

When Education Does Not Become Employment: Gendered Credential Conversion in the Transition to Work among Pakistani Youth

Imran Sabir¹ | Abida Sharif² | Aneeqa Ansari² | Maheen Khattak²

¹ School of Sociology, Quaid-i-Azam University, Islamabad, Pakistan

² Department of Sociology, Fatima Jinnah Women University, Rawalpindi, Pakistan

Correspondence: Imran Sabir, isabir@qau.edu.pk

Abstract

Education is commonly treated as a route from social disadvantage to productive employment, yet the conversion of credentials into work depends on the structure of labour demand and on the social conditions under which people can enter, search, and remain in labour markets. This article develops the concept of the credential conversion gap and applies it to Pakistan using a secondary quantitative analysis of the Pakistan Labour Force Survey 2020-21. Official nationally weighted tabulations are analytically recombined with a 2023 microdata-based disaggregation of graduate unemployment. The analysis distinguishes labour-market attachment, unemployment concentration, youth exclusion, and employment quality. Degree holders constituted only 9.2% of the labour force but 23.5% of the unemployed, producing an unemployment concentration ratio of 2.55. Their approximate unemployment rate was 16.7%, although 71.3% of degree-educated non-agricultural workers who had obtained employment were in the formal sector. Gender changes the conversion process more fundamentally. Among 15-24-year-olds, female labour-force participation was 21.9%, compared with 64.7% for males, while female NEET prevalence was 55.3% against 10.5% for males. Graduate unemployment was 33.8% among women and 8.8% among men. The findings indicate that education simultaneously improves employment quality and intensifies exposure to a congested graduate queue, while gendered institutions restrict whether credentials enter that queue at all. The Pakistani case therefore questions accounts that locate graduate unemployment mainly in individual employability deficits and directs attention toward demand, social closure, mobility, and gendered opportunity structures.

Keywords: Credential conversion; higher education; youth unemployment; NEET; gender; labour market; Pakistan; secondary data

1. Introduction

The familiar policy story about education is linear. Schooling creates skills, skills improve productivity, and productivity improves employment and earnings. That sequence has enormous institutional power. Governments expand universities, families finance

degrees, and young people postpone earnings in anticipation that a credential will later be exchanged for a better occupational position. In Pakistan, however, the transition from education to work has become increasingly difficult to understand through a linear model alone. Higher education has expanded while graduate unemployment, occupational mismatch, informality, and low female labour-force participation have persisted (Ahsan & Khan, 2023; Farooq, 2011a, 2015; Nazir & Hina, 2023). The problem is not simply that education has "failed." The more sociologically interesting problem is that the same credential does not move everyone through the labour market in the same way.

This article calls that problem the credential conversion gap. The term refers to the distance between possessing an educational credential and being able to convert it into labour-market participation, employment, and a position whose institutional quality corresponds reasonably to the expectations attached to that credential. Conversion is important because a degree is not an occupational outcome. It is a socially recognized claim that must be validated by employers, professional institutions, transport systems, family arrangements, hiring networks, and the availability of suitable jobs. A credential may therefore have considerable symbolic and formal value while remaining difficult to realize as employment.

Pakistan is an analytically useful setting. The Labour Force Survey (LFS) 2020-21 estimated a population of 41.8 million aged 15-24, making youth one of the country's largest demographic groups (Pakistan Bureau of Statistics [PBS], 2022). Yet the national youth unemployment rate was 11.1%, and almost one-third of youth were not in employment, education, or training. The aggregate figure conceals a much deeper gender division. Female youth labour-force participation was only about one-third of the

male level, and female NEET prevalence exceeded one-half of all young women (PBS, 2022). At the same time, degree holders were disproportionately represented among the unemployed. These patterns place two different failures beside each other: a graduate absorption problem and a gendered labour-market entry problem.

Existing Pakistani scholarship has documented education-job mismatch, overqualification, field-of-study mismatch, and wage penalties among graduates (Farooq, 2011a, 2011b, 2015). Recent policy research has also drawn attention to rising graduate unemployment and weak alignment between higher education and labour demand (Ahsan & Khan, 2023; Nazir & Hina, 2023). Much of this work is necessarily framed in the language of skills, matching, or returns to education. A sociological reading adds another question: under what institutional conditions can educational capital actually be converted into an occupational position? Bourdieu's (1986) account of capital conversion, Collins's (1979) analysis of credentialism, and labour-market segmentation theory all suggest that education has value inside structures of opportunity rather than outside them.

The article asks four questions. How does labour-market attachment and unemployment concentration vary by educational attainment? Does higher education improve employment quality even when highly educated workers face greater difficulty obtaining work? How large is the gendered conversion gap among youth? Do graduate unemployment patterns by sex, residence, age, and field of study support an interpretation based on structural conversion rather than a generalized lack of education? These questions are addressed through a transparent secondary analysis of official LFS 2020-21 tabulations, supplemented by the Pakistan Institute of Development Economics' 2023 disaggregation of the same survey's graduate records.

2. Education as capital, credential, and queue

Human capital theory supplies an important baseline. Education represents an investment that raises productive capacities and should increase workers' economic returns (Becker, 1964; Mincer, 1974). Signalling theory reaches a somewhat different mechanism but can generate a similar labour-market expectation: credentials convey information about otherwise difficult-to-observe abilities or trainability (Spence, 1973). Both perspectives help explain why individuals and states invest heavily in schooling.

Neither perspective requires that every additional credential automatically produces employment. The difficulty appears when educational expansion proceeds faster than the occupational structure capable of absorbing credentialed entrants. Collins (1979) described the inflationary consequences of expanding credential requirements, while Thurow's (1975) job-competition model shifted attention from the characteristics of workers to queues for jobs. In a congested queue, more education can improve a person's position relative to other applicants without increasing the number of desirable positions available. Educational expansion may then produce a paradox: credentials become more necessary at the same time that they become less sufficient.

This distinction is particularly relevant to graduate unemployment. Ahsan and Khan (2023) show that graduate unemployment in Pakistan rose from 14.9% in 2018-19 to 16.1% in 2020-21. They identify rapid expansion of graduate supply, weak university-industry linkages, macroeconomic constraints, and field-specific imbalances. Their disaggregation is revealing. Between the two survey rounds, unemployment among engineering graduates rose from 11.2% to 23.5%, computer graduates from 14.2% to 22.6%, and agriculture graduates from 11.4% to 29.4%. The point is not that engineering or computing ceased to contain valuable skills. It is that the occupational structure did not validate all credential claims at the same rate.

Bourdieu's (1986) formulation makes the conversion problem more explicit. Institutionalized cultural capital, including educational qualifications, acquires practical force through exchange with other fields and resources. The exchange rate is socially organized. Family resources, linguistic competence, geography, networks, gender norms, and institutional prestige can affect whether formally equivalent credentials produce equivalent opportunities. Earlier Pakistani evidence is consistent with this view. Farooq (2011a, 2011b) found substantial qualification and field-of-study mismatch among graduates and reported that women were more exposed to some forms of mismatch. Political-family connections were also associated with aspects of job matching, suggesting that formal qualifications operate alongside other forms of capital rather than replacing them.

Labour-market segmentation supplies the second part of the argument. Formal jobs differ from informal work in contracts, regulation, social protection,

earnings regularity, and career ladders. Pakistan's labour market remains heavily informal, so the effect of education may be visible less in whether a person works at all than in where the person works once employed. This creates two selection points. The first is conversion into employment. The second is conversion into employment of higher institutional quality. An educational system can perform strongly at the second point and weakly at the first.

Gender complicates both. Women's employment in Pakistan is shaped by a gender order in which mobility, safety, unpaid care, occupational respectability, household roles, and male breadwinner expectations influence whether paid work is socially and practically available (Majid & Siegmann, 2021; World Bank, 2022). Majid and Siegmann (2021) show that Pakistan's employment response to economic growth is strongly gender differentiated and that the gender order mediates women's employment outcomes. Education can reduce employment precarity, but it does not dissolve constraints on mobility or reproductive work. The International Labour Organization (ILO, 2022) similarly identifies young women as especially exposed to NEET status across Asia and the Pacific.

This suggests a two-part sociological proposition. First, education should be associated with stronger labour-market attachment and greater formal-sector incorporation among those who work, but a scarcity of credential-appropriate jobs may simultaneously raise unemployment concentration at higher educational levels. Second, gender should condition credential conversion before job matching occurs. For many young women, the relevant outcome is not only unemployment among active job seekers but exclusion from employment, education, and training altogether. The NEET indicator therefore captures a dimension of inequality that the unemployment rate alone misses.

3. Data and method

This study uses a secondary quantitative design. Its principal source is the Pakistan Labour Force Survey 2020-21 annual report produced by PBS (2022). The survey employed a stratified two-stage sample design. Primary sampling units were selected with probability proportional to size, while households were selected systematically within sampled units. The planned sample contained 99,904 households distributed over four quarters; 96,442 households were enumerated, giving a reported response rate of 96.53%. Fieldwork ran from July 2020 to June 2021, with labour

information referring to the week preceding enumeration (PBS, 2022). The official report provides nationally weighted estimates by education, age, sex, area, employment status, and formal or informal sector.

The analysis does not claim access to individual LFS records. Instead, it recombines official weighted tabulations to answer a set of questions not directly presented in the report. Three derived indicators are used. For educational group g , the approximate unemployment rate is $U_g/(E_g + U_g) \times 100$; labour-force participation is $(E_g + U_g)/(E_g + U_g + OLF_g) \times 100$; and the employment-to-population ratio is $E_g/(E_g + U_g + OLF_g) \times 100$. Because the report publishes population counts rounded to 0.1 million, rates calculated from these counts are approximate.

A fourth descriptive statistic, termed the unemployment concentration ratio (UCR), is calculated as the group's share of all unemployed persons divided by its share of the labour force. $UCR = 1$ indicates proportional representation among the unemployed. A value above 1 indicates that a group accounts for a larger share of unemployment than of labour-force participation; a value below 1 indicates underrepresentation. The UCR is used here as a transparent descriptive ratio, not as a standardized psychometric or causal index.

Youth transition is examined through official employment-to-population, labour-force participation, unemployment, and SDG 8.6.1 NEET rates for ages 15-24. Employment quality is assessed using PBS estimates of formal and informal non-agricultural employment by education. Graduate-level patterns are triangulated with Ahsan and Khan's (2023) microdata-based analysis of LFS 2018-19 and 2020-21, which reports graduate unemployment by sex, field, age, and rural or urban residence.

The strategy has a deliberate limitation. Aggregate tabulations do not permit individual-level multivariate estimation, confidence intervals for the derived ratios, or interactions among education, gender, residence, and household characteristics. The results should therefore be interpreted as structural descriptive evidence rather than causal effects of education. The advantage is reproducibility: every calculation can be reconstructed from public official tables. No human participants were recruited, no personal identifiers were accessed, and the study uses public statistical

outputs; institutional ethical approval was therefore not required.

Table 1. Labour-market conversion indicators by educational attainment, Pakistan LFS 2020-21

Education level	Employed (m)	Unemployed (m)	Out of LF (m)	Approx. UR %	Approx. LFPR %	Approx. EPR %	UCR
Illiterate	26.1	0.8	32.6	3.0	45.2	43.9	0.49
No formal education	0.8	0.1	0.7	11.1*	56.3*	50.0*	1.17
Below matric	21.3	1.1	38.1	4.9	37.0	35.2	0.78
Matric but below intermediate	9.0	0.8	8.9	8.2	52.4	48.1	1.36
Intermediate but below degree	4.5	0.6	4.6	11.8	52.6	46.4	1.85
Degree and above	5.5	1.1	3.2	16.7	67.3	56.1	2.55

Note. UR = unemployment rate; LFPR = labour-force participation rate; EPR = employment-to-population ratio; UCR = unemployment concentration ratio. Derived rates use PBS counts rounded to 0.1 million and are therefore approximate. *The no-formal-education category is very small and especially sensitive to rounding. Source: Authors' calculations from PBS (2022).

4. Results

4.1 Educational attainment produces a double conversion pattern

Table 1 shows a striking non-linear relationship between education and labour-market outcomes. Among people with less than matric education, the approximate unemployment rate is 4.9%. It rises to 8.2% for those with matric but below intermediate education, 11.8% for intermediate but below degree, and 16.7% for degree and above. The official PIDE microdata-based estimate for graduates is 16.1%, which is close to the rate reconstructed from rounded PBS counts (Ahsan & Khan, 2023).

Higher unemployment does not mean that degree holders are detached from the labour market. The opposite is visible. Their approximate labour-force participation rate is 67.3%, the highest among the educational categories shown, and their employment-to-population ratio is 56.1%. Education therefore increases labour-market attachment, but among active workers it also exposes highly educated entrants to a labour market unable to absorb all of them quickly.

The distributional measure makes the imbalance more visible. Degree holders account for only 9.2% of the labour force but 23.5% of all unemployed people. Their UCR is 2.55. Intermediate-educated workers have a UCR of 1.85, and matric-educated workers 1.36. The illiterate population, by contrast, represents 37.5% of the labour force but 18.5% of unemployment, giving a UCR of 0.49. The pattern from matric onward is monotonic. More education is associated with a progressively larger concentration in measured unemployment relative to labour-force presence.

The interpretation requires care. Low unemployment among people with little schooling is not evidence of labour-market advantage. Workers with limited household resources may have less capacity to remain unemployed while searching for a preferred job, and many enter low-paid, agricultural, casual, or informal work. Graduate unemployment can partly reflect higher reservation wages and longer search for jobs expected to justify educational investment. Yet that very capacity to wait is part of the credential conversion problem: the supply of graduates has expanded faster than the supply of positions understood as commensurate with graduate credentials.

4.2 Education converts strongly into employment quality once employment is obtained

The formal-informal distribution reverses the apparent story of Table 1. Among employed non-agricultural workers, only 15.6% of those with no formal education are in the formal sector. Formal-sector representation rises with schooling: approximately 19.3% for middle but below matric, 28.6% for matric but below intermediate, 42.0% for intermediate but below degree, and 71.3% for degree and above (PBS, 2022). Education therefore has a powerful association with job quality conditional on being employed.

This is the central empirical tension. Degrees are highly valuable after successful conversion, yet conversion itself is congested. Human capital theory is therefore not simply contradicted. Its prediction is visible inside employment, where education is strongly associated with entry into the formal sector. What fails is the assumption that the availability of

credentialed workers generates a corresponding quantity of credential-appropriate jobs.

4.3 Youth transition is sharply gendered

The national youth figures reveal a different mechanism. Among people aged 15-24, male labour-force participation is 64.7% while female participation is 21.9%. Male employment-to-population is 58.2%; the female figure is only 18.8%. Female unemployment among active youth is higher, at 14.4% compared with 10.0% among males, but unemployment captures only a small part of the gender difference because so many young women are outside the labour force.

NEET rates expose the scale of this earlier exclusion. Nationally, 32.5% of youth aged 15-24 are not in employment, education, or training. The male rate is 10.5%. The female rate is 55.3%, a gap of 44.8 percentage points and more than five times the male level. The pattern is not reducible to rurality. Female NEET prevalence is 56.7% in rural areas and 52.9% in urban areas. Provincial variation is substantial, but every province records a wide gender gap. Female NEET reaches 75.4% in Balochistan, 68.2% in Khyber Pakhtunkhwa, 64.9% in Sindh, and 46.0% in Punjab (PBS, 2022).

The contrast between unemployment and NEET is sociologically consequential. Unemployment counts those who have entered the labour market and are searching. NEET captures a broader failure of institutional transition. A young woman who has completed education but cannot travel safely to

workplaces, is constrained by care obligations, or is discouraged from labour-market entry may never appear in graduate unemployment statistics. Credential conversion can therefore fail before an employer evaluates the credential.

4.4 Graduate unemployment confirms that credentials do not neutralize gender

Ahsan and Khan's (2023) disaggregation of the same LFS round sharpens this result among graduates. Overall graduate unemployment is 16.1%, but it is 8.8% for men and 33.8% for women. The gender difference appears in most reported fields. Female unemployment is 42.6% among engineering graduates compared with 22.2% among men, 51.5% among computer graduates compared with 16.7%, and 18.4% among medical graduates compared with 6.1%. Agriculture is an exception in the reported table, where male graduate unemployment is higher.

Place also matters. Graduate unemployment is approximately 22% in rural areas and 12% in urban areas, even though overall unemployment in the LFS is higher in urban Pakistan (Ahsan & Khan, 2023). Young graduates aged 21-29 face the highest graduate unemployment in most fields. These differences are difficult to explain through a single claim of inadequate individual skill. The same educational category has different labour-market outcomes depending on gender, field, age, and geography. Credentials carry an exchange value, but the exchange rate is institutionally variable

Table 2. Formal and informal non-agricultural employment by education, 2020-21

Education level	Formal %	Informal %
No formal education	15.6	84.4
Primary but below middle	15.5	84.5
Middle but below matric	19.3	80.7
Matric but below intermediate	28.6	71.4
Intermediate but below degree	42.0	58.0
Degree and above	71.3	28.7

Note. Percentages are conditional on non-agricultural employment. Source: PBS (2022), Figure 4.6.

Table 3. Youth transition indicators by sex, ages 15-24

Youth indicator, age 15-24	Total %	Male %	Female %	Female-male gap (pp)
Employment-to-population ratio	38.9	58.2	18.8	-39.4
Labour-force participation rate	43.8	64.7	21.9	-42.8
Unemployment rate	11.1	10.0	14.4	+4.4
NEET rate	32.5	10.5	55.3	+44.8

Note. NEET = not in employment, education, or training; pp = percentage points. Source: PBS (2022), Table 3.5 and SDG Indicator 8.6.1.

Table 4. Graduate unemployment by field and sex, 2020-21

Graduate category	Overall %	Male %	Female %
All graduates	16.1	8.8	33.8
Engineering	23.5	22.2	42.6
Medicine	10.8	6.1	18.4
Computer	22.6	16.7	51.5
Agriculture	29.4	32.1	26.8
Other degree subjects	16.1	8.1	35.2
MPhil/PhD	12.2	6.9	20.2

Note. Figures are microdata-based estimates reported by Ahsan and Khan (2023) using LFS 2020-21. The "other degree subjects" category excludes separately reported engineering, medicine, computer, and agriculture degrees.

5. Discussion

The results support a sociological interpretation of education-to-work transition built around conditional conversion. Pakistan's educational hierarchy is associated with three processes that are often collapsed into one. Education increases labour-market attachment. It greatly increases the likelihood that an employed non-agricultural worker is located in the formal sector. At the same time, higher educational groups, especially graduates, are disproportionately concentrated among the unemployed. These processes are compatible once employment is treated as a constrained institutional allocation rather than an automatic return to skill.

The degree category illustrates this most clearly. Degree holders are only 6.1% of the working-age population reported in Table 3.4 of the LFS and 9.2% of the labour force, yet they comprise 23.5% of unemployment. Once employed outside agriculture, however, 71.3% are in the formal sector. A degree therefore has substantial positional value, but too many people are competing for the positions in which that value can be realized. This is close to the job-queue logic anticipated by Thurow (1975) and the credential inflation problem described by Collins (1979). Educational expansion alters the composition and expectations of labour supply; it does not by itself create a matching occupational structure.

The finding also qualifies the language of "employability." Employability discourse often relocates labour-market difficulties inside the graduate: communication skills, digital competence, soft skills, entrepreneurship, or insufficient practical training. Some of these deficits are real. Pakistan's weak university-industry linkages and curricular mismatch deserve attention (Ahsan & Khan, 2023; Nazir & Hina, 2023). Yet an explanation centred mainly on individual deficits is inadequate when unemployment rises simultaneously among engineering, computing, agriculture, and other graduates, and when the formal sector strongly rewards education among those it does employ. The structure is producing both selective reward and excess credentialed supply.

The credential conversion gap is therefore not a synonym for unemployment. It describes the institutional distance between qualification and realization. For some graduates the gap appears as prolonged job search. For others it appears as field mismatch, overqualification, or informal work. For many women it appears one stage earlier as non-entry. The distinction matters because policies appropriate to one mechanism can be ineffective for another. A short course in interview skills cannot create professional vacancies. An internship cannot solve a mobility restriction that prevents a woman from commuting.

More university places do not automatically alter employer demand.

Gender provides the strongest evidence that credentials are socially conditional. Female graduates are substantially more unemployed than male graduates, while female youth are several times more likely to be NEET. The persistence of a large gap in both rural and urban areas suggests that geography alone does not account for it. The results are consistent with research showing that women's paid work in Pakistan is mediated by mobility restrictions, social expectations, unpaid care, job respectability, and the male breadwinner model (Majid & Siegmann, 2021; World Bank, 2022). Education can expand aspirations and capabilities while leaving the surrounding organization of work and family partially unchanged.

This is also why the unemployment rate should not be treated as the sole measure of a successful school-to-work transition. A labour-market indicator based only on active job seekers can understate gendered exclusion. The 14.4% unemployment rate among female youth appears serious but manageable. The 55.3% female NEET rate describes a different social reality. It indicates that the problem is not only competition for jobs but weak connection to the institutions that organize further education, training, and paid work. For sociologists of education, the transition is therefore a question of institutional linkage as much as educational attainment.

Rural graduate unemployment adds another layer. Ahsan and Khan (2023) report a rate of about 22% in rural areas against 12% in urban areas, reversing the overall rural-urban pattern of unemployment. Higher education may raise occupational expectations and specialization while suitable graduate jobs remain concentrated in urban labour markets. The result can be a spatial conversion penalty. Migration may solve it for those with resources and permissive household arrangements, while others remain locally overqualified or unemployed. For women, migration and commuting are themselves gendered resources.

The policy implication is not to reduce higher education. Pakistan still faces severe educational inequality, and the formal-sector results show that schooling remains valuable. The implication is to stop treating expansion of credentials as a complete employment policy. Demand-side job creation in sectors capable of absorbing skilled labour is necessary. Universities need stronger placement systems, field-sensitive labour-market intelligence,

and structured work-based learning, but these measures should be tied to actual employer demand rather than used as substitutes for it. The particularly high unemployment reported among engineering, computing, and agriculture graduates suggests that planning must become discipline-specific.

Gender policy requires a different layer of intervention. Safe and reliable mobility, childcare, anti-harassment enforcement, flexible but protected work arrangements, and employer practices that normalize women's long-term careers can affect whether educational capital reaches the labour market. Legal reforms are relevant, but implementation and the organization of everyday mobility matter as much as formal rights (World Bank, 2022). The very large NEET gaps indicate that labour policy, education policy, transport policy, and care infrastructure cannot be analytically separated.

There are limits to the evidence. The aggregate LFS tables do not allow multivariate tests of whether gender differences persist after controlling for household income, marital status, parental education, field, district, or family structure. The education categories are broad, and rounded population estimates introduce small approximation errors into derived rates. The survey period also overlaps the COVID-19 pandemic, which disturbed employment and may have intensified transition difficulties. Ahsan and Khan's comparison with 2018-19 nevertheless shows that graduate unemployment was already high before the focal round and worsened in several fields. More recent PBS reporting under revised international labour-statistics standards continues to show high youth unemployment and a large gendered NEET gap, suggesting that the structural question has not disappeared (PBS, 2022).

Future research should use the public LFS microdata to estimate individual-level transition models, especially education-by-gender and education-by-rurality interactions. Longitudinal graduate tracking would be even stronger because conversion unfolds over time. It would distinguish temporary search from durable exclusion and identify when family resources, networks, mobility, and institutional prestige alter the trajectory from graduation to first stable job.

6. Conclusion

Pakistan's labour market does not make education irrelevant. It makes its value conditional. Higher educational attainment is associated with stronger

labour-market participation and a much greater probability of formal-sector employment among those who obtain non-agricultural work. Yet graduates are also heavily overrepresented among the unemployed. The same system can therefore reward education and fail to absorb the educated.

Gender exposes the boundary of credential-centred explanations. Young women's low participation and exceptionally high NEET prevalence indicate that many transitions fail before job matching begins. Even among graduates who enter the labour force, unemployment is far higher for women. These patterns are better understood as a problem of conversion across institutions than as a deficit contained inside individual graduates.

The practical question is consequently more demanding than whether Pakistan should produce more graduates or teach them more employability skills. It is whether the economy, universities, households, transport systems, and employers jointly provide credible routes through which educational capital can become occupational position. A credential has no fixed labour-market value. Its value is realized through an opportunity structure, and that structure remains sharply unequal.

Declarations

Ethics statement: The study uses publicly available aggregate statistical outputs and secondary published analyses. No identifiable individual-level data were accessed and no human participants were recruited. Ethical approval was not required.

Data availability: The Pakistan Labour Force Survey reports, statistical tables, questionnaires, coding schemes, and public microdata links are available from the Pakistan Bureau of Statistics Labour Force Statistics portal. Derived values reported in this article can be reconstructed from the cited tables.

Conflict of interest: The authors declare no conflict of interest.

Funding: No external funding was received for this study.

References

- Ahsan, H., & Khan, M. J. (2023). Disaggregating the graduate unemployment in Pakistan (Knowledge Brief No. 100). Pakistan Institute of Development Economics.
- Becker, G. S. (1964). Human capital: A theoretical and empirical analysis, with special reference to education. University of Chicago Press.
- Biagi, F., Castano Munoz, J., & Di Pietro, G. (2020). Mismatch between demand and supply among higher education graduates in the EU. Joint Research Centre, European Commission.
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). Greenwood.
- Brown, P., Hesketh, A., & Williams, S. (2004). *The mismanagement of talent: Employability and jobs in the knowledge economy*. Oxford University Press.
- Collins, R. (1979). *The credential society: An historical sociology of education and stratification*. Academic Press.
- Doeringer, P. B., & Piore, M. J. (1971). *Internal labor markets and manpower analysis*. Heath Lexington Books.
- Farooq, S. (2011a). Mismatch between education and occupation: A case study of Pakistani graduates. *The Pakistan Development Review*, 50(4), 531-553. <https://doi.org/10.30541/v50i4Ipp.531-553>
- Farooq, S. (2011b). The utilisation of education and skills: Incidence and determinants among Pakistani graduates. *The Pakistan Development Review*, 50(3), 219-244. <https://doi.org/10.30541/v50i3pp.219-244>
- Farooq, S. (2015). Job mismatches in Pakistan: Is there some wage penalty to graduates? *The Pakistan Development Review*, 54(2), 147-164.
- Hirshleifer, S., McKenzie, D., Almeida, R., & Ridao-Cano, C. (2016). The impact of vocational training for the unemployed: Experimental evidence from Turkey. *The Economic Journal*, 126(597), 2115-2146. <https://doi.org/10.1111/econj.12211>
- International Labour Organization. (2022). Youth not in employment, education or training in Asia and the Pacific: Trends and policy considerations. ILO.
- Kabeer, N. (1999). Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and Change*, 30(3), 435-464. <https://doi.org/10.1111/1467-7660.00125>
- Majid, H., & Siegmann, K. A. (2021). The effects of growth on women's employment in Pakistan. *Feminist Economics*, 27(4), 29-61. <https://doi.org/10.1080/13545701.2021.1942512>
- Mincer, J. (1974). *Schooling, experience, and earnings*. Columbia University Press.
- Mukhtyar, M., Saleem, K., & Iqbal, Z. (2021). Higher education enrollment trend and job opportunities in Pakistan: A subject-based comparison. *Ilkogretim Online*, 20(5).
- Nazir, S., & Hina, H. (2023). What's your degree worth? Return to education, employability, and upskilling workforce in Pakistan (Knowledge Brief No. 101). Pakistan Institute of Development Economics.
- Pakistan Bureau of Statistics. (2022). *Pakistan Labour Force Survey 2020-21*. Government of Pakistan.
- Schofer, E., & Meyer, J. W. (2005). The worldwide expansion of higher education in the twentieth century. *American Sociological Review*, 70(6), 898-920. <https://doi.org/10.1177/000312240507000602>
- Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355-374. <https://doi.org/10.2307/1882010>
- Thurow, L. C. (1975). *Generating inequality: Mechanisms of distribution in the U.S. economy*. Basic Books.
- World Bank. (2022). Supporting legal reforms to increase women's workforce participation in Pakistan. World Bank.