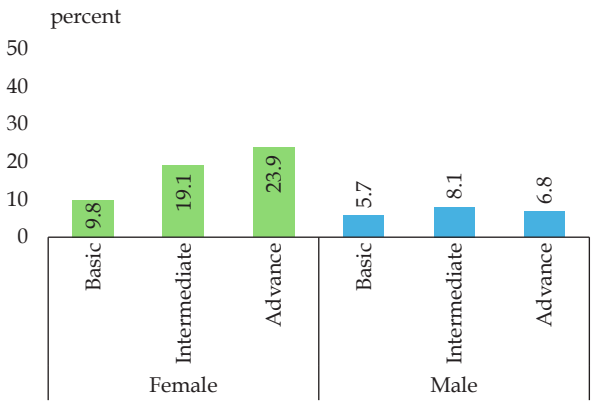
Similar trends are seen in female unemployment, which is twice in urban areas at around 18 percent, compared to rural areas. In rural areas, females are usually engaged in family enterprises in the agriculture sector, with the nature of work

Pakistan's Labour Force Participation Rate - by Gender and Level of Education (2024-25) **Figure 6.19a**



Source: WB

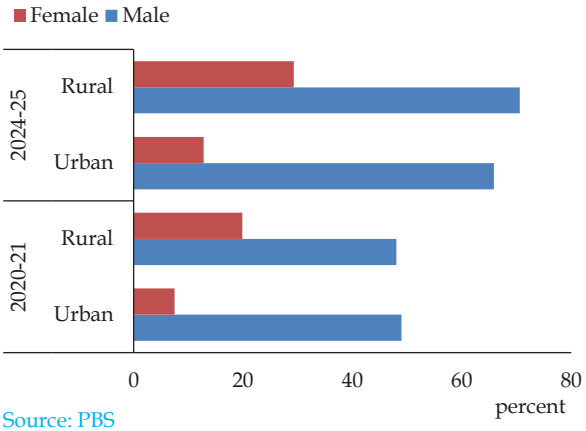
Pakistan's Unemployment Rate - by Gender and Level of Education (2024-25) **Figure 6.19b**



Source: WB

[21] Klasen and Lamanna, 2009; Cuberes and Teignier, 2016.
[22] Verick (2018); Tanaka and Muzones (2016); Isran and Isran (2013); Aboohamidi and Chidmi (2013); Ejaz (2005); Ferragina (2019); Anbazhagan and Mappillairaju (2025).
[23] As per International Standard Classification of Education 2011 (ISCED 2011), basic education comprises primary education or lower secondary education; intermediate education comprises of upper secondary or post-secondary non tertiary education; and advanced education comprises short-cycle tertiary education, bachelor's, master's, doctoral degree, or equivalent education level.
[24] Females (age 15-24 years) enrolled in any educational institution increased to 8.1 million in 2024-25 from 5.2 million in 2020-21. Source: PBS (2025)
[25] WB, 2024a; Pimkina, S., & de la Flor, L., 2020; Ivanova et al, 2019; Banerji et al., 2018; Novta, N., & Wong, J., 2017.

Pakistan's Labour Force Participation Rate - by Area **Figure 6.20**



Source: PBS

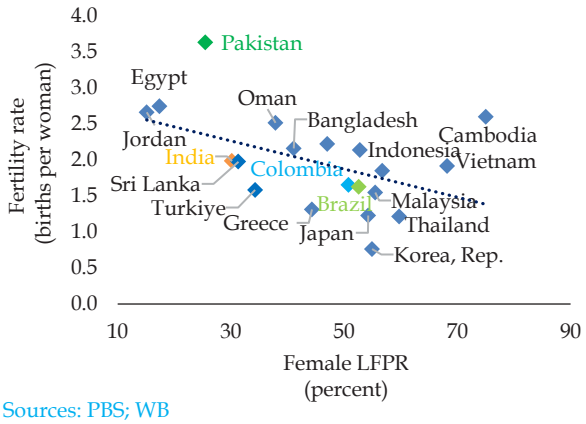
compatible with household responsibilities and prevailing social expectations, as farming and livestock activities in rural areas require working at or near home. In contrast, in urban areas, women face the challenges of transportation, and public interaction as jobs mostly require them to commute farther from home (Bussolo & Rexer, 2025; Isran and Isran, 2013). Garlick et al. (2025) established that mobility constraints largely impact female participation and job search, and women-only transport even brings out of LF females towards job search.

Childcare responsibilities: Childcare and domestic responsibilities are also major determinants of low female LFP. Countries with higher fertility rate —a proxy for childcare responsibilities— usually have lower female LFP (**Figure 6.21**). Pakistan has one of the highest fertility rates in the world. Moreover, caring for children, elderly and ill are mostly assigned to women besides other household work, such as cooking and cleaning (**Figure 6.22**), because of which females do not engage in paid employment. Similarly, daycare facilities, distance and mobility are key reasons for accepting a job among participating mothers (Morrissey, 2017; Caria et al., 2022).

Wage gap: The gender wage gap also explains lower female LFP around the world. The wages offered to female workers are lower compared to the wages of a male worker with same skill set around the world, and this gender pay gap widens in Pakistan (**Figure 6.23**). This is also linked with low bargaining capability of females for wages due to restricted mobility and household responsibilities (Sana & Jafri, 2021). Furthermore, the reservation-wage model suggests that social constraints inflate the effective reservation-wage — the lowest wage for which a worker is ready to work — for female workers. Hence, they prefer not to participate if the wages on offer do not match the cost of forgoing the responsibilities assigned or designated to them in the society (Arrazola & de Hevia, 2016).

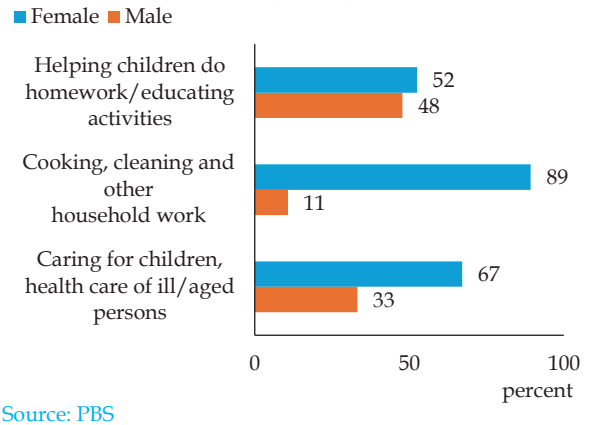
Hiring bias: In addition, there also exists gender bias in the hiring process. Evidence from South Asia, including Pakistan, shows that firms perceiving women workers as disruptive to the

Female Labour Force Participation Rate and Fertility Rate - Average (2021-25) **Figure 6.21**



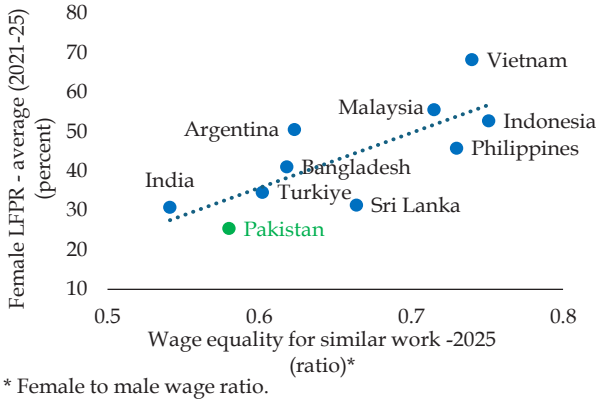
Sources: PBS; WB

Share of Persons Engaged in Domestic and Care Activities in Pakistan (2024-25) **Figure 6.22**



Source: PBS

Gender Wage Inequality and Female Labour Force Participation Rate Figure 6.23



* Female to male wage ratio.

Sources: PBS; WB; WEF

workplace tend to employ fewer women and this bias contributes to women's limited employment opportunities (Chowdhury et al., 2026). This could be because female workers are less likely to stay for longer hours due to the nature of societal responsibilities delegated to them. This can be seen in mean hours worked for female workers which, on average, are about one-fourth less than their male counterparts in 2024-25 (**Table 6.1**).

Mean Hours Worked by Major Occupational Groups Table 6.1

hours per week

	2020-21			2024-25		
	Total	Male	Female	Total	Male	Female
Total	47.5	51.4	34.1	47.0	50.4	35.8
Managers	51.6	52.2	41.6	50.8	51.5	39.1
Professionals	43.2	46.4	38.1	44	46.8	40.4
Technicians	50.4	51.0	45.7	49.6	50.2	46.5
Clerical support workers	48.7	48.8	45.2	48.1	48.8	40.1
Services and sale workers	57.4	57.8	44.8	53.6	54.3	38.7
Skilled agriculture & forestry	41.1	47.1	32.5	40.6	46.0	33.9
Craft and related trade workers	47.6	51.7	31.5	47.5	51.7	33.9
Plant and machinery operators	56.4	56.6	40.2	54.1	54.2	46.2
Elementary occupation	46.9	49.0	37.4	47	48.5	38.4

Source: PBS

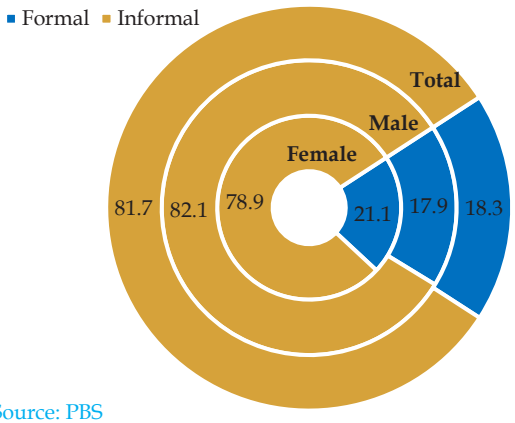
Informality in Pakistan's Labour Market

Pakistan's labour market is characterised less by unemployment than by the quality and formality of the jobs it creates. Despite continued efforts of documenting the economy, the nature of employment in Pakistan remains largely informal with more than 80 percent share in total employment (**Figure 6.24**).[26] Informal employment is not merely a transitional phenomenon but a permanent feature of the economy.

In the context of Pakistan's large informal economy, informal employment is not only a symptom of weakness in existing job creation but also indicates a constrained job creation in the future. Limited access to formal finance and inadequate legal cover constrains the expansion of firms in informal sector, and hampers job creation (Islam et.al, 2020). Moreover, it also prevents firms and workers from achieving productivity gains and social protection that formal employment relationships normally generate (Guriev et.al, 2019; Meghir et.al, 2015). Pakistan's high informality also represents a broader deficit in decent work as a large proportion of workers remain outside effective social protection, labour rights, employment security and collective representation (**Box 6.3**).

Pakistan's labour market informality can be explained by each of the four major theories of informal employment (**Table 6.2**). There is evidence of *dualist theory* marked by substantial

Pakistan's Nature of Employment Composition (2024-25) Figure 6.24



Source: PBS

[26] The informal employment by definition means working arrangements without legal protection and employment benefits such as paid leaves, social security etc (ILO, n.d.a; UNESCO, n.d.). It should not be conflated with the informal economy, which refers to economic activities and enterprises that operate outside formal regulatory, legal and institutional frameworks.

Major Theories Explaining Informal Employment **Table 6.2**

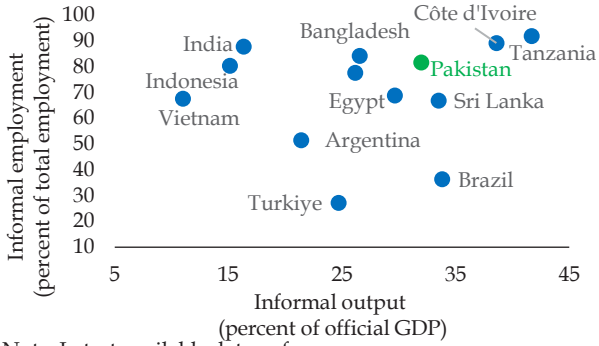
	Explanation
Dualist theory	Informal employment provides a temporary safety net for excluded workers (Hart, 1973). It also acts as a means of survival for those with limited education, skills gap, poverty, or the challenges faced by migrants moving to urban centres (Ackrill & Igudia, 2023).
Structuralist theory	Formal firms drive informal employment through subcontracting to evade regulation and labour unions (Portes & Schauffler, 1993; Chen, 2005).
Legalist theory	Informality attributes to the evasion of costly and complex legalities and regulations (de Soto, 1989).
Voluntarist theory	Firms and individuals choose to stay below the radar of bureaucracy even when costs are not too high. They do so with the intention of gaining unfair competition against efficient formal enterprises (Dell'Anno, 2022).

Note: These theories are not mutually exclusive as there may be several factors simultaneously at play.

survivalist informality among the poorest own-account, family workers and women (Shaheed & Mumtaz, 1981; Kemal & Mehmood, 1998). There is also some evidence of *structuralist theory*, growth-linked informal segment tied to subcontracting in trade, manufacturing, and construction (Tahir & Tahir, 2018). Both the *legalist* and *voluntarist* perspectives help explain informality in Pakistan. Complex regulations, taxation, procedural requirements, and corruption can make formalisation costly and discourage firms from entering the formal economy (Hayat & Rashid, 2020; SMEDA & ILO, 2002; ILO, 2024a). At the same time, some firms may deliberately remain informal to reduce tax and compliance costs, making informality a strategic choice as well (Waseem, 2018). Key factors of high informality include large agricultural sectors, poor business climates and low human capital (Ohnsorge & Yu, 2022).

Size of informal economy: Pakistan's relatively large informal economy seems to be one of the contributing factors behind the high share of informal employment (**Figure 6.25**). The trend is similar in most of the Asian region, which has the second highest share of informal employment after Africa (ILO, 2020a). This is because jobs created in informal economy are predominantly survival jobs—characterised by low wages, sub-

Size of Informal Economy and Informal Employment **Figure 6.25**



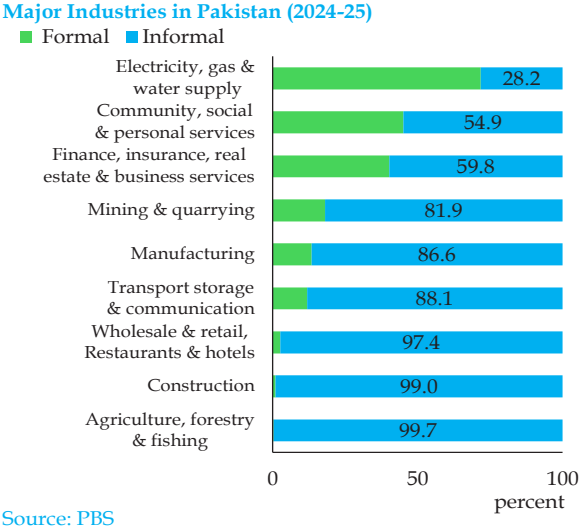
Note: Latest available data; reference years may vary across countries

Sources: PBS; WB; ILO

standard working conditions, and without social protection—rather than "decent work" that drives upward mobility.

However, it is pertinent to note that the size of informal economy does not fully explain the size of informal employment (**Figure 6.25)**. This is because sectors that are usually part of the formal economy also have a large share of informal employment in Pakistan (**Figure 6.26**). The corollary is that informal jobs may not decline with economic growth rather expand alongside formal economy when firms rely on informal networks (Chacaltana et al., 2020). This suggests that *structuralist theory* also explains in part the

Share of Formal and Informal Employees - by Major Industries in Pakistan (2024-25) **Figure 6.26**



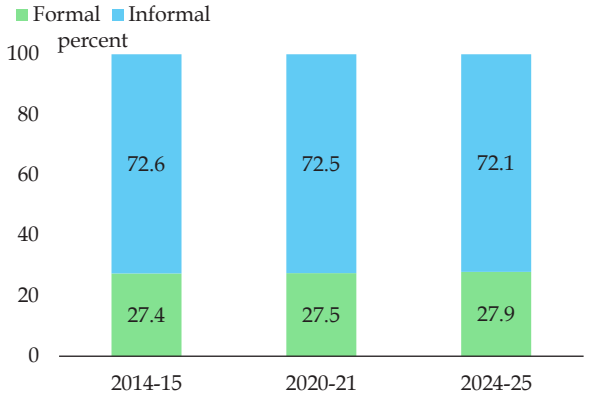
Source: PBS

size of Pakistan's informal employment (Tahir & Tahir, 2018).

Informal employment in agriculture and non-agriculture sector: Agriculture sector is largely considered as informal.[27] However, the more concerning fact is that 72.0 percent of non-agricultural employment also remains informal, and the share has almost been unchanged over the last decade (**Figure 6.27**). Among the total informal employment in non-agriculture sectors, wholesale and retail trade alone accounts for around one-third, followed by manufacturing and construction (**Figure 6.28**). These sectors are characterised by small firms, cash transactions, and daily or task-based wage-setting (Tahir & Tahir, 2018; PBS, 2025b). The distribution of informal employment confirms that informality is concentrated in low-entry-barrier, low-capital activities.

Furthermore, the status of employment of informal workers shows that own-account work and unpaid/contributing family workers together make up 53.4 percent, while salaried workers are 44.7 percent (**Figure 6.29**). This suggests that informal labour market is more skewed towards self-employment and subsistence work rather than firm-based job creation, pointing towards the presence of dual economy in the context of *dualist theory*.

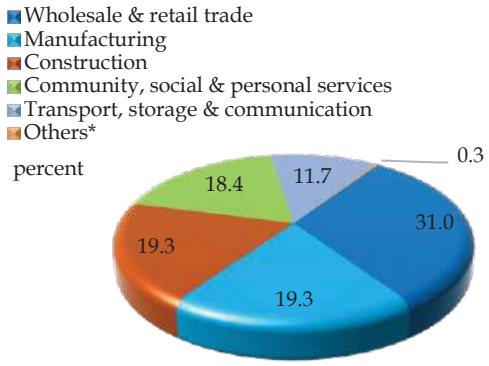
Distribution of Informal Employment in Pakistan's Non-Agriculture Employment **Figure 6.27**



Source: PBS

Low quality of human capital: A large number of workers in both formal and informal employment have low or no formal education, particularly for females. Even in the formal employment, almost one out of ten males and two out of ten females have no education at all (**Figure 6.30**). It is also a reflection of low-value addition by manufacturing and services sectors. Further, low human capital confines workers to elementary occupations, own-account work and unpaid family labour — categories that are informal by definition — rather than to skilled positions in registered firms. This works on both the supply side (workers lack the skills formal employers require) and the demand side (formal firms facing skills shortages substitute toward informal subcontracting).

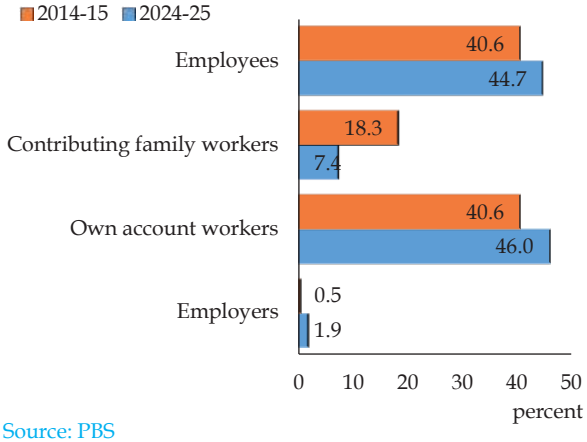
Distribution of Informal Sector Employment - by Major Industry Divisions in Pakistan (2024-25) **Figure 6.28**



* Mining & quarrying; electricity, gas & water; finance and insurance; and real estate & business services.

Source: PBS

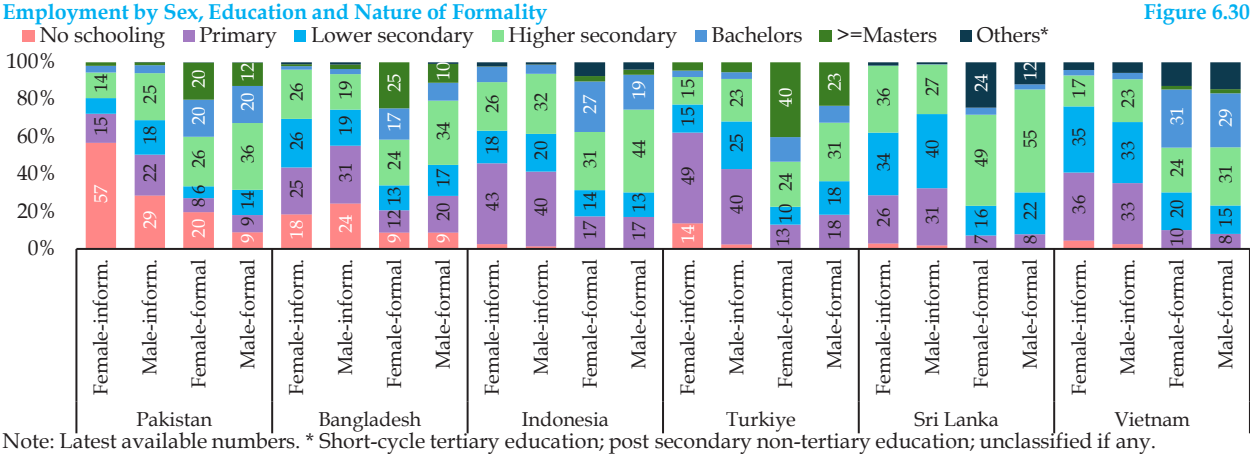
Distribution of Informal Workers - by Employment Status in Pakistan **Figure 6.29**



Source: PBS

[27] Agriculture sector accounted for about 33 percent of total employment in 2024-25. Source: PBS, 2025b.

Employment by Sex, Education and Nature of Formality Figure 6.30



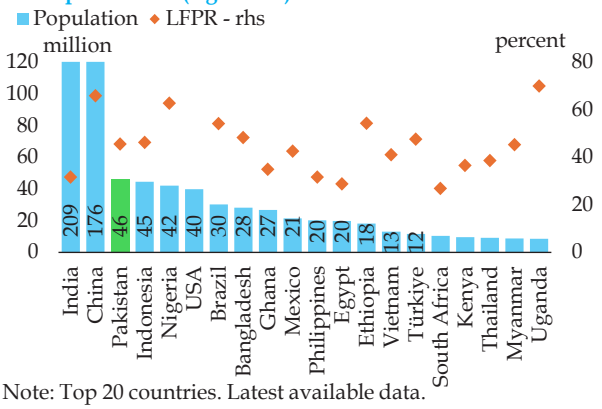
Note: Latest available numbers. * Short-cycle tertiary education; post secondary non-tertiary education; unclassified if any.
Source: ILO

Cost of formality: The corporate tax rate in Pakistan is among the highest in the region (PwC n.d.). Besides, Pakistan's low score in World Bank's B-READY indices points to a complex taxation system, which impairs private sector's compliance. Moreover, the social protection laws require the firms to pay contribution on behalf of workers, which is an additional cost to the employer. Besides, other regulatory requirements such as minimum wage, etc. are other reasons firms offer informal employment (Choudhary et.al, 2016). Furthermore, repeated withholding-tax measures for non-filers since 2015 have instead pushed a growing share of transactions into cash and the shadow economy (SBP, 2015), with the currency-to-broad-money ratio rising — a proxy for expanding informality (Arby et.al, 2010).

Youth Unemployment and High Youth NEET Rate

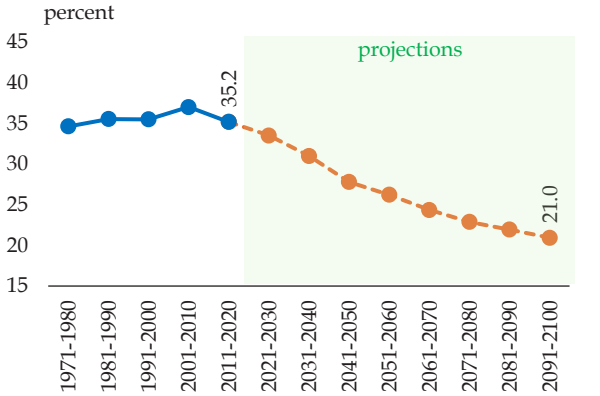
Pakistan has the third largest youth population in the world in absolute terms **(Figure 6.31)**. Around 65 percent of the population is estimated to be below the age of 30 years, with 19 percent and 26 percent falling within international and national 'youth' age brackets, respectively (WB, 2020).[28] Moreover, based on current demographic trends this youth-heavy age structure will persist, with their share in WAP projected to remain more than one-fifth over the long-term **(Figure 6.32).** Whether this youth bulge becomes a demographic dividend — an engine of growth through an expanding, productive labour supply — or a demographic burden depends on the economy's potential to generate enough decent jobs to absorb

Youth Population and Youth Labour Force Participation Rate (Age 15-24) Figure 6.31



Note: Top 20 countries. Latest available data.
Source: ILO

Share of Youth in Pakistan's Working-Age Population Figure 6.32



Source: UN

[28] As per UN definition, youth age bracket is 15-24 years, while 15-29 years is defined as youth in Pakistan's National Youth Policy.

it. The demographic-dividend model holds that a rising share of WAP can lift savings, investment and per-capita growth — but only if the labour market absorbs new entrants and human capital is adequately built (Bloom & Williamson, 1998; Bloom et al, 2003). However, where absorption fails, the same demographic structure can turn this into a security and welfare risk, associated with idleness, informality and social discontent (Urdal, 2006). In this context, Pakistan's high level of youth unemployment and NEET rate are major concerns.

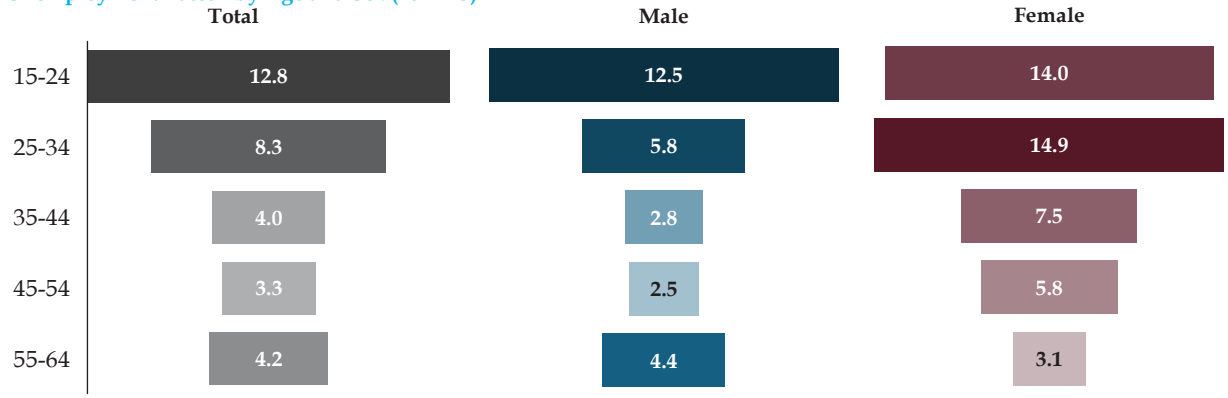
High youth unemployment: Whilst Pakistan's youth LFP rate has modestly improved from 43.8 percent to 44.4 percent between 2020-21 and 2024-25, the rising youth participation has not been matched by proportionate job creation. The youth UR stood at 12.8 percent —significantly higher than overall UR of 7.2 percent—in 2024-25, having risen from 11.1 percent in 2020-21.[29]

While the large youth population itself is one of the factors behind high youth UR since it supplies more labour than the market can absorb (Ahsan and Urooj, 2026), the structural challenges to job creation discussed in **Section 6.2** also drive this high youth unemployment. Specifically, the slow pace of structural transformation amid fewer opportunities in high productivity jobs are affecting the job prospects of college educated youth. The continuation of this trend poses risks of future unemployment through what literature calls the scarring effects of youth unemployment.[30]

The high UR is markedly visible in both male and female youth cohort, compared to other age brackets (**Figure 6.33**). In males, the unemployment gradually reduces with aging. This may be associated with attainment of additional education or work experience. The unemployment in young female is not only consistently higher than male counterparts within the same age cohort (barring 55-64 years bracket) but also peaks in 25-34 years bracket (**Figure 6.33**), which are considered as prime fertility years. The factors specifically associated with high youth unemployment are lack of experience along with deficiency of skill building among school going children as suggested by Pakistan's learning poverty ranking (Hou, 2011; WB, 2024b).[31]

Figure 6.33

Unemployment Rates - by Age and Sex (2024-25)



Source: PBS

[29] PBS (2025b).

[30] Scarring effects refers to the empirical and anecdotal observation that being an unemployed youth increases the risks of future unemployment or working poverty, mainly because of deterioration of skills and missing work experience, or employers' perception of candidates' low productivity. The longer youth remain unemployed or underemployed, the longer the scarring effects are expected to last. In addition, the impact on jobs and wages, scarring effects have also been observed on employees' happiness, job satisfaction and health (Scarpetta et.al, 2010).

[31] About 70 percent children aged 10 in Pakistan cannot reach minimum proficiency in reading, either because of poor quality education or because they do not have access to education at all. Source: (WB, 2024a).

Besides, factors that are not youth specific, such as education and earning of household head, household demographic structure, and the ratio of working to non-working individuals, are also important determinants of youth employment for Pakistan (Hou, 2011; WB, 2020).

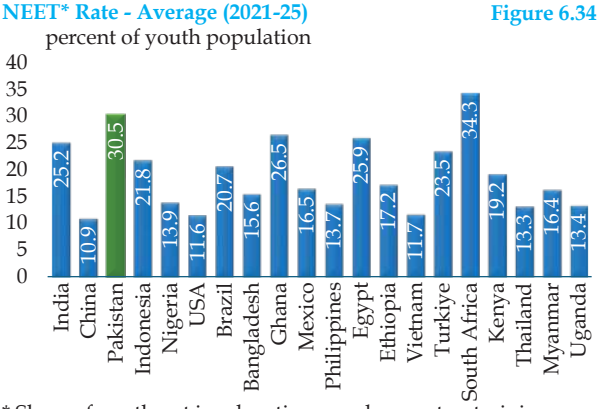
High NEET rate: Pakistan's NEET rate, which is a broader measure of youth exclusion, stood at 28.4 percent in 2025 (PBS, 2025),[32] with average NEET rate for 2021-2025 higher than most comparable economies (**Figure 6.34**). Higher NEET rate implies that a much larger number of young people who have been away from job search—reflecting a latent youth unemployment— or have not able to find jobs and may enter labour force anytime.

NEET also uncovers the prevailing large gender disparity. While male NEET is 13.0 percent, female NEET is at 45.4 percent (PBS, 2025a). Mirroring the gender skewness in overall LFP, the higher NEET for females reflects cultural constraints, safety concerns, and unpaid care burden, which severely obstruct the young women's transition from education to formal employment (WB, 2024c), sidelining millions from job market.

Low literacy, insufficient skill levels, and lack of credentials drive youth unemployment, exacerbated by poor connections between universities and industries (Mirza et.al, 2017). Technical and Vocational Education and Training (TVET) enrolment also remains low at around 13 percent despite strong interest, pointing to limited capacity and quality rather than a lack of youth demand (Planning Commission, n.d.).

Due to this skill-mismatch and lag in formal job creation, young labour market entrants become part of informal jobs. Globally, an estimated 96.8 percent of young workers in developing countries are in informal employment (ILO, 2017), which

NEET* Rate - Average (2021-25) **Figure 6.34**



* Share of youth not in education, employment or training. Top 20 countries as per youth population.
Sources: PBS; WDI

limits productivity gains, tax revenue, and social-protection coverage weakening the economy's capacity to create better jobs in the next cycle.

The same is visible in Pakistan's large informal employment. As global markets shift toward fourth industrial revolution and green industrialisation amid increased competition in global GVC-based environment, Pakistan needs to reduce the skill gap and develop human capital toward market-driven competencies. This is particularly important to prevent youth unemployment, underemployment, and high NEET. **Box 6.4** covers this issue of education-skill mismatch in Pakistan in detail.

6.4 Future of Job Creation

Rapid technological innovation and their integration in manufacturing due to fourth industrial revolution (4IR); transition towards green economies; and geoeconomic fragmentation are some of the key forces shaping the future of employment worldwide (WEF, 2025a). These mega trends present both an opportunity as well as a challenge to many economies. However, as the ensuing discussion shows, for some economies—such as Pakistan —these present more of a challenge rather than an opportunity,

[32] The unemployment rate alone understates the scale of youth economic exclusion, because it excludes young people who are neither working nor looking for work — often young women confined to unpaid domestic roles who are not counted as 'unemployed' despite being economically idle (ILO, 2021). The NEET rate captures this fuller picture. Given its significance it was also adopted as 'SDG indicator 8.6' for tracking youth labour-market integration instead of unemployment (ILO, 2025).

given the technological gaps, need to reskill and upskill labour, investment constraints, and increasing global competition. Accordingly, this section sheds light on how these forces risk a profound disruption to both existing jobs and future job creation.

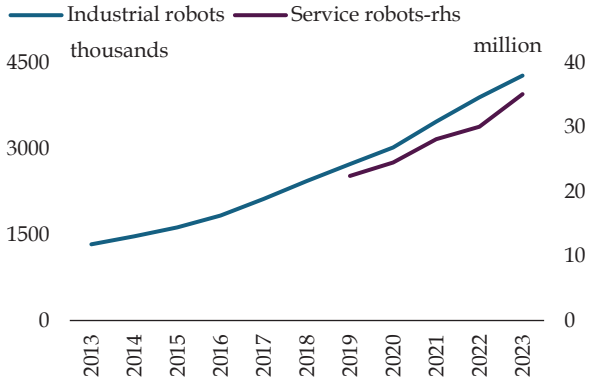
Fourth Industrial Revolution (4IR)

Rapid changes in robotics, artificial intelligence (AI), internet of things (IoT), and data analytics—collectively underpinning the 4IR—are enabling firms to automate, increase productivity, and redesign business models. The accelerating pace of these technological advancements is reshaping human-machine interaction, production systems, and hence job prospects (WEF, 2025a). Automation is already transforming production processes worldwide. Supported by declining robot prices (OECD, 2019),[33] the number of industrial as well as service robots has increased over the past few years **(Figure 6.35).**[34]

In the industrial sector, robots are taking over menial jobs like handling, processing, room cleaning, dispensing, assembling, and welding. Moreover, "dark factories" – i.e., factories without lights that can work 24 hours - have begun production and are estimated to grow steadily, characterised by highly automated, AI-driven operations with minimal human presence.[35] In fact, with the advances in hardware, software and AI, robots are also being considered as General Purpose Technologies (GPTs) (McKinsey, 2025).[36]

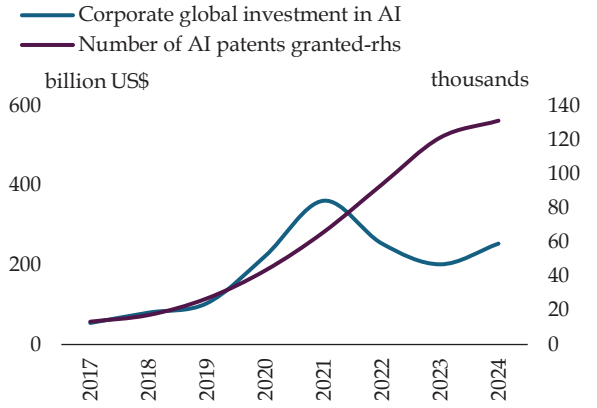
Likewise, driven by progress in computing power and machine learning, generative AI capabilities have advanced dramatically.[37] Moreover, a growing number of patents and investments in the field of generative AI **(Figure 6.36)**, suggest that the speed and accuracy of AI may be expected to increase over time, leading to its ubiquitous use across economic sectors and types of occupation. This is expected to enable significant productivity gains by increasing labour productivity; improved prospects of innovation; and wider economic impacts, including on prices, income, transaction costs, and reallocation of resources (WB, 2026).

Operational Stock of Industrial and Service Robots **Figure 6.35**



Sources: AIPRM (2025); IFR (2024)

Innovation and Investment in AI **Figure 6.36**



Source: Stanford AI Index Report (2026)

[33] Price of consumer service and domestic service robots declined by US$ 100 to US$ 420 and US$ 110 to US$ 530 between 2019 and 2023 (AIPRM, 2025).
[34] Industrial robots are used in manufacturing for tasks such as welding, painting, and material handling, whereas services robots perform tasks outside the industry, including cleaning, mowing, transporting goods, and room delivery, among others.
[35] The economic incentive to automate depends on the relative cost and productivity advantage of robots over labour. While emerging economies may initially experience low economic incentives to automate because of availability of cheap labour, the declining prices of robots strengthen the incentives to automate.
[36] GPTs are engines for growth given that they are pervasive in nature, their improvements over time, and their impact on complementary innovation (Brynjolfsson et al. 2020).
[37] GenAI capabilities have advanced rapidly, with AI models achieving higher success at a faster pace (Soto et al, 2026).

In the context of job creation, advancements in 4IR in general and automation and AI in particular may also create new job opportunities. For instance, 4IR's positive impact on productivity and economic growth may increase demand for different goods and services across 4IR-producing sectors, 4IR-using sectors, and elsewhere in ways that are not currently even imagined by policymakers and market professionals (WB, 2026). Technological change is also giving rise to new forms of work, particularly through the expansion of gig economy. However, it has limited potential for large scale labour absorption (**Box 6.5**).

Notwithstanding the opportunities, the 4IR also poses challenges to labour absorption, as nearly 40 percent of global employment is already exposed to AI (Cazzaniga et al., 2024; McKinsey, 2022a). First, the advances in 4IR alone do not mean that the opportunities will necessarily transpire. The quality of digital infrastructure, AI readiness, internet access, human capital, institutions, innovation ecosystem and economic integration impacts the pace and penetration of 4IR adoption across economies. Economies that are already strong or can significantly improve their performance across these dimensions can successfully leverage the 4IR to increase competitiveness, which can support exports, GVC integration and hence growth and job prospects. However, Pakistan's low preparedness for the 4IR, reflected by gaps in digital infrastructure, governance, and human capital, places it behind its regional peers.[38]

Secondly, 4IR has intensified concerns about jobs displacement (WEF, 2025a). For instance, jobs in operationally intensive sectors, such as manufacturing, are expected to face higher automation, as a significant share of their workforce performs tasks that are amenable to automation (McKinsey, 2022a). Certain knowledge-intensive jobs in computer and mathematical occupation—such as web development and programming— may also get automated (Srinivasan & Azpurua, 2026).

Similarly, the 4IR is expected to reduce demand for low-skilled jobs in the agricultural sector, while increasing demand for machine operators and equipment mechanics (Charlton et al., 2022).[39] Within the services sector, many routine cognitive tasks in financial and clerical services—such as data entry and bookkeeping—are already being automated, with automation to accelerate in the future. In comparison, however, occupations requiring creative and critical thinking remain less vulnerable to automation.

Case studies on the impact of 4IR adoption on jobs in Pakistan are scant, partly because of the country's low adoption at present. However, literature suggests that Pakistan's workforce is vulnerable to automation and AI, signs of which are already beginning to emerge. Arif and Naushahi (2023) estimated that 17 percent of jobs in Pakistan are vulnerable to automation across different sectors; while Batool et al. (2025) found that manufacturing sector jobs are particularly at high risk.

Even if these risks do not transpire in the long run, they will change the nature of work, and accordingly the skills demanded.[40] Notwithstanding the divided views on whether or not 4IR will take away most of the jobs, the onset of 4IR underscores the need to train the workforce

[38] Pakistan's Network Readiness Index, which measures how well countries use ICT to boost innovation and competitiveness by evaluating nations across four areas of technology, people, governance, and impact, remains below regional peers like India and Bangladesh (PI, 2025). Likewise, Pakistan's lower AI Preparedness Index (2023) shows limited progress in governance and infrastructure required for AI adoption.

[39] Given labour intensive, and low-tech based nature of Pakistan's agriculture and industry, such a shift in labour demand may not pose immediate risks to employment, especially considering availability of cheap labour in the country. However, it may progressively materialise as and when declining prices of technology improve the cost-benefit advantage of automation in the context of productivity gains.

[40] History suggests that the fears of technological unemployment are often unfounded in the long run, as new types of jobs spring up as each technology creates its own jobs (White, 2026)

in terms of both upskilling and reskilling of the workforce (White, 2026; Ellingrud et al, 2020).[41] Given Pakistan's low-skilled and uneducated workforce **(Box 6.4),** this poses a major challenge to labour absorption in the country going forward.

Green Transition

Climate change is forcing the global transition towards a green economy, which is reshaping production systems and employment.[42] The shift towards low-carbon and environmentally sustainable economic pathways is expected to both reshape existing industries and create new economic opportunities through green technologies and green industrialisation, which may also transform tasks and working methods. The green transition is already underway globally at a fast pace.[43]

Although the net impact of green transition on global jobs may be positive,[44] the transition is likely to generate significant shifts in skills demand across labour markets. Compared to traditional industries, green industries require higher level of skills, for both innovation in green technologies and its adoption or diffusion. The economies pursuing green innovations will need to ensure that its labour force has necessary hard and soft skills including, critical thinking, active learning, complex problem solving and decision making, and cross-disciplinary technical knowledge, including of STEM disciplines (science, technology, engineering, and mathematics).[45]

The economies that do not actively pursue the goal of becoming major players in green innovation, and only aim to adopt green production processes, will also need substantial retraining of workers. Literature on global occupations suggests that compared to highly skilled workers, workers in low skilled jobs will have to undergo significant training to acquire new skills to avail newly created green employment opportunities (OECD, 2023; OECD 2024a; OECD, 2025).[46] There may be some occupational skills that can transition into green jobs relatively easily. Ham et al. (2026) classify such transitions as those that require 'reskilling' through small to modest training, on the-job training, as against transitions that are difficult without skill investments (upskilling), or jobs to which transition is not possible without skill conversion (reconversion).

For Pakistan's economy, the global green transition creates a unique set of challenges. If Pakistan does not reshape its production systems to undertake climate mitigation and adaptation measures, it risks losing export market share (SBP, 2025a; SBP, 2026). This in turn can affect the prospects of growth in output and employment. However, the adoption of such production systems is also likely to displace workers in carbon-intensive sectors and require them to learn new skills for emerging employment opportunities. It would also necessitate new investments in acquiring green industrial units or upgrading them, as well as investments to retrain

[41] Upskilling refers to workers gaining new skills to support in their existing roles, while reskilling means learning new capabilities to transition to a different or an entirely new role. Workers employed in operationally intensive sectors, such as manufacturing, will require reskilling. In contrast, workforce in less operationally intensive sectors would require upskilling to stay productive and employed (Ellingrud et al, 2020).

[42] UN defines green transition as the comprehensive and systemic shift towards environmentally sustainable and climate-safe practices across various sectors (OECD, 2024a).

[43] For instance, the rapid shift towards clean energy is evident from an over two-fold increase in renewable energy (RE) capacity during the last decade, because of which the share of RE in global total electricity generation rose to 34.0 percent in 2025 from 23.0 percent a decade ago (IRENA, 2026). In the transport sector, the share of electric vehicles has been consistently rising, from a mere 4 percent share in global new car sales in 2020 to 25.0 percent in 2025 (IEA, 2025). Similarly, factories are being retrofitted with climate friendly technologies to ensure sustainable manufacturing processes (McKinsey, 2022b). This transition is aided by growing climate finance and accelerating innovation in green technologies (GLCF, 2024; OWID, 2025 a & b).

[44] Estimates on impact on Pakistan's job market are scant but global estimates offer some insights; by 2030, the green transition may add 24 million jobs worldwide, while 14.4 million jobs could get displaced (WB, 2025c; WEF, 2025b).

[45] OECD, 2023; OECD 2024a; OECD, 2025.

[46] For example, coal miner becoming solar technician or mechanics of internal combustion engines becoming mechanics of electric engines.

labour for changing economic realities (Bulmer et al., 2026).

Given Pakistan's climate vulnerability and carbon-intensive industrial structure, green transition is of particular significance. Pakistan's 120th rank in CO_2 efficiency of manufacturing value-added points to the need to transition towards cleaner production (UNIDO, 2026), failing which can negatively impact export competitiveness, FDI attractiveness, ability to integrate with green GVCs, and thereby impacting job prospects. Pakistan's low score in Green Growth Index (**Figure 6.37**) also points in the same direction.

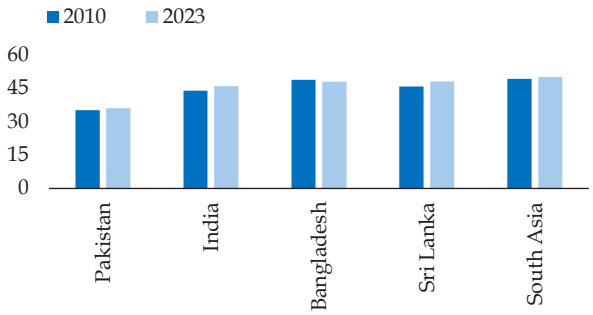
On the face of it, given Pakistan's underdeveloped manufacturing sector, most jobs only seem to require reskilling through small investments in training (**Figure 6.38)**. However, this appears to be challenging, given the country's inadequate vocational training system (**Box 6.4**), as well as low wage premium for green jobs.[47] In Pakistan, these jobs are mostly concentrated in low and medium-skills occupation. About 31 percent of green workers do not have any formal education or vocational training (WB, 2022b; Ham et al., 2026). The skills gap also limits the economic returns associated with green skills; the premium on green jobs in Pakistan is merely 2.9 percent compared to 12 percent in South Asia (Ham et al., 2026). This signals that workers and firms have little incentives to invest in training.

Geoeconomic Fragmentation

The geoeconomic fragmentation —which refers to policy-driven changes to global economic integration—has become noticeable over the past decade.[48] Driven by economic shocks following the global financial crisis of 2008, Russia-Ukraine conflict, escalating US-China tensions, and resurgence of nationalist industrial policies,[49] geoeconomic fragmentation is impacting global trade and investments through two key mechanisms.

First, it is driving GVCs reconfiguration along geopolitical alignments, resulting in a trend towards re-shoring, friend-shoring, and near-shoring to mitigate geoeconomic risks (ADB & WTO, 2025). Second, it is increasing uncertainty to trade and investment prospects and adding complexity to GVCs (UNCTAD, 2025a & b). In

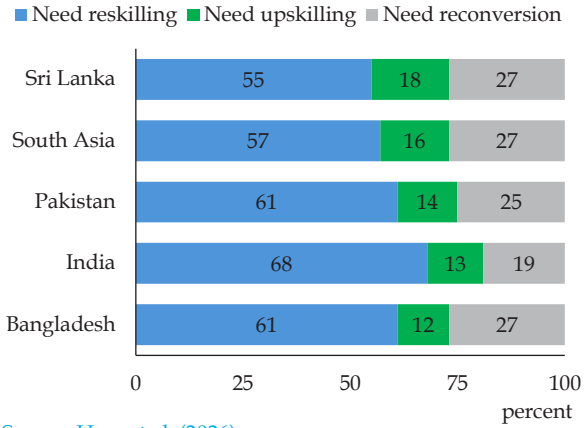
Green Growth Index* **Figure 6.37**



* It measures how well countries achieve global sustainability targets across four key areas: efficient resource use, natural capital protection, green economic opportunities, and social inclusion.

Source: GGGI

Non-green Workers by Transition Category **Figure 6.38**



Source: Ham et al. (2026)

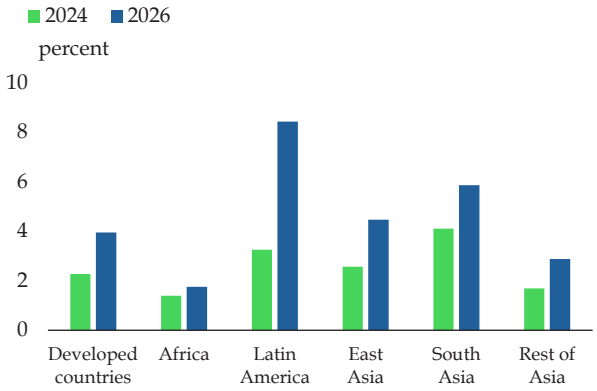
[47] Green jobs are decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency (ILO, n.d.b).
[48] IMF (2023); Pietrobelli et al. (2026).
[49] Industrial policies during 2000-2014 relied mainly on trade openness, special economic zones, innovation and skills, and other related instruments to achieve the objective of GVC integration and higher value addition. In contrast, industrial policies since 2020 rely mainly on economic security reshoring incentives; production subsidies; export controls; domestic-preference measures; tighter screening of FDI flows and other such instruments to achieve the objective of resilience, strategic autonomy, and economic security (UNCTAD 2026a).

this backdrop, global tariffs are rising (**Figure 6.39**), while non-tariff measures —such as technical regulations, health and safety requirements, and certification procedures—are becoming more stringent, affecting developing countries (UNCTAD, 2026b). These trends are also resulting in increasing complexity for GVCs (OECD, 2026).

For job creation in Pakistan, these trends present two challenges. First, geoeconomic fragmentation poses risks to global GDP growth,[50] potentially reducing global demand and hence an impact on export-driven job prospects in Pakistan. At the other end, whilst GVC reconfiguration may be geopolitically aligned, growing uncertainty and complexity imply increasing competition among economies for better trade access and investment. This is in the wake of 4IR and green industrialisation discussed earlier, as technological disruptions and disappearing benefits of low labour cost compel firms to reshore. Consequently, youth bulge, large WAP, and cheap labour may not be primary incentives for attracting GVC-linked investments or secure long-term trade contracts (Pietrobelli et al., 2026).

In this regard, the emergence of connector economies, such as Indonesia, Vietnam, and Mexico, exemplify the importance of economic competitiveness. In the context of US-China decoupling, whilst these economies have leveraged balanced relationships with the US and China, they also provide a conducive business environment and rich human capital. This suggests that geopolitical alignment alone is insufficient to attract reconfigured GVCs, as alignment remains secondary for large-scale Chinese investment projects.[51] This trend is relatively pronounced among the Chinese firms which have adopted the China+1 strategy and leveraged connector economies to bypass US tariffs.[52] Resultantly, China's outward FDI in 2022-23 to connector economies has doubled from 2018-19 (Gopinath et al, 2024).

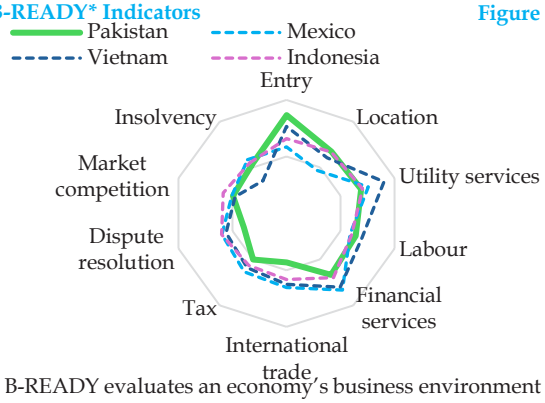
Trade-weighted Average Tariff on Goods Exported **Figure 6.39**



Source: UNCTAD (2026b)

In contrast, Pakistan has not been able to leverage its geopolitical relationships because of weak economic competitiveness, comparatively unfavourable business environment (**Figure 6.40**), and weak GVC integration that impairs the prospects of export-driven job creation (**Figure 6.41**). For example, despite facing relatively smaller increase in US tariffs, Pakistan's textile exports to the US have increased only moderately, reflecting structural weaknesses and limited technological upgradation (SBP, 2026). Similarly, even though the China Pakistan Economic Corridor featured as a flagship project under the Chinese One Belt One Road (OBOR) initiative, growth in total Chinese FDI inflows after the

B-READY* Indicators **Figure 6.40**



* B-READY evaluates an economy's business environment by assessing its regulatory framework, public services for firms and markets, and how effectively they work together.

Source: WB

[50] IMF (2023); UNCTAD (2025 a, b & 2026); UN (2026).
[51] Habib et al. (2024); Pietrobelli et al. (2026); Curran et al. (2023); Gopinath et al. (2024).
[52] Maciejewska, A. & Alifandi, A. (2023); Tran, H. (2024).

launch of OBOR in 2014 has been lower in Pakistan compared to peer economies in South and Southeast Asia (SBP, 2025b).

6.5 Summary and Conclusion

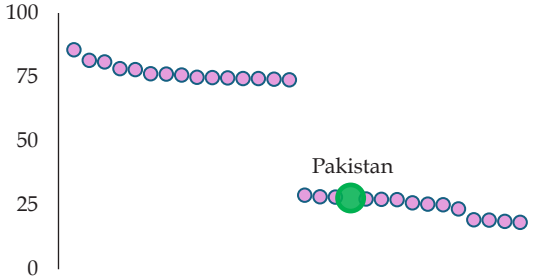
Pakistan's slow pace of structural transformation amid signs of premature deindustrialisation; the recurring boom bust cycles; high and volatile inflation; low investment; and fiscal challenges do not bode well for job creation. The country needs sustained and inclusive economic growth to be able to absorb the growing youth population, whose UR has been particularly higher than other age groups. At the same time, however, without sharply slowing population growth, Pakistan is likely to face persistent challenges to job creation in view of the growing demographic pressures and evolving labour market needs.

In this backdrop, 4IR poses a difficult trade off. If Pakistan adopts 4IR at a fast pace, then it may pose further risks of unemployment given the current education and skill profile of the labour force. If Pakistan does not adopt or is unable to adopt 4IR, then it may affect its productivity and competitive, which will constrain GDP growth and thereby create a challenge of job creation. Either way, upskilling and reskilling need to be top priority, for which it currently lacks fiscal and institutional capacity.

Similar is the situation in the case of green industrialisation. Pakistan needs to create more green jobs and pursue green industrialisation, which require investment in skills and infrastructure, amongst other reform measures. If Pakistan does not pursue green industrialisation, its export competitiveness could weaken, increasing the risk of losing export market share as trading partners introduce carbon taxes and other climate-related trade measures. This in turn may place a constraint on its export growth, GVC integration and thereby job prospects.

GVC integration itself, however, remains a big challenge. Pakistan has already missed the opportunity to capitalise on the GVC

GVC Readiness Index*- Top 15 and Bottom 15 Economies **Figure 6.41**



* GVC Readiness Index combines six dimensions: technology, trade integration, sustainability, institutional and geopolitical, financial, and business environment. The index is scaled 0–100, where higher values indicate greater readiness.
Sources: ADB; WTO (2025)

development and integration in preceding three decades. Now, the times have changed. As a result of emerging technological changes in the wake of green industrialization and 4IR, and geoeconomic fragmentation, GVCs' demands from public and private sectors are increasingly complex.

Countries can no longer leverage cheap labour to attract GVCs because of its waning importance. Today, GVC enabling environment demands trained human capital, frontier technology, high productivity, effective governance, strong institutions, robust infrastructure, and other public goods. Currently, Pakistan falls short of providing such a friendly environment.

Even if urgent reforms help Pakistan revive manufacturing growth, the sector may not be able to absorb the labour force, as it did for several economies in the past. This is because of the sector's falling labour intensity amid technological advances in general and expected increase in automation and robot use in particular. This puts Pakistan in a difficult situation of creating productive and decent work, particularly if labour force relocates from agriculture after its much-needed productivity-driven development.

In the developed world and in some highly skilled small population economies, services are often thought of as a sector that may absorb labour. Services are an integral component of structural transformation and cannot be overlooked;

particularly, high-tech services that offer significant productivity potential and can generate positive spillovers across low-tech services, manufacturing, and agriculture. However, reliance on service sector may not be a suitable alternative, given the sector's nature of work and Pakistan's labour force dynamics. As this chapter has shown, the prospects of large-scale labour absorption in high-tech services, like web-based gig economy, remain low. Recent studies on AI also suggest that employment in high-tech service sectors remains vulnerable to AI.

Historically, the migration of low skilled labour, particularly to the GCC, offered some respite to the young and unemployed. That may remain the case for a foreseeable future. However, if industrial and service robots along with driverless cars make the planned inroads in the GCC economy, it may reduce the demand for low skilled workers in the region, which can affect Pakistan's largely low skilled labour exports. Whilst Pakistan may potentially export more high-skilled workers to the region that may reduce domestic competitiveness if the development of skilled human capital falls short of domestic needs, as seems to be the situation lately.

The broader socio-economic context of advanced economies (AEs) is also important. Given their renewed focus on productivity growth and aging population, AEs are expected to continue investing in 4IR. This implies that technology may be expected to become cheaper leading to wider adoption across various sectors. This will keep countries like Pakistan playing catch-up, albeit with limited resources. Moreover, AEs may also keep attracting highly skilled workers from the world, which means Pakistan needs to produce more skilled labour than it does and will potentially export. Accordingly, public spending on education and skill development must increase manifold. This may not only help address the issue of education-skill mismatch in the job market but also lead to improvement in the country's NEET rate.

So far, Pakistan's unemployment rate has not risen sharply as large informal economy, and high informal employment in the non-agriculture sector have been able to absorb the influx of unskilled workers. However, sustainable formalisation by enforcing labour laws is necessary to ensure productivity growth. To this end, a policy shift is required by lowering compliance barriers, enhancing social safety nets for self-employed workers, and targeted growth in labour-intensive manufacturing to improve the composition of job creation toward the formal sector and quality jobs.

Owing to low female LFP, nearly half of the country's working-age population is not part of the labour force. Paradoxically, if Pakistan manages to speed up its structural transformation, it may lead to a further increase in female unemployment in the absence of skill upgrade and other reforms. This is because increased agricultural productivity that drives structural transformation leads to a decline in agricultural employment, which may affect females more since they are mostly employed in low-skill occupations in that sector. An increasing share of female workers would then need to be employed in manufacturing and/or service sectors that require relatively higher level of skills and education, and whose jobs are further away from home. This necessitates a broad spectrum of skill enhancement, job creation and participation enhancing policies, accompanied by targeted support for female mobility, childcare, workplace safety, and change in social norms.

The enormity and complexity of the challenges may appear insurmountable. Like several other developing economies, Pakistan may also not have a clear roadmap to deal with the changing times while addressing the country's unique legacy issues. Nevertheless, by building strong, adaptive and learning institutions; investing heavily in education and skills development; decelerating population growth; leveraging technology; undertaking fiscal reforms; and pursuing productivity gains for sustained GDP

growth, Pakistan can resolve the challenges to job creation. Achieving these desired outcomes through successful implementation of wide-ranging reforms is imperative, particularly given the socio-economic implications of not pursuing such reforms.

Box 6.1: Premature Deindustrialisation in Pakistan: Causes, Implications and the Prospects of Reversibility

Premature deindustrialisation (PD) refers to the peaking of manufacturing value added (MVA) share in GDP, and/or manufacturing employment in total employment at lower levels of per capita income compared to high income countries (**Figure 6.1.1).** It is important to note that whilst the usages and implications of the two metrics of PD vary considering different stages of economic development, MVA seems to have primacy over employment share because of its greater implications on economic growth, productivity and employment.[53]

Whilst advanced industrial economies began de-industrialising in the late 1960s as their economies developed, and some high-income developing countries in East Asia entered this phase in the late 1980s (Palma, 2014), PD has become increasingly common in several developing countries over time (Ozcelik & Ozmen, 2023). In Pakistan, MVA has been in a long-term stagnation between 1960-2023, with a slight increase from 1960 till mid-1990s, and a slight decline since late 1990s. Similarly, Pakistan's manufacturing employment has grown at a slow pace since 1990s and has remained somewhat stagnant since 2017. This suggests that the country is either at the brink of PD, or has started to deindustrialise prematurely, as manufacturing appears to be losing its role as the engine of structural transformation before Pakistan has reached the income and productivity levels, which is typically associated with PD as Rodrik (2016) notes. This is consistent with recent evidence that Pakistan's structural transformation has stalled, with the economy shifting towards low-value services without a commensurate expansion of manufacturing (WB, 2025b).

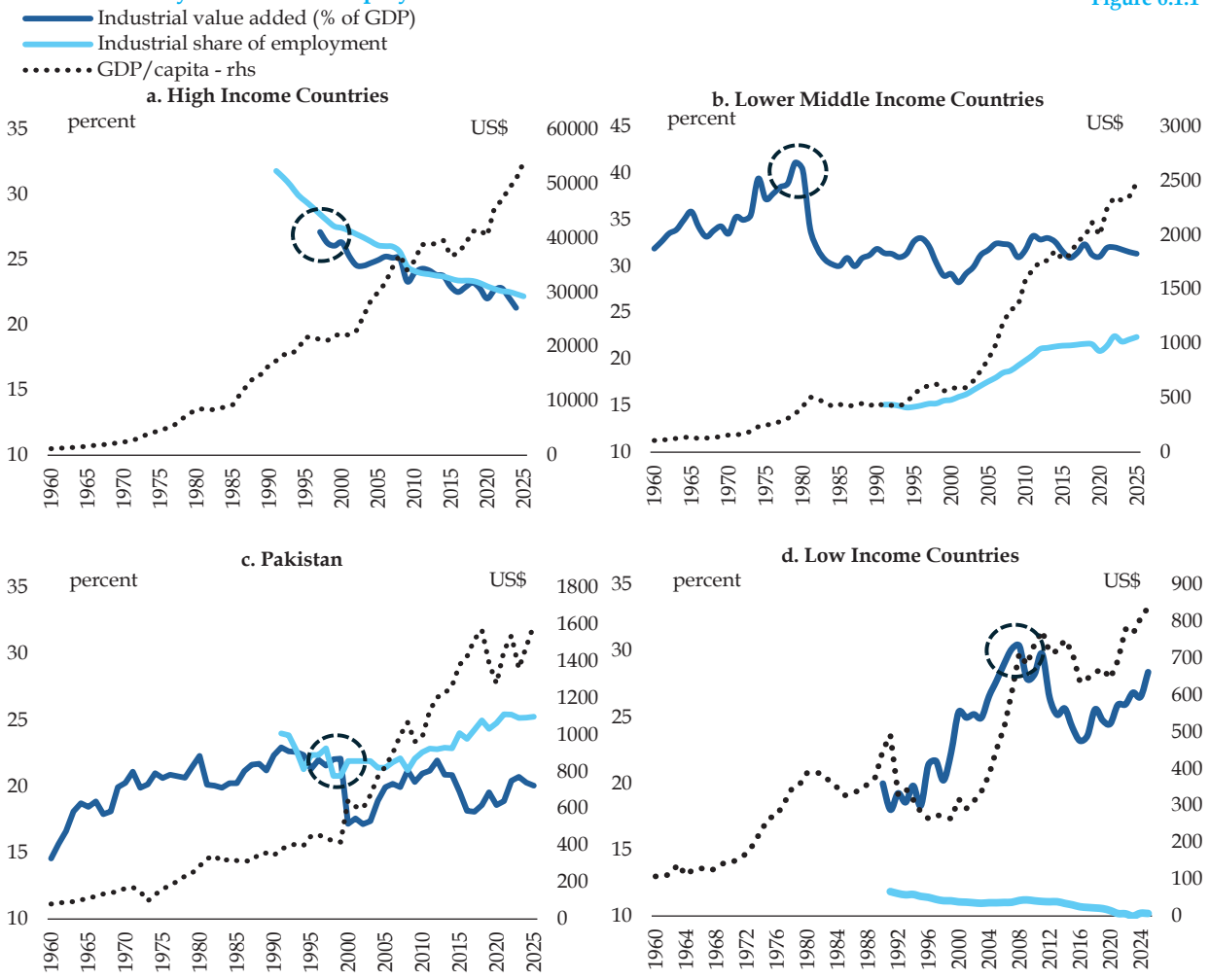
Causes of PD: Different economies appear to have faced different reasons, or a combination thereof, for PD (Ozcelik & Ozmen, 2023), where five major reasons are most prominent. First — from the perspective of employment share — refers to the 'statistical illusion', which suggests that decline in share of manufacturing employment is because of the 'contracting out' or 'outsourcing' of services by manufacturing firms to specialist service producers. Examples of contracting out include both low-end services (such as transport, cleaning, design, security, catering), and high-end services (such as recruitment, data processing, R&D, legal and accounting services, and management consulting) (Palma, 2014).

Second —also from the perspective of employment share —attributes PD to rapid productivity growth brought about by technology, or transition to manufacturing of goods that have low labour intensity of manufacturing (Palma, 2014; Tregenna, 2009). Here it is important to note that early industries (i.e. industries at early stages of industrialisation) are more labour intensive compared to middle and late industries (Haraguchi, 2019).[54]

Third —from the perspective of MVA— increasing participation in GVC is also another reason behind PD. Whilst GVC integration helps increase manufacturing exports (and its accompanying benefits), it distributes value addition across national boundaries and thereby reduces or flattens MVA share (Palma, 2014).[55] Fourth, significant reduction in the income elasticity of demand for manufactured goods (in favour of services) is another reason that explains PD (Palma, 2014), where it is important to note that as incomes rise, the elasticity of demand for manufactured goods

[53] Both indicators are commonly used to assess PD. However, MVA share in GDP is the frequently used indicator of PD, reflecting manufacturing contribution, while the employment share provides a complementary measure of labour absorption. Their interpretation depends on the stage and nature of ST and the per capita income level at which MVA share begins to decline.
[54] Manufacturing subsectors are classified as early, middle or late industries according to the income level at which their share of GDP is estimated to peak: below US$ 6,500, US$ 6,500–15,000 and above US$ 15,000 GDP per capita (PPP, constant 2005 prices), respectively. These thresholds broadly correspond to low/lower-middle, upper-middle and high-income classification in terms of GDP per capita PPP. Early industries (e.g. food and beverages, textile and wearing apparel) have employment elasticity of 0.1 – 0.51; middle industries (e.g. coke and refined petroleum, basic metals) have employment elasticity of 0.05 – 0.22; and later industries (e.g. motor vehicles, chemicals, precision instruments) have employment elasticity of 0.02 – 0.27 (Source: Haraguchi, 2019).
[55] For example: if country A produces a car with low backward integration (i.e. domestically produces most car parts), then its domestic MVA will be higher than country B if it produces same car with high backward integration (i.e. imports most cars parts).

Share of Industry in GDP and Employment Figure 6.1.1



Note: Industry value added is used as a proxy for manufacturing value added due to the non-availability of a consistent cross-country long-term series on manufacturing value added and employment.

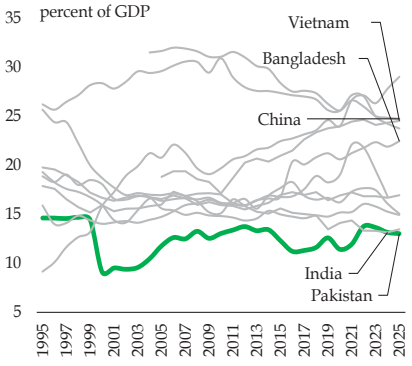
Source: WB

weakens leading to lower MVA. Fifth, an underdeveloped industrial base and weak public and private fundamentals have also led to PD, where examples of public fundamentals include institutions, infrastructure and ineffective industrial policy, export policies, distortionary fiscal policies, and that of private fundamentals include capital, technology, skills, and innovation. Trade openness in such economies (without accompanying structural reforms) in a globally competitive environment also has been found to have furthered PD (Ozcelik & Ozmen, 2023; Atolia et al, 2018).

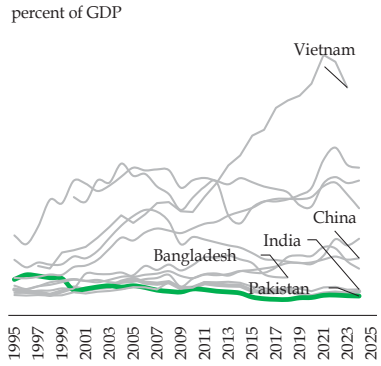
Causes of PD in Pakistan's context: In the case of Pakistan, a confluence of above-mentioned factors explains the onset of PD. While literature on the statistical illusion in Pakistan is scarce, anecdotal evidence seems to suggest that both manufacturing and service sector firms do outsource a number of services to specialist service providers. These include, outsourcing of HR system and recruitments; legal consultants, janitors and other service staff, catering. In fact, as the discussion on informal employment in **Section 6.3** suggests, manufacturing firms also seem to contract out even manufacturing jobs to firms that supply informal workers.

Rapid productivity growth in manufacturing does not seem to hold in Pakistan; nor does GVC integration amid an anti-export bias (SBP, 2025a) (See also **Section 6.2**). In fact, in a cohort of peer economies by income classification and

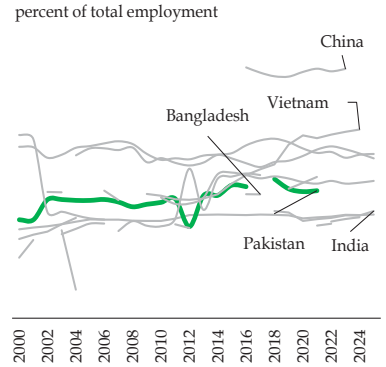
Manufacturing Value Added **Figure 6.1.2a**



Manufacturing Exports **Figure 6.1.2b**



Manufacturing Employment **Figure 6.1.2c**



Note: This figure compares Pakistan with a cohort of income classification and GVCs aspirant economies. This includes: China, India, Bangladesh, Vietnam, Turkiye, Poland, Thailand, Cambodia, Morocco and LMIC aggregate. National estimates of manufacturing employment are not available prior to the year 2000, while ILO modelled estimates are available, they diverge substantially from the corresponding national estimates.

Source: WB

GVCs aspirants, Pakistan is the only country with both low and falling MVA (as percent of GDP), as well as low manufacturing exports (as percent of GDP) since late 1990s (**Figure 6.1.2).** Moreover, whilst its manufacturing employment share may be moderately rising, it is still lower compared to several economies. This is despite the fact that Pakistan's share of early industries —that have higher employment elasticities compared to middle and late industries —is bigger than the share in most peer economies **(Figure 6.1.3).**

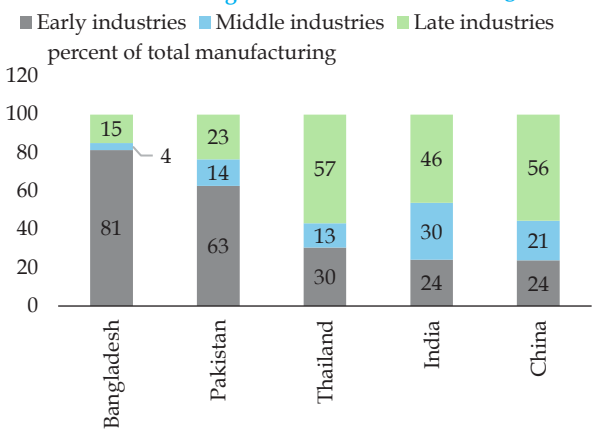
As literature on income elasticity of demand for manufactured goods in Pakistan is not available, SBP (2025a) notes that with the rise in per capita income, household consumption of services seems to have increased more than the increase in household consumption of manufactured goods. The fifth reason, i.e. underdeveloped industrial base and weak public and private fundamentals, clearly seems to hold for Pakistan as has been sufficiently documented by (WB, 2022c).

Prospects of reversing PD: The reversing of deindustrialisation may not be impossible, but it has become difficult especially for lower middle income, and low-income countries. Several reasons account for this challenge. First, global manufacturing is increasingly becoming more technologically advanced, which increases labour productivity. As a result, manufacturing cannot absorb the historically high share of labour force. Second, on a related note, cheap labour alone is no more a comparative advantage as was the case up until even a decade ago. Over the years, the nature of manufacturing and GVC integration have evolved requiring strong and 'learning' institutions; educated and skilled force; efficient infrastructure; and other public and private fundamentals mentioned above (WB, 2018; Rodrik & Stiglitz, 2024).

Climate change and geoeconomic fragmentation are adding to the investment needs to bring innovation and up-skilling and re-skilling (See also **Section 6.4**). As is the servicification of manufacturing that entails investments in hi-tech services like ICT. The challenge for policymakers in Pakistan and in other economies is that there is neither any ready-made recipe on how to reverse PD, nor any successful models to learn from (Rodrik, 2014; Ozmen and Ozcelik, 2023).

Implications on job creation: PD has important implications for employment and job creation because it weakens one of the most effective channels through which developing economies have historically generated productive jobs and sustained productivity growth. International experience shows that manufacturing has been at the centre of structural transformation, helping

Share of Manufacturing **Figure 6.1.3**



Source: INDSTAT

economies achieve sustained increases in employment, higher economic growth through increases in labour productivity, technological progress, export competitiveness and sustained long-term income growth (Rodrik, 2013, 2015; Stiglitz & Lin, 2013).

Unlike other sectors, manufacturing combines economies of scale, technological learning, innovation and strong linkages with the rest of the economy while absorbing large numbers of workers with varying skill levels. Countries that successfully transitioned from low to middle and high-income status including Japan, Korea and more recently China and Vietnam did so by building competitive manufacturing and industrial sectors (Stiglitz & Lin, 2013). Manufacturing has also traditionally absorbed large number of low, moderately skilled workers—that are abundant in Pakistan —and has facilitated technological diffusion and supported export-led growth (WB, 2018).

Therefore, in light of the challenges to reverse PD and considering that most new technologies to raise agricultural yields are labour saving, if Pakistan manages to increase labour productivity in agriculture, then the question is where it would absorb the surplus labour. One answer is the services sector, as has been the case in Pakistan. With the onset of PD, labour in Pakistan moved towards lower-productivity informal services, limiting wage growth, reducing opportunities for productive employment and slowing income convergence. At the same time, high productivity services, as **Section 6.2** and **Box 6.5** show in detail, cannot absorb as much labour (WB, 2018), whereas, as **Section 6.3** informs, the country has one of the world's youngest and fastest-growing labour forces that will continue to place pressure on the labour market over the coming decades. This presents a daunting challenge to job creation in the country.

**The contribution of Ali Ahsan is acknowledged in writing this box.*

Box 6.2: Analysing the Growth–Employment Nexus in Pakistan

Economic theory posits a positive and relatively stable relationship between output growth and employment generation. Pakistan's economy expanded at an average rate of approximately 3.9 percent between FY00-FY26, outpacing the average employment growth of approximately 2.4 percent. However, the unemployment rate has remained persistent in the range of 6 – 7 percent (PBS, 2026), suggesting that aggregate employment generation has not kept pace with the expansion of output. Against this backdrop, this box empirically examines the growth–employment relationship in Pakistan by estimating employment elasticities and testing for the presence of a long-run equilibrium between the two.

In historical context, the trend output growth has consistently outpaced trend employment growth during FY00-FY26. Moreover, the gap between the two has diverged for most of the period (**Figure 6.2.1a**). The disconnect extends beyond trends, as the cyclical components of output and employment also show different amplitudes with output cycles considerably wider than employment cycles (**Figure 6.2.1b)**, indicating that even at business-cycle frequency, movements in output and employment are not systematically aligned.[56]

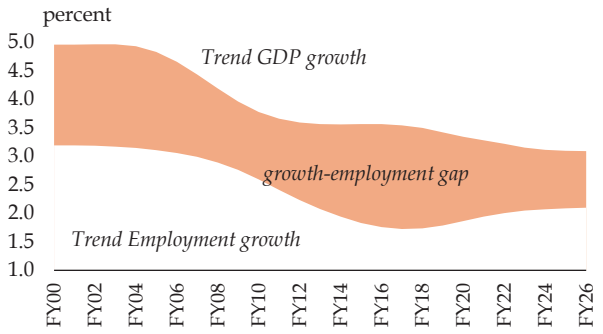
To empirically investigate whether output and employment are bound by a stable long-run equilibrium relationship, we use Johansen maximum-likelihood cointegration methodology. Considering all the diagnostics,[57] the results show that employment and real GDP are not cointegrated over a sample period, FY00–FY26.[58] This implies growth and employment can drift apart without any inherent error-correction mechanism pulling them back together (**Table**

[56] As a robustness check, a one-sided HP filter is used to mitigate end-point bias, which also suggests the relationship is weak and does not indicate a systematic contemporaneous association between employment and output cycles

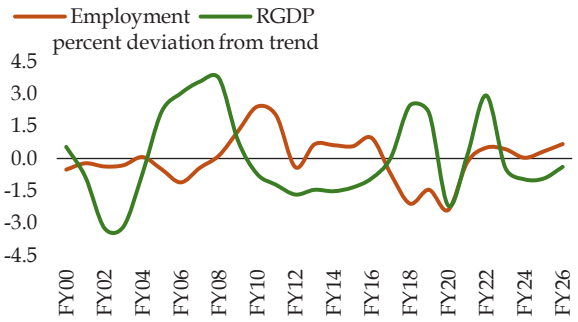
[57] For unit root pre-testing, augmented dickey-fuller (ADF) tests were applied on the log levels and first differences of both series, with lag length selected by the Akaike Information Criterion, confirming first differences of both the series are stationary.

[58] Evidence for developing economies points to a generally weak and, in some cases, unsynchronized response of employment to output growth. An et al. (2017) —a study of 25 low and lower-middle-income countries —found that changes in output and employment growth were often not synchronized, with employment growth substantially lagging output growth during 2001–15.

Trend Real GDP and Employment Growth **Figure 6.2.1a**



Cyclical Deviations in Employment and Real GDP from Trends **Figure 6.2.1b**



Note: The Hodrick–Prescott filter is used to decompose each series into a smooth trend component and a cyclical (deviation-from-trend) component, allowing analysis of trend GDP growth and trend employment growth independent of short-term noise.
Source: SBP Staff calculations

6.2.1).[59] This disconnect may be associated with broader structural features of the labour market, including premature deindustrialisation, high informality, and productivity stagnation, as discussed in **Sections 6.2 and 6.3**

This is evidenced by not only weak, but declining employment elasticity of output. Aggregate elasticity fell from 0.6 in 1972-78 to 0.4 in 1990-2000 (**Table 6.2.2**). Post-2000, aggregate elasticity declined to 0.20 in 2000-18, indicating lower employment intensity of growth (PIDE, 2019).[60] However, there is considerable heterogeneity in employment absorptive capacity across sectors. Construction remained the most labour-absorbing sector during 1972-2000, while the elasticities across other sectors declined, except trade **(Table 6.2.2).**

SBP staff estimates of the employment demand model, using the Cobb–Douglas production function over 2000-25 period, finds that the relationship between employment and GDP weakens further (**Table 6.2.3**).[61] The findings are consistent with the lower end of the range reported for developing countries in cross-country literature, where aggregate employment

Johansen Cointegration Trace and Maximum-eigen Value Tests **Table 6.2.1**

Specification	H_0: rank	Trace statistic	5% critical value	Max-Eig statistic	5% critical value
VAR (1)	r = 0	20.4	25.9	11.6	19.4
	r <= 1	8.8	12.5	8.8	12.5

* VAR(1) is the primary specification, incorporating a linear deterministic trend, which is appropriate given the visibly trending nature of both series and is also supported by the information criteria.
Source: SBP staff estimates

Employment Elasticity with respect to GDP: 1972-2000 **Table 6.2.2**

Sector	1972-78	1978-87	1990-2000
Overall elasticity	0.6	0.4	0.4
Agriculture	0.9	0.4	0.4
LSM	1.1	0.2	0.02
SSM	-	-	0.9
Construction	0.8	0.6	0.9
Transport & comm.	0.5	0.5	0.5
Trade	0.5	0.5	0.6
Electricity & Gas	-	-	0.5
Others including services	-	-	0.7

Source: GoP (2003)

[59] An additional complementary check, comparable to a two-step Engle–Granger test, was estimated by OLS and the residuals were tested for a unit root using the appropriate MacKinnon critical values for a two-variable cointegrating regression. The test statistic does not reject the null of no cointegration at conventional significance levels.
[60] Other studies also show similar trend. Haider (2009) found a weak relationship between employment and GDP growth in Pakistan, with the aggregate employment elasticity estimated at 0.26 during 1973–2008, which declined to 0.12 during periods of economic recovery, indicating that growth episodes in Pakistan have historically been least employment-intensive when the economy is expanding relatively faster. More recently, Kamal (2023), in an analysis spanning Pakistan's employment history from 1964–67 to 2015–18, finds that Pakistan has suffered from a persistently high level of jobless growth.
[61] Newey–West regressions were used to account for potential heteroskedasticity and serial correlation. The aggregate model used total employment as the dependent variable, with GDP per capita and aggregate GFCF as explanatory variables. For sectoral estimations, respective sectoral employment was specified as the dependent variable, with GDP per capita and sector-specific GFCF as explanatory variables. All specifications used variables in log forms and included three dummy variables for the global financial crisis, the COVID-19, and the recent commodity super cycle.

elasticities typically fall between 0.11 and 0.15, in contrast to developed countries where the range is 0.43 to 0.48 (Haider et al. 2023).

The estimates also indicate that elasticity remained substantially below 1 across all the sectors **(Table 6.2.3)**. However, it varied significantly, with elasticity being highest in industry, followed by services and agriculture. Within industry, construction exhibits the strongest employment elasticity. This is consistent with the literature, which highlights the sub-sector's capacity to absorb large number of low and semi-skilled workers (Haider, 2010; Khan, 2008).

Employment Elasticity with respect to GDP: 2000-2025 **Table 6.2.3**

	Coefficient	Std. Error	t-Statistic	Prob.	F-statistic
Aggregate	0.1	0.0	4.0	0.0	336.4
Agriculture	0.3	0.1	3.9	0.0	137.9
Industry	0.6	0.1	7.0	0.0	251.3
Manufacturing	0.5	0.1	9.0	0.0	284.7
Construction	0.8	0.1	5.4	0.0	539.5
Services	0.3	0.2	2.2	0.0	180.3
WRT, transport & storage, accom. & food, ICT, finance & insurance, and real estate	0.7	0.1	4.8	0.0	109.5

Source: SBP staff estimates using ILO and PBS data

Manufacturing also demonstrates relatively greater employment responsiveness, indicating labour-intensive nature of manufacturing industries, particularly textiles, wearing apparel, and food processing. This is in line with global evidence on employment elasticities of early industries – such as food and beverage, textile and wearing apparel - remain in the range of 0.1-0.5 (Haraguchi, 2019).

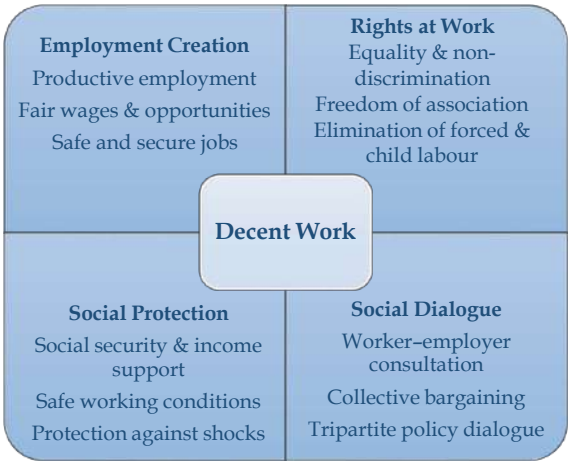
Agriculture records the lowest employment elasticity. This is consistent with the broader shift of economic activity from agriculture, towards manufacturing and services (Sharma, 2019). Services exhibit marginally higher employment elasticity than agriculture, indicating somewhat greater capacity to absorb labour as the economy expands. In Pakistan, wholesale and retail trade (WRT), transport, accommodation and food, and real estate are the major labour absorbing services **(Table 6.2.3).** However, the elasticity remains significantly below one, suggesting that employment growth has not kept pace proportionately with output expansion.

** The contribution of Ravi Kumar and Romaisa Batool is acknowledged in writing this box.*

Box 6.3: Decent Work Deficit in Pakistan

Pakistan's labour-market challenge extends beyond the number of jobs created to their quality, productivity and security. ILO (2023) notes that in economies with widespread informality, unemployment alone provides an incomplete measure of labour-market vulnerability, as workers may remain employed in low-productivity and insecure activities. The concept of decent work therefore captures whether employment is productive, adequately remunerated, secure, and supported by workers' rights and social protection (ILO, 2024b). The ILO's Decent Work Agenda provides a broad framework for improving the quality of employment and labour-market outcomes. The framework rests on four mutually reinforcing pillars (**Figure 6.3.1**).

The Four Pillars of Decent Work **Figure 6.3.1**



Source: ILO

With a focus on regulatory-oriented pillars (i.e. 'rights at work', 'social protection', and 'social dialogue'),[62] this box sheds light on decent work deficits. The deficit is an outcome of: (a) slow pace of structural transformation (ILO, 2026), premature deindustrialisation, macroeconomic instability, and stagnant capital formation that fails to generate enough formal jobs for a young and rapidly

[62] This discussion in this box excludes the pillar of "employment creation", which concerns the availability of sufficient opportunities for productive employment. Pakistan faces a persistent challenge in generating sufficient productive employment for its growing working-age population (PBS, 2025 a & b). This pillar is discussed in detail in **Section 6.2 and Section 6.3.**

Major Labour Legislations in Pakistan **Table 6.3.1**

Laws/Acts[a]	Coverage	Enforcement Issues[b]
Factories Act, 1934	Workplace health and safety, workplace conditions, labour inspection in factories	Weak labour inspection, inability to address modern labour challenges, such as the gig economy and flexible working conditions, informal sector
Industrial Relations Act, 2012 (and provincial IRAs)	Trade unions, collective bargaining, dispute resolution via Labour Courts/NIRC	Union density remains very low, especially outside large formal firms
The Minimum Wages Ordinance, 1961 (Federal) and Provincial legislations	Sets and revises minimum wages	Compliance is low among informal and small enterprises
Employees' Old-Age Benefits Act (EOBI), 1976	Pensions for registered workers of private sector	Excludes the 80 percent of workers in informal employment
Provincial Employees' Social Security Ordinances (from 1965)	Medical care, injury and maternity benefits	Coverage historically confined to large, registered establishments
Protection against Harassment of Women at the Workplace Act, 2010	Workplace harassment redressal	Limited reach into informal and domestic work settings

Sources: [a]Federal and Provincial government websites; [b]Ali et, al. (2024b); ILO (2015).

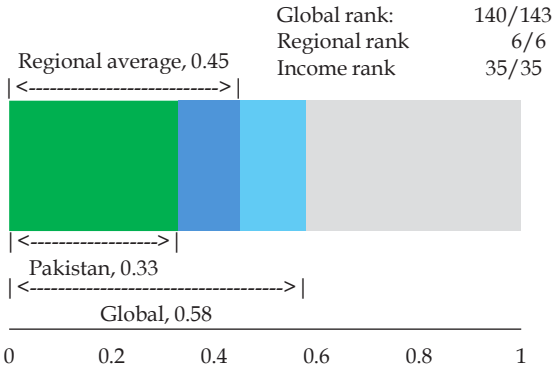
growing labour force; (b) structural features of the labour market itself – informality, underemployment, low female participation, and a heavy reliance on low-productivity agriculture and self-employment; and (c) a fragmented legislative framework and weak enforcement. While the first two (a) and (b) are discussed in detail in **Section 6.2** & **Section 6.3** respectively, the legal and regulatory framework across the three regulatory-oriented pillars is discussed below.

Pakistan has an extensive body of labour legislation. However, coverage thresholds and enforcement capacity leave most of the informal workforce outside its protection (**Table 6.3.1**). While the federal government retains cross-provincial functions and federal institutions, such as the Employees' Old-Age Benefits Institution (EOBI), labour matters were devolved entirely to the provinces post 18th amendment, which are now responsible to legislate on industrial relations, factories, wages, social security and occupational safety. The devolution has fragmented provincial laws, exacerbating disparities in governance, enforcement, and coverage due to institutional weaknesses, limited social protection for informal-sector workers and gender disparities (Ali et al., 2024a). Provinces are struggling in enforcement of regulations due to presence of large informal economy (Hyder, 2023). With weak enforcement, Pakistan sits almost at the end in ranking of "Fundamental Labour Rights" sub-index of WJP Rule of Law Index, with a score of 0.33 (**Figure 6.3.2**). While Pakistan's relatively low labour score in World Bank's B-READY index indicates a moderate labour-market institutional framework, it has relatively weaker regulatory quality and efficiency compared with peers, which points to persistent gaps between formal labour provisions and their effective implementation **(Figure 6.3.3).**

Rights at work: Pakistan has established several legal and institutional mechanisms for labour rights and tripartite consultation. These include laws prohibiting workplace discrimination based on gender, religion disability, etc; forced labour; higher wages for night shifts; freedom of association and assembly; and so forth. However, enforcement remains constrained, particularly in the informal economy. For instance, despite laws being in place, female workers still face persistent barriers to equal access to employment (ILO, 2018b; ILO, 2023), whereas trade union density rate remains notably lower than peer economies **(Figure 6.3.4).** In addition, there are a number of gaps, such as absence of Occupational Safety and Health regulations for agriculture sector, and absence of legal framework to mandate equal remuneration for work of equal value, or to regulate labour rights and benefits of platform workers (physical gig economy workers) (WB, n.d.b). Resultantly, Pakistan scores 4.8 (out of 10) in the level of national compliance with labour rights, compared to 4.4 in India and 9.1 in China and Vietnam (ILO, n.d.c).

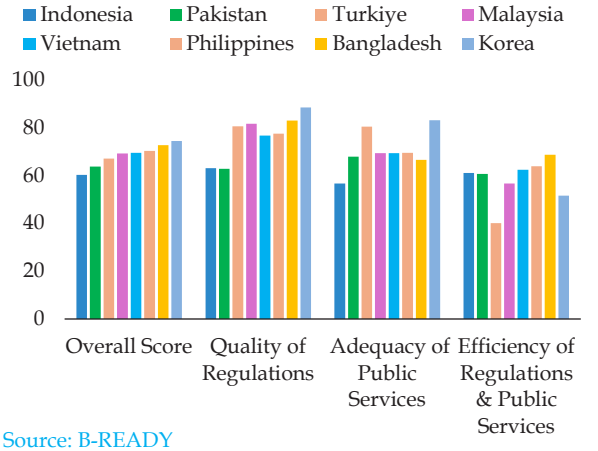
Social protection: Limited social protection leaves workers highly exposed to income and employment shocks. Public spending on social insurance is comparatively low **(Figure 6.3.5)**. Coverage is particularly weak among informal workers, whereas even among eligible formal-sector workers, only around 34 percent were registered with provincial Employees' Social Security Institutions (ILO, 2023c). Absence of unemployment insurance, limited

Pakistan's Ranking and Score in Fundamental Labour Rights Sub-Index Figure 6.3.2



Source: WJP Rule of Law Index

B-READY Labour Regulatory Score Figure 6.3.3



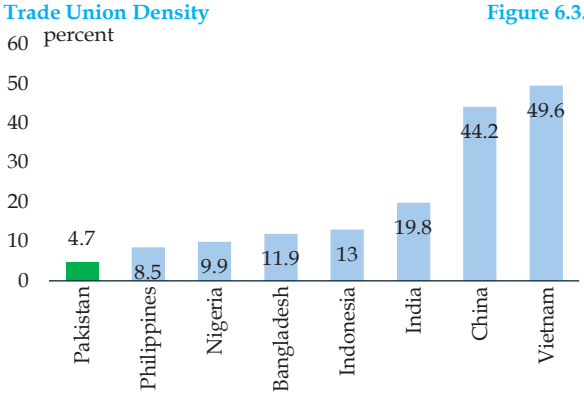
Source: B-READY

contributory financing,[63] and fiscal constraints further weaken protection against labour-market risks. For instance, the law does not require firms to pay directly for unemployment insurance, or health care for its permanent full-time workers. Nor is there any government-provided unemployment insurance scheme for workers in the private sector, or a government funded universal health care (WB, n.d.b). Considering that non-fatal occupational injuries per 100'000 workers (in reference group) in Pakistan are estimated to be 2,691 compared to 325 in India and 227 in Philippine, the gaps in health care benefits and insurance leave workers rather vulnerable (ILO, n.d.c).

Social dialogue: Pakistan has tripartite and bipartite mechanisms for consultation among government, employers and workers, but their effectiveness is limited by fragmented labour governance and weak representation of informal workers. The National Tripartite Labour Conference 2024, the first in 15 years, renewed commitments to occupational safety and health, labour standards and social dialogue.[64] However, persistent gaps in the effective exercise of freedom of association and collective bargaining, alongside the scale of informality, continue to limit the reach of these institutions (ILO, 2018b).

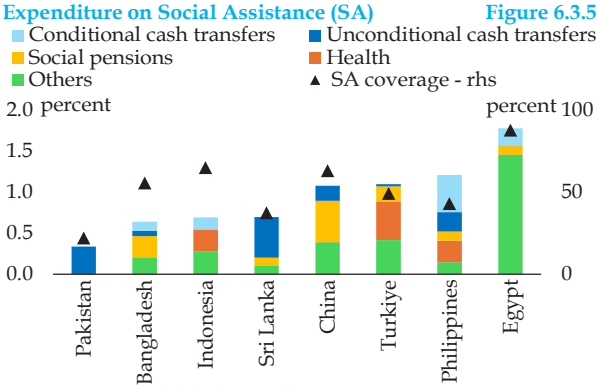
Conclusion: Pakistan has recently made some progress in decent work through provincial initiatives. This includes social protection for domestic workers, the extension of minimum wages to domestic and agricultural workers, efforts to develop pension coverage for informal workers, and broader labour protections in Sindh and Punjab (ILO,

Trade Union Density Figure 6.3.4



Note: Latest available data is used; reference years may vary across countries.
Source: WB

Expenditure on Social Assistance (SA) Figure 6.3.5



Note: Latest available data; reference years may vary across countries. SA coverage is the share of population covered by at least one social protection benefit.
Source: WB

[63] Contributory financing refers to social protection system that is financed through regular contributions made by workers, employers and/or the government, with benefits linked to those contributions.
[64] Article 5 of the Tripartite Consultation suggests that consultation shall be undertaken at appropriate intervals fixed by agreement, but at least once a year.

n.d.c, 2026).[65] However, these reforms are at an early stage and are largely province-specific, limiting their reach relative to the scale of Pakistan's informal workforce. The central challenge remains the gap between legislation and implementation. Slow pace of and low-quality job creation, widespread informality, demographic pressures, and the exclusion of women and young people from the labour market continue to drive the country's decent work deficit. Addressing the deficit therefore requires not only more jobs but a shift towards productive, formal and rights-based employment supported by stronger labour institutions and social protection.

The contribution of Ali Ahsan and Syed Qamar Hussain are acknowledged for writing this box.

Box 6.4: Education-Skill Mismatch in the Context of Job Creation in Pakistan

The economic value of education depends not only on obtaining qualification but also on whether the knowledge and skills acquired are relevant to available jobs. This education-skill mismatch arises when individuals are either under-skilled or over-skilled or possess outdated skills that do not align with those demanded by available jobs (**Figure 6.4.1**). This may reflect gaps in education and training systems or a shortage of jobs suited to workers' qualifications. The effects of skill mismatch extend across the labour market. Individuals may face unemployment, lower wages, underutilisation of their abilities, and reduced job satisfaction; firms may experience lower productivity, weaker competitiveness, and difficulties in adopting new technologies; and economies may face higher unemployment, slower structural transformation, and lower returns on investments in education and training (ILO, 2020b). Addressing this mismatch, is central to unlocking productivity gains and genuine job creation.

Types of Skills Mismatch — Figure 6.4.1

Type of mismatch	Over-Skilling (Surplus of Skills)	Under-skilling (Deficit of Skills)	Skills Obsolesence (Outdated Skills)
What it means	Workers have more skills or a higher level of education than what the job requires	Workers' skills are below level required to perform the job effectively	Workers' skills become outdated/irrelevant due to technological change, digitisation or lack of regular practice
Key features	* Skills exceed job requirements * Results in underutilization of skills * May reduce job satisfaction	* Lacks necessary skills for the job * Leads to lower productivity and more errors * Inadequate training or education	* Once-relevant skills are no longer meet current market needs * Due to technological advancements

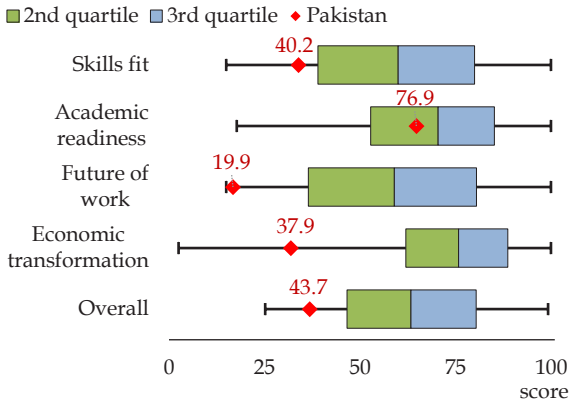
Source: Based on ILO, n.d.

Skill mismatch in Pakistan: Pakistan has one of the world's largest youth population (PBS, 2025a & b). This demographic fact is often framed as a dividend waiting to be claimed, but a persistent education–skills mismatch instead constrains it. As per SBP (2022), about 54 percent of the country's expected working age population in 2031 were estimated to be comprising of those who would be either illiterate or have attained only primary education. However, the mismatch shows up simultaneously not only as a shortage of skilled and educated people in some occupations, but also as over-qualified and under-employed workers in others amid stubbornly high graduate unemployment,[66] reflecting a structural misalignment between curricula and industry needs.

International benchmarks corroborate the presence of this mismatch. Pakistan ranked 66th in the QS World Future Skills Index, 2025 with a low score in skill fit (**Figure 6.4.2**).[67] Similarly, in the World Bank's HCI+ Pakistan's score is 129.6, below the South Asian average of 157.1 and LMIC average of 171.5.[68] Likewise, Pakistan ranks 124th out of 135 countries in the Global Talent Competitiveness Index (GTCI), 2025, which assesses a country's ability to develop and effectively utilise human capital. Pakistan scores lower in vocational, technical skills and generalist adaptive skills

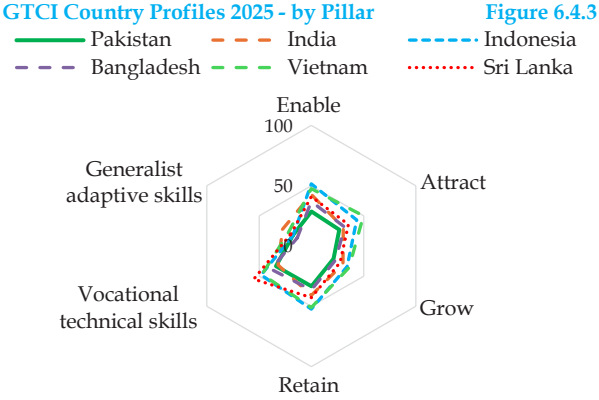
[65] The Sindh Domestic Workers Welfare Act, 2025 and Punjab Labour Code, 2026.
[66] Ali et. al (2024); Adnan (2023); Khan et.al (2022); Farooq (2011)
[67] The Skills Fit indicator reflects the alignment between the skills acquired by graduates and those demanded by employers, measured through the difference between the importance of specific skills and employer satisfaction with graduates' competencies.
[68] The HCI+ divides human capital accumulation into three pillars: health and nutrition, education, on-the-job learning. Each pillar is tied to measurable outcomes, allowing countries to identify when and where human capital gaps emerge, in health, learning, or employment, and tailor interventions accordingly.

QS World Future Skills Index - 2027 **Figure 6.4.2**



Note: 0 is low and 100 is maximum score.
Source: https://www.qs.com/world-future-skills-index/2027

GTCI Country Profiles 2025 - by Pillar **Figure 6.4.3**



Note: Score 0 means lowest and 100 means highest possible talent competitiveness.
Source: INSEAD

than peers (**Figure 6.4.3**).[69] These highlight significant weaknesses in its talent ecosystem, particularly in creating an enabling environment and attracting, developing, and retaining skilled human capital.

These stylised facts reflect weak foundational learning that limits how much advanced education and training can achieve, as educational institutions and training programmes often struggle to keep pace with labour market needs. Alongside underfunded educational infrastructure, this skills mismatch limits the extent to which education can improve workers' earnings and employment prospects (Shakil et al., 2024). The returns are particularly different across fields of study. Lateef et al. (2024) find that STEM fields offer consistently higher wage premiums than non-STEM fields, pointing to stronger demand for technical and analytical skills. This highlights the importance of making education and training more responsive to the evolving needs of employers. Moreover, the economy is skewed toward informal, and low-productivity sectors that generate comparatively few skill-intensive jobs. Weak private investment in R&D and automation, combined with thin industry-academia linkages, further limits the pull for higher-order skills (Ahmad & Khan, 2018).

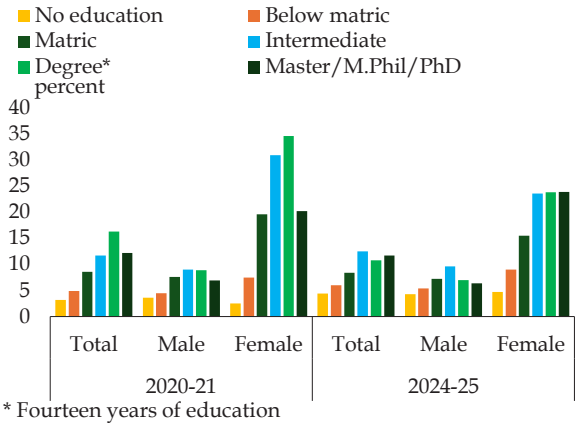
The skill mismatch can be substantiated with the unemployment rate (UR) by level of education. The UR is lowest for workers with no education and highest for workers with intermediate education levels (**Figure 6.4.4**). There is slight improvement in UR for graduation and above, but UR is high for intermediate level showing the widening mismatch between high school education and required skills. The UR is comparatively higher for females at all levels of education depicting less suitable jobs for them. This is further substantiated with the fact that out of total unemployment, the share of workers with no prior work experience remains high (**Figure 6.4.5**).

Challenges in context of 4th industrial revolution (4IR) and green industrialisation: While overall technological advancements are altering labour market requirements, increasing demand for higher-skilled workers, the trend towards 4IR and green industrialisation is further augmenting the challenge of mismatch. Both 4IR and green industrialisation sit at the intersection of several disciplines — engineering, information technology, biotechnology, environmental science and regulation — and reward workers who combine STEM (science, technology, engineering, and mathematics) foundations, digital/data skills, strong problem-solving and analytical ability, and the capacity to "relearn" as technologies evolve quickly.

Moreover, green transition requires the integration of green competencies into mainstream training rather than treating them as separate skills. Electricians, engineers, construction workers, and textile technicians will increasingly require knowledge of renewable energy, energy efficiency, cleaner production, and environmental compliance. The ILO (2022) therefore emphasises integrating green skills into occupational standards, curricula, and training systems.

[69] GTCI captures a country's ability to attract, retain and nurture talent by providing an enabling environment. It was introduced by INSEAD in 2013. Its four input pillars—Enable, Attract, Grow, and Retain—assess the conditions and policies supporting talent development, while its two output pillars—Vocational and Technical Skills and Generalist Adaptive Skills—measure the resulting skills and their contribution to productivity and innovation.

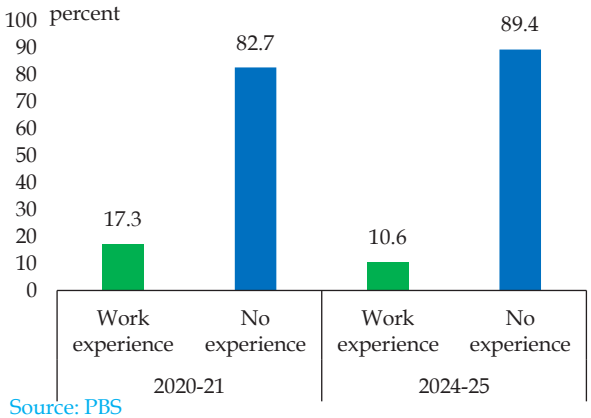
Unemployment Rate - by Level of Education **Figure 6.4.4**



* Fourteen years of education

Source: PBS

Share of Unemployed - by Level of Past Work Experience **Figure 6.4.5**



Source: PBS

Addressing the mismatch in a structured manner: WEF survey (2025a) finds that employers anticipate a major shift in skill demands, with 85.0 percent focusing on upskilling current staff and 70.0 percent recruiting new talent. To keep pace, organisations need to phase out obsolete roles and transition employees into evolving roles. Global practices suggest that strong reskilling opportunities, clear career pathways, and worker well-being are becoming central to talent retention with broad support for government-backed training initiatives. Higher education degrees can no longer keep up with technology that is changing rapidly. To bridge this gap, universities and businesses need to start co-creating flexible learning programs that adapt in real time. While major firms excel at scaling up-to-date tech training, public policy is needed to ensure these micro-credentials are universally recognised and reach small business employees and underserved groups (WB, 2026).

Technical and vocational education and training (TVET) also play a central role in addressing this gap, but its effectiveness depends on greater responsiveness to labour-market demand. Vietnam illustrates the role of broad-based education in supporting structural transformation. By expanding access to quality primary education, Vietnam built a workforce with strong foundational skills, which helped facilitate the movement of labour from agriculture into more productive non-farm employment (WB, 2014). Similarly, investments in women's leadership helped improve both gender equality and productivity in Bangladesh's garment sector (IFC, ILO, 2025). Germany's dual vocational education and training (VET) system — combining classroom instruction with structured employer apprenticeships — has helped keep youth unemployment low and skills closely aligned with industry needs.

While Pakistan has expanded its TVET infrastructure and introduced competency-based training, the TVET system is constrained by persistent challenges, including outdated curricula, inadequate equipment, weak industry linkages, and insufficient instructor capacity (SBP, 2019). Considering that effective TVET systems must be demand-driven, flexible, and closely connected with employers (WB, ILO & UNESCO, 2023), Pakistan should strengthen industry participation in curriculum design, occupational standards, apprenticeships, and trainee assessment.

Conclusion: Pakistan needs to adopt an integrated digital and green skills strategy, supported by a national skills anticipation system that regularly identifies emerging sectoral and occupational requirements. Stronger partnerships between industry, TVET institutions and universities, integrating STEM, digital and interdisciplinary green-tech competencies into both university and TVET curricula; continuous curriculum updating, instructor reskilling and outcome-based monitoring are essential. In addition, the government may also offer incentives to firms for training, such as matching grants, or tax relief. By doing so Pakistan can reduce skills mismatch and transform its young workforce into a source of technological upgrading, green competitiveness, and productive employment.

**The contribution of Syed Qamar Hussain is acknowledged in writing this box.*

Box 6.5: Gig Economy and Future of Employment[70]

With 58.3 percent of its population under the age of 25 (PBS, 2025a), the youth population (15–29 years) in Pakistan — projected to reach 99.8 million by 2050 (MoPDSI, 2024) — is driving a rapid expansion of the country's labour force. However, absorbing this labour force into the domestic job market remains challenging. In this context, the gig economy seems to be a potential avenue that can offer job opportunities to young people,[71] which in the backdrop of Pakistan's growing freelancing exports has raised hopes of its promising potential. But can the gig economy absorb new entrants to labour market in an economy like Pakistan, and offer them productive, decent jobs? With a focus on web-based gig economy (as against the location-based gig economy), this box attempts to answer this question.

Labour absorption capacity: Although gig economy is defined differently in different countries, it has two major types: (a) online or web-based platform work (e.g. digital micro-tasks) and (b) location-based platform work (e.g. on-demand app-based services like local rides or food delivery).[72] With about 2.2 million workers engaged in the gig economy of both types, Pakistan's share of gig economy workers in the total employed labour force is around 2.8 percent, where the share of web-based gig workers is merely 0.08 percent (PBS, 2025a).

This is not unique to Pakistan, as the share of gig economy workers in total employed labour force is somewhat the same in other economies as well. For instance, in India and in the UK, it is around 1.4 percent, whereas in the US, which has the largest gig economy (Payoneer, 2025), it is estimated to be around 2 percent (CIPD, 2023; Datta & Chen, 2023).[73] These numbers may be slightly overstated considering that several gig economy workers also have a full-time job, with the gig being a supplemental income stream. Definitional and measurement issues, notwithstanding, these numbers suggest that the gig economy does not offer large-scale labour absorption compared to employment in other sectors.

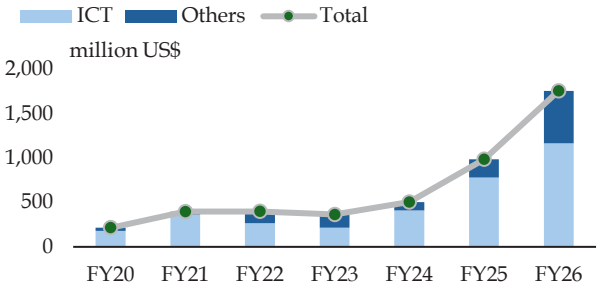
Productive, decent jobs: The gig economy deviates from standard employment by mainly offering temporary or part-time work. In that context, the location-based gig economy, with a share of 97.1 percent in Pakistan's total gig economy workers, is characterised by low productivity and limited access to decent work. It only perpetuates the challenges of low productivity, informality and decent work as discussed in **Sections 6.2 and 6.3.**

In contrast, the web-based gig economy in Pakistan presents a more nuanced picture. Although web-based gig economy workers are less than 3 percent of total gig economy workers (PBS, 2025a), Pakistan has established itself as a global market for web-based platform work (freelancing) by ranking among the top markets worldwide (Payoneer, 2025; BoI, 2024). Pakistan, along with India and Bangladesh, accounts for half of the global supply of the online gig economy (Datta & Chen, 2023). Export earnings of Pakistan's web-based workers has grown two-folds to US$ 1.5 billion over the last two years **(Figure 6.5.1)**, which in the context of low number of workers points towards relatively high productivity. Monthly earnings of online gig workers are also notably higher than those of informal workers (Datta & Chen, 2023).

[70] ILO defines the gig economy as a labour market where organisations or individuals use digital labour platforms to connect with workers for short-term tasks, projects, or on-demand services, operating on a payment-per-task or freelance basis rather than traditional long-term employment contracts (Source: ILO, 2018c).
[71] In most economies, online gig workers are younger than other services sector workers; they are also younger than workers with similar occupations in the labour market, as well as workers in the informal sector. In Pakistan, around 67 percent of online workers are between the ages of 15-29 compared to 32 percent in similar occupation workers. (Source: Datta and Chen, 2023)
[72] India defines gig worker as persons participating and earning from activities outside traditional employee-employer relationship; this includes both physical and web-based workers (Ministry of Labour, 2020). UK describes gig economy as "the exchange of labour for money between individuals or companies via digital platforms that actively facilitate matching between providers and customers, on a short-term and payment by task basis" (Low Pay Commission, 2024). US does not explicitly define gig economy or gig workers; however, it indicates that such work may include electronically mediated contingent work (BLS, 2017).
[73] For India, the number is estimated based on data collected from WB (2025e) and Sharman & Sharma (2025).

Besides, web-based gig work presents several benefits. At individual level, it offers a cushion against exchange rate depreciation, as wages are set in USD or other foreign currencies. In addition, unlike location-based gig economy, web-based gig economy is highly tradable, as digital services can be seamlessly provided across borders, allowing freelancers to tap global markets. Freelancing also offers flexible hours and remote working conditions, which is preferred by young cohorts.[74] It provides a viable supplemental income source to students and young professionals. At the societal level, web-based gig work offers an avenue for raising female labour force participation by eliminating mobility and constraint of fixed working hours.[75]

Pakistan's Freelancing Exports **Figure 6.5.1**



Note: ICT and other services exports include export earnings received on account of ICT and non-ICT services, respectively, rendered to overseas firms. Examples of non-ICT services may include research writing and clerical services, among others.

Source: SBP

Nonetheless, whilst web-based gig work may be productive in the short-term, its prospects for long-term employment generation and productivity growth remains limited. For instance, unlike scalable business models, freelancing is constrained by the time and capital of gig workers, often limiting scalability of the model (Fiore & Rosati, 2020; **Box 5.2**). Freelancing also offers much less opportunities for professional development due to a lack of training and feedback, as workers do not accumulate firm-specific skills. Online gig workers are also at higher risk of unemployment and job insecurity compared to other informal workers; they also face limited potential of earnings growth, especially for gig jobs that do not require high level of skill (Zeid et al., 2024). Moreover, displacement by Artificial Intelligence (AI) is a key concern, as 23.2 percent of Pakistani freelancers are in AI-vulnerable occupations, such as programming, web development, and research writing (ADB-PAFLA, 2024). This further highlights the need for training initiatives to upskill and reskill gig workers at large scale.[76]

Furthermore, the workers in Pakistan's tertiary cities have limited access to web-based gig work owing to digital infrastructure constraints, internet disruptions, low levels of education and English language proficiency, and weak electrification.[77] Spatial distribution of web-based gig workers in Pakistan shows that tertiary cities have 36 percent share in online gig workers, compared to 44.0 percent in Bangladesh, 41.0 percent in India, 71.0 percent in Mexico, and 78.0 percent in China (Datta and Chen, 2023). Owing to these challenges and constraints, gig economy, despite its many benefits at the individual and societal level, may not be construed as an engine for creating productive, decent jobs.

**The contribution of Almas Karim and Talha Ali Madni is acknowledged in writing this box.*

[74] Gen-Z is more inclined to this type of work, offering flexibility (Source: Deloitte, 2025; Upwork, 2024).
[75] Share of male and female gig workers in employment stands at 3.0 percent and 2.5 percent, respectively. (Source: PBS, 2025a).
[76] The federal government is already running such training initiatives under the PM's Youth Programme in collaboration with Microsoft, Coursera, and edX. The program has so far awarded only 0.1 million certifications in digital skills (Source: PMYP, n.d.).
[77] Datta and Chen (2023) classify cities into three categories: capital cities; secondary cities, defined as the ten largest cities in a country excluding the capital; and tertiary cities, comprising smaller cities and towns beyond the capital and the ten largest cities.

Appendix 6A: GDP Growth, Per Capita Income, and their Coefficients of Variations for Selected Peer Economies during 1990-2025

GDP Growth and Per Capita Income during 1990-2025 **Table 6A.1**

GDP growth is in percent; per capita income in US$

	GDP Growth				Per capita income			
	Average	Minimum	Maximum	Coefficient of Variation	Average	Minimum	Maximum	Coefficient of Variation
China	8.6	2.3	14.3	33.9	4,947	330	14,230	94.6
Ethiopia	6.8	-8.7	13.6	77.8	417	110	1,110	75.7
Vietnam	6.7	2.6	9.5	22.9	1,587	110	4,970	91.4
Uganda	6.2	3.0	11.5	34.5	542	180	1,120	54.9
India	6.1	-5.8	9.7	44.6	1,142	330	2,760	66.5
Cambodia	5.8	-34.8	13.3	130.1	1,000	170	2,750	79.9
Bangladesh	5.5	3.4	7.9	21.3	1,055	290	2,880	83.5
Malaysia	5.4	-7.4	10.0	70.2	7,070	2,420	12,380	46.3
Ghana	5.2	0.5	14.0	45.1	1,130	270	2,630	70.3
Indonesia	4.7	-13.1	8.2	74.1	2,263	560	5,120	67.6
Sri Lanka	4.3	-7.3	8.7	79.3	2,201	490	4,670	67.2
Pakistan	**4.0**	**-1.3**	**7.8**	**51.2**	**921**	**370**	**1,560**	**46.3**
Thailand	3.8	-7.6	11.2	101.4	4,159	1,540	7,690	48.6
LMIC	4.9	-4.2	7.5	40.8	1,256	448	2,488	55.8
LIC	3.2	-3.2	7.1	77.9	510	250	811	37.0

Source: WB

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