

Graduate Unemployment and Skill-Related Underemployment in Malaysia

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Abstract

Malaysia's graduate unemployment rate declined during 2020–2024, but a substantial share of employed graduates continued to work in occupations classified below the skilled level. This descriptive study distinguishes between access to employment and occupational placement using the Department of Statistics Malaysia's (DOSM) Graduates Statistics 2024 release. The published aggregate series shows graduate unemployment falling from 4.4% in 2020 to 3.2% in 2024, while skill-related underemployment rose from 29.5% to 32.2% over the same period. In 2024, 1.60 million graduates were skill-related underemployed, and the rate among employed graduates aged 24 years and below reached 66.0%. The gap between the overall graduate median monthly wage of RM4,521 and the median for graduates in semi-skilled occupations of RM2,550 further illustrates differences in occupational outcomes. The evidence describes a coexistence of low unemployment and persistent occupational underutilization; it does not identify causes or prove that individual skills are mismatched. The contribution is a three-part monitoring distinction between employment access, occupational placement and earnings quality, and a proposal to use longitudinal and employer-linked data to distinguish transitions into suitable work from persistent underemployment.

Keywords: Graduate Employment, Skill-Related Underemployment, Occupational Placement, Malaysia, Dosm

Introduction

A low unemployment rate does not fully capture how effectively an economy uses graduate education. A graduate who works in a semi-skilled occupation is counted as employed even when that occupation is classified below the skilled level. Malaysia provides a timely setting for examining this distinction. The Department of Statistics Malaysia (DOSM, 2025) reported a graduate unemployment rate of 3.2% in 2024, alongside a skill-related underemployment rate of 32.2%. The two measures use different denominators and capture different dimensions of labour market performance. Their coexistence warrants analysis rather than assuming that declining unemployment resolves graduate labour market concerns.

Existing research provides important foundations for interpreting graduate labour market outcomes. Human capital theory explains why education may improve productivity and earnings (Becker, 1964), while signaling theory explains how qualifications may influence employer selection (Spence, 1973). Research on skills mismatch distinguishes overeducation from skills underuse and other forms of mismatch, showing that these measures capture different problems (McGuinness et al., 2018). These contributions establish the importance of education, placement, and remuneration, but do not, by themselves, provide an operational way to read Malaysia's published graduate employment, occupational, and wage indicators together. The gap addressed here is therefore one of descriptive integration and interpretation, rather than the absence of research on graduate mismatch or a claim that these dimensions are newly discovered.

This distinction matters in Malaysia because published indicators can move in different directions. Between 2020 and 2024, graduate unemployment fell from 4.4% to 3.2%, whereas skill-related underemployment increased from 29.5% to 32.2% in the endpoint comparison (DOSM, 2025). An assessment based only on unemployment would therefore miss the continued concentration of employed graduates in semi-skilled and low-skilled occupations. The 2024 underemployment rate of 66.0% among employed graduates aged 24 years and below also underscores the need to distinguish between obtaining a job and progressing into skilled work. Occupational wage differences add another dimension: employment and occupational classification alone do not determine remuneration levels. Moreover, DOSM's graduate population includes diploma and degree holders, not only a newly graduating university cohort, and its occupational classification is a proxy, not a direct assessment of individual skills use. These features require careful interpretation before drawing conclusions about graduate employability or the returns to education.

The three-part monitoring framework advances descriptive analysis by organizing these established measures into a common reporting structure with explicit populations, denominators, and interpretive limits. Employment access concerns labour force participation and obtaining work; occupational placement concerns the skill category of the work obtained; and earnings quality concerns observed pay outcomes. Reading the dimensions together lets us identify whether improved access coincides with improved placement and remuneration, rather than treating any one indicator as evidence of overall success. The framework connects the mismatch literature's measurement cautions to a practical interpretation of DOSM statistics and provides a basis for specifying future cohort and employer-linked research. Its contribution is an integrated monitoring approach, not a new causal theory, a composite employability index or a direct measure of competencies. Here, earnings quality is limited to published wage medians and does not encompass all aspects of job quality.

This paper asks: How did graduate unemployment and skill-related underemployment change from 2020 to 2024, and what can the published DOSM figures reveal about age and earnings? Applying the framework to Malaysia, the study shows how aggregate evidence can distinguish improved employment access from occupational underutilization and pay differences. It does not estimate the causal effect of education, training, or policy, nor can it determine whether underemployment represents a temporary transition or persistent disadvantage for the same individuals.

Conceptual Background

Human capital theory treats education and training as investments that can increase productivity and earnings (Becker, 1964). Signaling theory also suggests that educational credentials may signal productivity when employers cannot directly observe it (Spence, 1973). Neither perspective implies that every graduate will immediately enter a skilled occupation. Job availability, employer screening, field of study, location, experience and personal preferences may all affect placement, but the published aggregates used here do not identify the relative contribution of these mechanisms.

McGuinness et al. (2018) distinguish overeducation, skills underuse and related mismatch concepts and caution that different measures need not identify the same people or mechanisms. DOSM's occupational indicator classifies employed graduates in semi-skilled or low-skilled occupations as skill-related underemployed (DOSM, 2025). In this paper, we interpret the indicator as a proxy for occupational classification. It does not directly measure an individual's competencies, the tasks performed at work, voluntary job choices, or subjective job satisfaction. The International Labour Organization (2024a) likewise identifies educational mismatch as a relevant youth employment issue, providing international context without supplying causal evidence for Malaysia.

The three dimensions are related but cannot be collapsed into a single employability score. Employment access precedes observed occupational placement; both may be associated with earnings. Education, work experience, region, labour demand and selection influence these relationships. Figure 1 depicts a monitoring framework, not a statistically estimated pathway. In Malaysia, the World Bank (2026) similarly places skill-related underemployment alongside low unemployment and stresses the importance of productive, better-paid jobs. This interpretation supports measuring occupational and pay outcomes without treating a graduate's credentials as a direct measure of tasks or productivity.

ASEAN's regional mapping of labour market information identifies the need for coherent data systems to support skills and employment policy (ASEAN Secretariat, 2024). The ILO's ASEAN assessment foregrounds inclusive employment challenges for young people (International Labour Organization, 2024b). These regional publications support comparable monitoring, but their populations and measures cannot directly replace DOSM's graduate series.

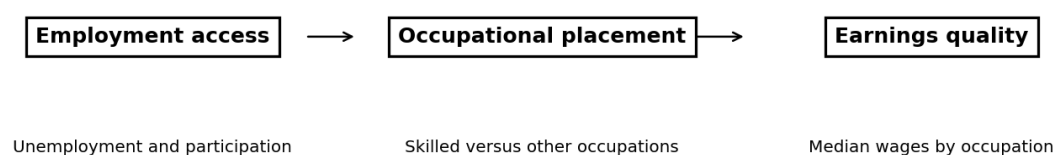


Figure 1 Three-part graduate outcomes monitoring framework. Arrows organize reporting and do not claim causation.

Method

Data and Scope

This is a descriptive secondary analysis of publicly released DOSM aggregates. The main source is Graduates Statistics 2024, released on October 31, 2025, which includes a 2020–2024 series and 2024 age, employment and earnings figures (DOSM, 2025). DOSM defines graduates as people whose highest certificate comes from universities, colleges, polytechnics, recognized bodies or equivalent institutions after at least two years of study. The population is therefore wider than newly graduating university degree holders. The latest graduate annual release identified at the time of preparation is for reference year 2024; 2025 graduate statistics are scheduled for release in November 2026 (DOSM, 2026).

Measures and Analysis

The graduate unemployment rate is unemployed graduates divided by graduates in the labour force. The skill-related underemployment rate concerns employed graduates in semi-skilled and low-skilled occupations divided by employed graduates. The graduate labour force participation rate is the share of graduates in the labour force. We transcribed published rounded percentages and totals; percentage-point changes are simple differences between reported rates. Wage comparisons are descriptive comparisons of published medians, not estimates of an individual wage penalty. No inferential significance tests, regression or unpublished microdata are used.

Table 1

Definitions and Interpretation of the Three Monitoring Dimensions

Dimension	DOSM measure	Interpretive limit
Employment access	Graduate unemployment rate; graduate labour force participation	Unemployment excludes graduates not in the labour force.
Occupational placement	Skill-related underemployment among employed graduates	Occupation classification is a proxy, not a direct skills test.
Earnings quality	Graduate median wage and occupation-specific median wages	Group medians do not estimate an individual wage penalty.

Note. The categories are an author-developed monitoring framework based on the published DOSM measures (Department of Statistics Malaysia, 2025).

Results

Trends in Labour Force Outcomes

Table 2 shows that graduate unemployment declined from 4.4% in 2020 to 3.2% in 2024, a change of –1.2 percentage points. The skill-related underemployment rate rose from 29.5% to 32.2% over the same period, or +2.7 percentage points, although it peaked at 34.2% in 2022 and then eased. The graduate labour force participation rate rose from 85.0% to 86.0%. Thus, the endpoint comparison should not be mistaken for a continuously increasing underemployment trend.

Table 2

Graduate Labour Market Indicators in Malaysia, 2020–2024

Indicator	2020	2021	2022	2023	2024
Unemployment rate (%)	4.4	4.1	3.7	3.4	3.2
Skill-related underemployment (%)	29.5	33.8	34.2	32.4	32.2
Labour force participation (%)	85.0	85.0	85.4	85.7	86.0

Note. Rates are transcribed from DOSM's published charts. Unemployment uses the graduate labour force as the denominator; skill-related underemployment uses employed graduates.

Source: Department of Statistics Malaysia (2025), pp. 7–8.

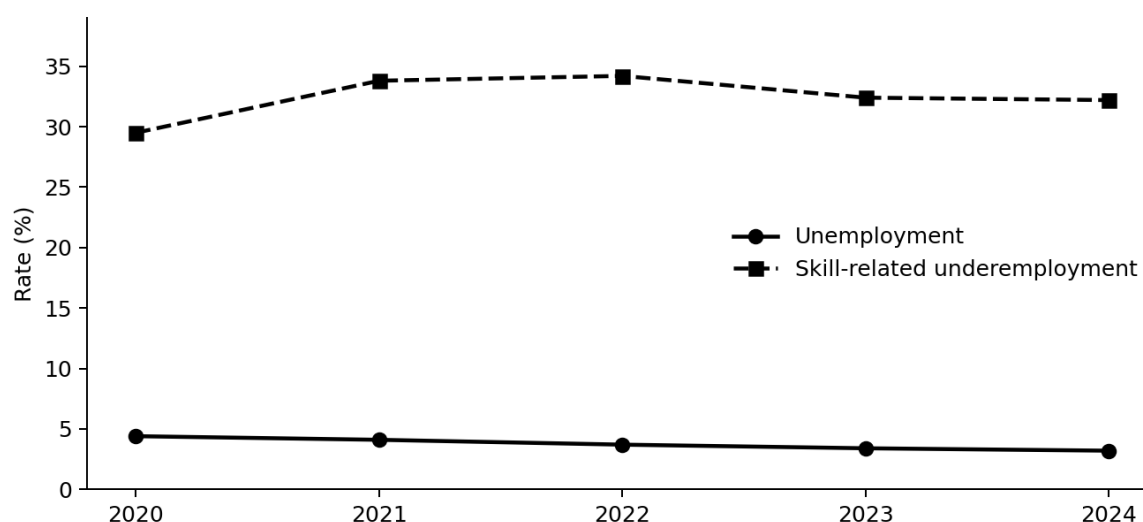


Figure 2. Graduate unemployment and skill-related underemployment rates, 2020–2024. Different denominators; source: Department of Statistics Malaysia (2025), pp. 7–8.

The 2024 Employment and Age Profile

DOSM (2025) estimated 5.98 million graduates in 2024; of these, 5.14 million were in the labour force, and 4.98 million were employed. Unemployed graduates numbered 165,900, compared with 167,300 in 2023. Among employed graduates, 3.38 million (67.8%) were in skilled occupations, 1.54 million (31.0%) in semi-skilled occupations and 57,500 (1.2%) in low-skilled occupations. The combined latter categories correspond to approximately 1.60 million skill-related underemployed graduates; rounding accounts for minor differences between component totals and the published aggregate.

The age gradient was pronounced: the skill-related underemployment rate for employed graduates aged 24 years and below was 66.0%, versus 18.6% for those aged 45 years and above (DOSM, 2025). The 47.4-percentage-point gap is descriptive. These age groups differ in experience and cohort composition, and the cross-sectional comparison cannot show how the same individuals progress over time. It also should not be read as a 66.0% unemployment rate among recent graduates.

Earnings by Occupational Category

The median monthly salary and wage for graduates was RM4,521 in 2024, up from RM4,409 in 2023. DOSM (2025) reported medians of RM5,723 in skilled occupations, RM2,550 in semi-skilled occupations, and RM1,990 in low-skilled occupations. The median gap between skilled and semi-skilled occupations was RM3,173 per month. This comparison describes two

occupational groups; it cannot be interpreted as the causal earnings loss from underemployment because experience, hours, sector, location, and other characteristics may differ. The overall median also reflects the composition of employed graduates across categories.

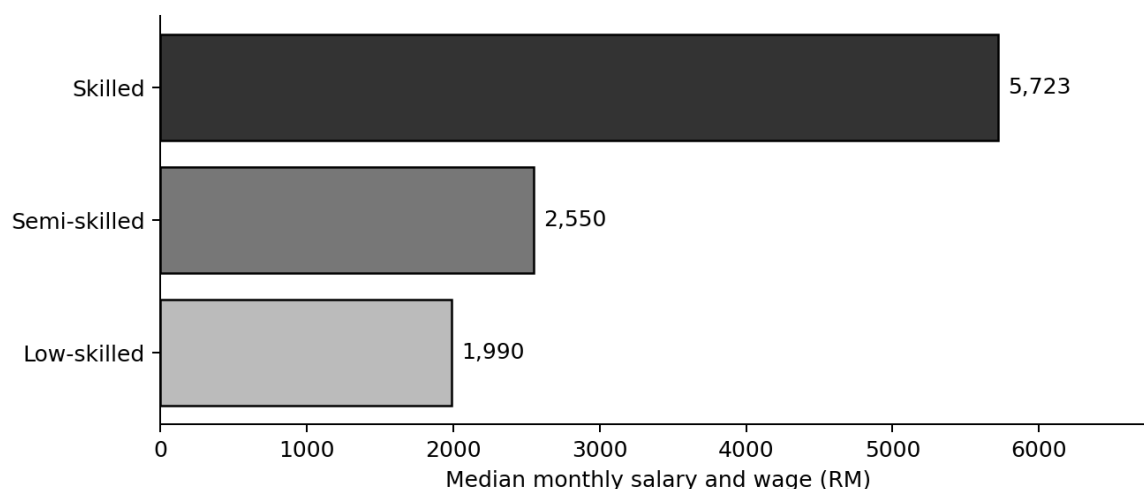


Figure 3. Graduate median monthly salary and wage by occupational category in 2024. Group comparison; source: Department of Statistics Malaysia (2025), p. 4.

Discussion

The results show why graduate labour market reporting benefits from multiple indicators. Falling unemployment reflects genuine progress in access to work, while occupational underemployment reflects a different, persistent concern. The underemployment rate declined by 2.0 percentage points from its 2022 peak to 2024, yet its absolute count rose from about 1.20 million in 2020 to 1.60 million in 2024 as the graduate workforce expanded (DOSM, 2025). A fall rate and a growing count can therefore coexist. Presenting only one measure would obscure part of the outcome distribution.

Several explanations remain plausible but untested here. New entrants may accept intermediate jobs while gaining experience; firms may offer fewer skilled openings than graduates seek; or skill and job requirements may vary across fields and regions. The particularly high rate among younger graduates is consistent with a transition challenge, but the data cannot establish whether such jobs are temporary steppingstones. Nor can an occupation label establish that every person's learning is unused. The measurement caution in McGuinness et al. (2018) is especially relevant when translating an occupational proxy into the broader language of "skills mismatch."

The proposed three-part framework addresses the interpretive gap identified in the introduction by integrating established measures while retaining their distinct meanings and denominators. Access captures whether graduates participate in the labour force and find work. Placement identifies the occupational category of those employed. Earnings quality describes observed pay outcomes within and across these categories, with published medians providing only a partial view. A favourable change in one dimension does not logically establish an improvement in another. The framework therefore makes the coexistence of falling unemployment, occupational underutilization and occupational wage differences visible in a common reporting structure without treating those relationships as

causal. The World Bank (2026) also links labour productivity and job quality to higher-productivity firms' capacity to expand, suggesting that institutional training alone is unlikely to explain the full pattern. Its separate modeling should not be confused with this paper's causal estimate.

Policy and Research Implications

A practical reporting dashboard could publish graduate unemployment, occupational placement, age-specific underemployment, and earnings distributions together. Institutions could track cohorts beyond initial employment, recording field of study, contract quality, and movement between occupational categories at 6, 12, and 24 months. Employer feedback on tasks and required competencies would help test whether occupational classifications correspond to actual skills use. These are proposals derived from the descriptive pattern, not interventions demonstrated to work by this analysis.

Evaluation should distinguish entry into any employment from entry into suitable employment. A credible future study might link graduate tracer records with employer or administrative data, compare cohorts within fields and regions, and follow individuals over time. Even then, selection into training and employment would need careful treatment before attributing improvements to a programme. Policymakers can use the DOSM aggregates to identify a monitoring priority, while avoiding causal claims that the aggregates cannot support.

Limitations

This study uses rounded aggregate data rather than person-level observations. It cannot control for field of study, gender, region, occupation detail, job tenure, or self-employment, and it cannot estimate uncertainty around rates. The graduate definition includes diploma and degree holders and is not synonymous with a single annual graduating class. The DOSM skill-related measure uses occupational skill categories rather than direct task assessments. Salary medians by category are not adjusted for worker characteristics. Finally, the principal annual graduate series ends in 2024; newer monthly labour market figures measure different populations and do not update these specific graduate estimates.

Conclusion

Malaysia's 2024 graduate unemployment rate of 3.2% indicates improved access to employment, but 32.2% of employed graduates remained in semi-skilled or low-skilled occupations. The especially high rate among those aged 24 and below, along with occupational wage differences, makes job quality and progression important research questions. Current evidence supports continued monitoring and better-linked data; it does not identify the causes of underemployment or establish the effectiveness of any remedy.

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