INTERNATIONAL JOURNAL OF ECONOMICS AND FINANCE STUDIES
Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219
Received: 01.01.2025 | **Accepted:** 19.04.2025 | **Published Online:** 30.05.2025

-RESEARCH ARTICLE-

STRUCTURAL DISPARITIES BETWEEN ECONOMICS EDUCATION OUTPUT AND LABOUR MARKET DEMAND: EVIDENCE FROM LONGITUDINAL DATA ON BUSINESS GRADUATES

Fengyuan Guo

PHD Candidates, Education school, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia, 43000
ORCID: https://orcid.org/0009-0001-3388-2340
Email: javityguo@icloud.com

Muhammad Hussin

Prof, Education school, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia, 43000
ORCID: https://orcid.org/0000-0001-9772-1565
Email: mzuber@ukm.edu.my

Mohamad Zuber Abd Majid

PHD Candidates, Education school, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia, 43000
ORCID: https://orcid.org/0000-0001-5434-5926
Email: directorshape@ukm.edu.my

─Abstract─

This investigation examines the structural misalignment between the outcomes of economics instruction and the capabilities sought within the labour market, drawing upon a continuous dataset that tracks business graduates across a five-year span. Although the university is recognised for its robust academic standing, a noticeable drop in employment uptake among economics graduates indicates a disconnect between the competencies embedded within the curriculum and the proficiencies organisations expect. Adopting a longitudinal approach, the analysis synthesises graduate-level academic and employment information with labour market indicators obtained from

Citation (APA): Guo, F., Hussin, M., Majid, M. Z. A. (2025). Structural Disparities between Economics Education Output and Labour Market Demand: Evidence from Longitudinal Data on Business Graduates. *International Journal of Economics and Finance Studies*, 17(02), 384-406. doi: 10.34109/ijefs.2025170219

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

regional recruitment advertisements and employer-based surveys. Competency mapping, indices designed to assess skill congruence, and regression analyses are utilised to measure the extent to which educational outputs correspond with workplace expectations. The outcomes demonstrate pronounced deficiencies in core capabilities including analytical handling of data, critical problem-solving, and effective communication, all of which are instrumental for occupational achievement. Responses from employers reinforce these observations, offering further clarity regarding skill areas insufficiently represented in current instructional frameworks. The inquiry ends by proposing targeted curricular refinements such as embedding applied learning components, fostering industry-focused project work, and widening collaboration with employers, with the objective of enhancing graduate readiness for the continuously shifting labour market landscape.

Keywords: Economics Education, Labour Market Demand, Skill Alignment, Graduate Employability, Curriculum Reform.

INTRODUCTION

As digital transformation accelerates global interconnections and reshapes industrial norms, institutions of higher education, particularly those focused on economics and business disciplines, are increasingly required to address the evolving expectations of the labour market. Yet the design of university provision has long exhibited a structural disconnect from the specific skill sets articulated by employers (Salas-Velasco, 2021). Although human capital formation continues to progress, higher education remains a central societal institution while simultaneously confronting the rapid shifts in organisational models and emerging competency demands. Traditionally, economics and business curricula emphasise theoretically driven, analytically intensive frameworks; however, they frequently neglect the interdisciplinary and technologically oriented proficiencies now essential in professional environments (Becker & Blossfeld, 2022). Consequently, graduate outcomes often include underemployment or misalignment between academic preparation and workplace roles (Jackson & Li, 2022). Such mismatch not only impedes the professional advancement of individuals but also restricts the development of a workforce equipped to generate innovation and contribute to sustainable economic growth (Cheng, 2021).

Despite these circumstances, institutional responses tend to be inconsistent and predominantly reactive. Curriculum adjustments are typically triggered by periodic internal evaluations rather than continuous engagement with labour market intelligence and employer consultations (Andersson, 2021). In the absence of sustained dialogue with industry stakeholders and longitudinal monitoring of graduate performance, outdated instructional practices risk being perpetuated, leaving graduates inadequately prepared for fast-changing economic contexts (Alanazi & Benlaria, 2023; Lysenko & Wang, 2023). Reducing these enduring discrepancies necessitates the incorporation of

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

long-term evidence and market-responsive analytical mechanisms into curriculum planning processes to ensure stronger graduate employability and alignment with professional competency requirements.

The increasing availability of longitudinal datasets creates a crucial avenue for addressing these structural imbalances between economics education and labour market expectations. Through the examination of graduate outcomes over a five-year duration, complemented by regional recruitment data and employer perspectives, this study identifies ongoing misalignment between the skillsets cultivated through economics programmes and those sought in contemporary employment contexts. Although institutional academic quality remains strong, the decline in graduate employment rates points towards significant capability shortfalls in areas such as data interpretation, analytical problem-solving, and effective communication. While real-time labour analytics reveal shifting industry needs, curriculum reform frequently lags behind, characterised by incremental and fragmented adjustments lacking sustained collaboration with employers. Against this background, the central goal of the present study is to determine the depth and characteristics of alignment between economics education outputs and labour market skill demands. By drawing upon longitudinal graduate evidence and employer feedback, the aim is to support more informed curriculum enhancement and strengthen graduates' readiness for the dynamic employment landscape.

Learning Objectives

- Critically appraise the influence of curricular provisions on graduates' employability outcomes.
- Employ regression analysis alongside thematic coding to investigate educational phenomena.
- Analyse longitudinal patterns in skill alignment and the integration of graduates into the labour market.
- Formulate actionable, evidence-based policy and curricular recommendations.

Discussion Questions

- Which structural and institutional dynamics contribute to the continuing gap between university curriculum design and evolving labour market expectations?
- In what ways can the university improve graduate employability while still safeguarding academic quality and disciplinary rigour?
- How does the use of longitudinal data assist in uncovering significant trends in employability and skill development, and how does this evidence inform curriculum reform?
- What mechanisms can be implemented to embed employer input regularly and systematically into curriculum development so that academic programmes remain

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

relevant and responsive to industry needs?

RELATED WORKS

Existing scholarship examining the discrepancies between economics and business education and the requirements of the labour market is reviewed, with attention given to the principal methodologies and findings that inform the rationale for a more integrated and adaptable framework. Researchers have explored this issue through diverse strategies, including analyses of employer perspectives, labour market intelligence, graduate progression data, and curriculum comparison exercises (Salem et al., 2024). Each of these approaches is selected according to whether the intention is to capture immediate shifts in skill demand or to assess the longer-term outcomes of educational provision. Despite their respective strengths, these methods remain constrained by limited real-time relevance, insufficient engagement with crucial stakeholders, and weak connections to curriculum improvements that can be implemented in practice.

Table 1: Problem Formulation of the Conventional Techniques

Author(s)	Techniques Involved	Advantages	Disadvantages
(Salem et al., 2024)	Longitudinal investigation of learning delivery modes (online, hybrid, in-person)	Provides evidence on how instructional formats influence student performance	Does not examine employability outcomes or labour market skill demands
(Ariansyah et al., 2024)	Comparative labour market analysis of vocational versus general graduates in Indonesia	Demonstrates strong employability resilience of vocational graduates during economic disruption	Geographically limited study with minimal emphasis on curriculum design or reform
(Ngo et al., 2025)	Multi-layered analytical model of the skills ecosystem	Integrates perspectives from policy, employers, and the workforce to show systemic skills dynamics	Lacks direct assessment of curriculum content or pedagogical alignment
(Brophy et al., 2025)	Survey-based analysis of graduate job satisfaction, skills utilisation and career progression	Captures subjective labour outcomes across diverse academic fields	Employer viewpoints absent, restricting validation of skill relevance
(Chigbu & Makapela, 2025)	Case studies on data-enabled higher education leadership linked to SDG objectives	Connects higher education transformation with inclusive and future-oriented development goals	Conceptual focus with limited coverage of specific skill gaps or training needs

The methodological approaches and their contributions are consolidated in Table 1. Overall, the reviewed literature highlights the fragmented and ad hoc nature of current investigations, underscoring the necessity for a more coherent, evidence-driven model such as the one advanced in this study.

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

Salem et al. (2024) conducted a longitudinal enquiry into the academic progression of business administration students undertaking online, hybrid, and on-campus delivery formats. Their results highlight how modes of instruction influence student achievement and propose strategies for improved teaching effectiveness. Nonetheless, the evidence does not extend to curriculum alignment with labour market requirements nor does it address employability outcomes. (Ariansyah et al., 2024) examined differences in employment prospects between vocational and general education graduates in Indonesia under both stable and crisis conditions. Their findings indicate that vocational alumni display stronger labour market resilience, illustrating the benefits of skill-focused education. While relevant, this work does not explore curriculum adaptability or the degree to which programme design responds to employer needs.

Ngo et al. (2025) investigated Vietnam's skill ecosystems through a multi-layer framework that connects education policy, employer expectations, and observed workforce trends. Their comprehensive perspective demonstrates how systemic alignment can facilitate adaptability within future labour markets. Even so, the research does not delineate how such policy-level insights translate into concrete curricular initiatives within higher education institutions. Brophy et al. (2025) explored UK graduates' perceptions of meaningful employment, advancement opportunities, and skills utilisation, considering how these viewpoints vary by academic discipline. Their use of graduate surveys illuminates students' interpretations of the real-world relevance of their studies. However, the analysis excludes employer perspectives and does not assess demand-side expectations for specific competencies. (Chigbu & Makapela, 2025) advanced a framework for data-informed leadership in higher education, applying a case-based approach to support Sustainable Development Goals (SDGs). Their contribution lies in promoting inclusive and analytics-driven decision-making across university settings. Yet the study remains conceptual and does not identify specific skill deficiencies within academic programmes.

Recent literature consistently indicates a persistent divide between the aspirations of higher education and labour market priorities, particularly within economics and business disciplines. While (Salem et al., 2024) demonstrate that instructional formats influence performance, they overlook employability concerns. (Ariansyah et al., 2024) document the robustness of vocational pathways but do not address curriculum responsiveness. Although the systemic analysis by (Ngo et al., 2025) provides vital insights into policy-workforce alignment, it lacks curriculum-level implications. Brophy et al. (2025) highlight graduate perceptions without integrating employer feedback, and the strategic framework proposed by (Chigbu & Makapela, 2025) does not identify concrete skill gaps. Collectively, these studies reveal a limited focus on structural discrepancies between economics education and job market needs. With rising demand for analytical capability, communication competence, and effective problem-solving, deficiencies in these skill domains remain evident in economics curricula. Despite access to real-time labour data, curricular evolution remains slow,

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

fragmented, and insufficiently shaped by industry participation, contributing to underemployment and skill misalignment among graduates.

Although prior research contributes valuable insights into education-employment linkages, the existing body of work tends to concentrate on isolated aspects rather than addressing the broader structural landscape. Studies of instructional delivery modes prioritise academic performance but do not assess post-graduation integration into the workforce. Analyses contrasting vocational and general education are confined geographically and lack attention to curriculum design implications. Investigations into skill ecosystems integrate employer and policy viewpoints yet remain detached from programme-specific learning outcomes. Graduate-focused evaluations exclude labour market analytics and employer perspectives, while strategic transformation models rarely translate aspirations into curricular reform that equips learners with skills for organisational innovation. Such fragmentation reflects the absence of a cohesive and action-oriented integrative structure that directly connects educational development with ongoing labour market requirements.

The aim of this study is to identify and assess the structural discrepancies between educational output and labour market expectations through quantitative examination of validated datasets. By analysing principal labour market indicators alongside measures of educational performance, the investigation will determine areas where curriculum-based skills diverge from those required in employment contexts. These differences will be statistically measured to develop a clearer understanding of the nature and scale of misalignment. Recommendations, including curriculum enhancement and strengthened collaboration with industry stakeholders, will be developed only after analysing and interpreting the structural gaps identified.

METHODOLOGY

This investigation applied longitudinal panel data techniques combined with competency mapping to examine the alignment between economics education and labour market expectations. The extent of divergence between skills prioritised by employers and those demonstrated through academic achievement was assessed through the use of a Skill Matching Index (SMI) and a Skill Alignment Index (SAI), constructed using vector-based comparisons and regression modelling. These analytical instruments provide actionable insights that can inform curriculum enhancement and strengthen graduate employability.

Case Synopsis: Structural Disparities between Economics Education Output and Labour Market Demand

A Curriculum Committee within a medium-sized university that delivers a Bachelor of Economics programme is confronted with an increasingly urgent challenge. Despite the institution's strong academic reputation, recent years have witnessed a notable

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

downturn in employment outcomes for business graduates. Employers across finance, marketing, and management sectors have reported examples of graduates lacking essential competencies such as data interpretation, analytical problem-solving, and effective communication, all of which are critical determinants of labour market success. At the core of the dilemma lies a pronounced disconnect between the learning outcomes embedded in the curriculum and the dynamic skill requirements of contemporary workplaces. To address this concern, the Committee must undertake a detailed evaluation of longitudinal graduate data to identify recurring patterns, emerging trends, and persistent skill deficiencies. This review will determine whether the capabilities cultivated during study are aligned with those sought by employers. On the basis of these insights, the Committee is required to formulate a strategy for revising the curriculum to better respond to industry expectations while maintaining academic depth. The ultimate objective is to strengthen graduate employability and ensure that the economics programme retains its relevance within a rapidly evolving labour market environment.

Data Collection and Panel Data Structure

To undertake a structured assessment of the disparity between outcomes of economics education and labour market demands, the Curriculum Committee employs a longitudinal design that utilises panel data spanning a five-year period (Van Mol et al., 2021). This dataset is derived from two principal sources: records specific to graduates' academic and employment performance, and indicators of employer requirements obtained through regional recruitment advertisements and labour market surveys. Graduate-level information includes measures such as academic performance (for instance, GPA), competencies developed during the programme (including analytical reasoning, quantitative capabilities, and communication), alongside post-graduation outcomes such as employment status, industry relevance of job placement, salary progression, and levels of occupational satisfaction. Concurrently, labour market demand data are sourced from job postings relevant to economics graduates, focusing on the frequency and priority of required skills such as data interpretation, financial modelling, and professional communication (Buenstorf et al., 2023). The organisation of these data elements into a panel format enables both cross-sectional and longitudinal examinations, allowing for a multidimensional understanding of how graduate capabilities evolve relative to shifts in industry expectations. This design facilitates the monitoring of individual graduate transitions while simultaneously tracking changes in employer requirements over time, thereby establishing a dynamic basis for evaluating educational effectiveness and informing curriculum revision (Uddin, 2021).

Competency Mapping

An essential stage in assessing the structural divergence between economics training and labour market expectations involves a systematic comparison of the competencies embedded within the academic curriculum and those prioritised by employers (Yue &

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

Zhao, 2020). This process commences with the Curriculum Committee conducting a detailed examination of course outlines, programme learning objectives, and assessment criteria to determine the range and depth of skills currently developed within the economics degree (Petrongolo & Ronchi, 2020). These encompass technical abilities such as statistical interpretation, econometric applications, and data analytics, alongside communication capabilities, collaborative work, and analytical reasoning. In addition, domain-specific competencies are included, such as financial modelling and policy analysis. Simultaneously, the Committee compiles a dataset of job postings directed at economics graduates across sectors including finance, marketing, consultancy, and the public sphere (Conti et al., 2024). These listings are analysed to extract the competencies employers most frequently request, typically clustered into recurring categories, for example expertise in spreadsheet functions, familiarity with data visualisation tools such as Tableau or Power BI, as well as transferable skills like leadership and problem resolution. To evaluate the extent of convergence or divergence between curriculum outputs and labour market skill demands, a SMI is computed, following the formulation presented in equation (1).

$$SMI = \frac{|C_e \cap C_J|}{|C_J|} \qquad (1)$$

In this formulation, C_e denotes the set of competencies identified within the educational curriculum, while C_j represents the competencies required in job vacancies. A lower SMI value signifies a wider discrepancy between the competencies taught and those demanded by employers, thereby emphasising the urgency of curriculum enhancement and labour-market alignment (Ozgen, 2021). This systematic comparison not only identifies precise skill deficiencies but also uncovers emerging competency areas that remain insufficiently incorporated into the current economics curriculum. A consolidated overview of these findings is summarised in Table 2.

Table 2: Key Data Sources and Metrics for Analysing Structural Disparities in Economics Education and Labour Market Demand

Category	Description	Data Source	Metrics
Graduate Data	Records of academic performance and post-graduation employment	Academic transcripts, graduate employment datasets	GPA, documented skills, job placement status, starting salary
Labour Market Data	Information on employer skill requirements in relevant sectors	Job advertisements, employer surveys	Frequency and ranking of in-demand skills (e.g. data analysis, communication)
Competency Mapping	Systematic comparison of curriculum learning outcomes with market skill needs	Course syllabi, programme learning outcomes, job postings	Alignment of curriculum competencies with employer expectations

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

Table 2: Key Data Sources and Metrics for Analysing Structural Disparities in Economics Education and Labour Market Demand (Cont…)

Category	Description	Data Source	Metrics
Skill Alignment	Quantitative assessment of curriculum–labour market congruence	Outputs from competency mapping	Skill Alignment Index (SAI)
Employment Outcomes	Evaluation of graduate labour market success as influenced by skill alignment	Employment data, career tracking reports	Job placement rate, salary progression, job satisfaction
Employer Feedback	Qualitative insights into graduate readiness and competency gaps	Semi-structured employer interviews, focus groups	Identified strengths and weaknesses in technical and soft skills
Curriculum Adjustments	Evidence-based improvements to enhance employability	Integration of quantitative and qualitative analysis	Proposed interventions (e.g. applied courses, industry projects, digital skills integration)

Skill Alignment and Disparity Quantification

Building upon the competency-mapping exercise, the Curriculum Committee proceeds to quantify the degree of alignment or misalignment between educational outputs and labour-market requirements by employing longitudinal cohort data (Moss-Pech, 2021). This phase is crucial for transitioning from descriptive evaluation to one grounded in empirical rigour when assessing curriculum effectiveness (Kyui & Radchenko, 2021). Accordingly, for each graduating cohort over a five-year period, a SAI is computed to measure the congruence between the competencies delivered through the economics programme and those identified as essential within employer expectations across relevant job sectors. Vector analysis has been used in the calculation of the SAI, where every competency has been encoded as a vector element, and the dot product between the education competency vector (C_e) and the market competency vector (C_m) is normalized with the magnitude of individual (C_e or C_m). The formula is presented in equation (2).

$$A_s = \frac{C_e.C_m}{\|C_e\|\|C_m\|} \qquad (2)$$

In this expression, A_s refers to Skill Alignment Index; A value closer to 1 means a high degree of conformity between curriculum and employers' expectations, while values near to 0 indicates significant difference. This mathematical representation establishes a standardised mechanism that enables the committee to compare alignment levels across different years, sectors, and graduating cohorts (Yu & Hsieh, 2022). By plotting SAI values over the five-year period, temporal variations become visible, allowing the committee to identify specific points at which curriculum reforms may have positively or negatively influenced graduate employability. Moreover, disaggregating SAI scores by industry domain or job category enables targeted intervention in areas where

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

misalignment is greatest, thus supporting evidence-based modifications to the economics curriculum (Hassan, 2025).

Longitudinal Analysis of Graduate Employment Outcomes

To deepen the evaluation, the committee conducts a five-year longitudinal assessment of graduate employment outcomes. This examination is essential in determining whether the competencies embedded in the curriculum lead to favourable labour market results such as higher job placement rates, competitive entry-level salaries, and sustained job satisfaction (Lu & Hou, 2020). Regression modelling is applied to estimate the association between SAI and labour market outcomes. The analytical structure is presented in equation (3), allowing examination of whether stronger alignment is statistically linked to improved employability indicators across the observed cohorts.

$$Employement\ Outcome = \beta_0 + \beta_1(SAI) + \beta_2(Industry\ type) + \epsilon \quad (3)$$

In this model, the dependent variable represents a defined employment outcome, such as the likelihood of graduate placement within six months, average starting salary, or job satisfaction. The coefficient β_1 captures the influence of alignment on employment success, while β_2 adjusts for industry-specific variation, recognising that sectoral demand differs considerably. The error term ε accounts for unobservable factors influencing outcomes (Lindemann, 2020). This analytical approach enables the committee to distinguish the effect of alignment from other variables affecting employability. Applying the model across multiple cohorts and industries allows the identification of whether graduates with stronger alignment achieve superior labour market performance, thereby offering more robust evidence to support curriculum reform (Neugebauer & Daniel, 2022).

Employer Feedback and Adjustments to Curriculum

While quantitative analysis offers essential macro-level insights, the committee recognises the importance of incorporating qualitative perspectives to detect nuanced competency deficits that may not emerge through numerical indicators alone. Semi-structured interviews are therefore conducted with employers, including hiring managers, HR professionals, and sector leaders from key economic industries (Hong & Lee, 2022). These conversations capture perceptions of graduate readiness across technical proficiencies, such as data analytics and financial modelling, as well as crucial soft skills including communication, adaptability, and teamwork. Thematic analysis is applied to identify recurring concerns that are unlikely to surface through statistical techniques alone (Bae & Kim, 2023). For instance, despite curriculum coverage of econometrics, employers may still report weaknesses in applied data literacy or the practical use of digital analytical tools. Integrating findings from multiple evidence sources enables the committee to design targeted interventions (Wiedner & Giesecke,

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

2022). Proposed improvements include greater emphasis on applied data analytics and business communication, expansion of industry-embedded projects and internships, and deeper engagement with employer advisory boards. These reforms aim to narrow the competency gap so that forthcoming cohorts possess not only theoretical knowledge but the practical capability required to perform effectively in professional settings (Amber & Chichaibelu, 2023).

Instructional Relevance: Classroom Use of the Case

This scenario-based case is suited for teaching in modules concerned with curriculum development, education strategy, and labour economics. It offers learners a realistic analytical structure through which to evaluate the difficulties faced when higher education seeks to align itself with labour market requirements. Engagement with authentic institutional data and policy challenges enables students to appreciate the multifaceted and iterative nature of data-informed curriculum reform (Tominc & Rožman, 2023). The case encourages active learning and an evidence-oriented mindset, with explicit learning goals focused on examining the consequences of skill mismatches, applying mixed-methods to educational challenges, and formulating well-grounded recommendations for programme enhancement. Instructors may employ the case as a catalyst for informed discussion on strategic educational planning and the essential involvement of stakeholders in reform processes (LaForest, 2023).

CURRICULUM-INDUSTRY GAP ANALYSIS AND DISCUSSION

This section synthesises the outcomes of the validation and analytical procedures used to identify structural disparities between labour market expectations and the outputs of economics education. Through a longitudinal panel approach, the committee systematically traced trends in graduate employment trajectories alongside evolving industry skill requirements. Notable deficiencies in areas such as applied data analytics and communication were revealed through competency mapping and quantified using SMI and SAI, offering a clear measure of mismatches. Regression analysis provided further empirical support, demonstrating that stronger C-LM alignment is associated with more favourable employment outcomes. Complementary qualitative insights from employer interviews exposed subtle capability shortfalls that purely statistical methods might overlook. Collectively, these findings informed targeted curriculum revisions, including integration of applied skill-focused learning and deeper collaborations with industry partners. The results confirm that the adopted framework is effective in diagnosing competency gaps and guiding evidence-driven reforms that enhance graduate employability while upholding academic integrity.

As illustrated in Figure 1, the heatmap reveals a marked divergence between the skills currently embedded within the economics curriculum and those prioritised by employers. Analytical capability is notably underrepresented, with a curriculum score of 2.5 compared with an employer expectation of 4.5, signalling a substantial shortfall

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

in applied analytical preparation. Communication proficiency displays a similarly pronounced imbalance (3.0 versus 4.2), while the most critical gap is observed in problem-solving, where a curriculum rating of 2.0 lags considerably behind the expected level of 4.0, indicating insufficient exposure to real-world challenges. By contrast, financial modelling shows comparatively closer alignment (3.5 versus 4.0), suggesting relative strength in this technical area. Team collaboration also reflects a meaningful discrepancy (2.8 versus 3.8), highlighting the need for broader use of experiential and group-based learning. Taken together, these disparities reinforce the urgency of curriculum enhancement through greater emphasis on applied competences, industry-aligned projects, and continuous responsiveness to contemporary labour market requirements.

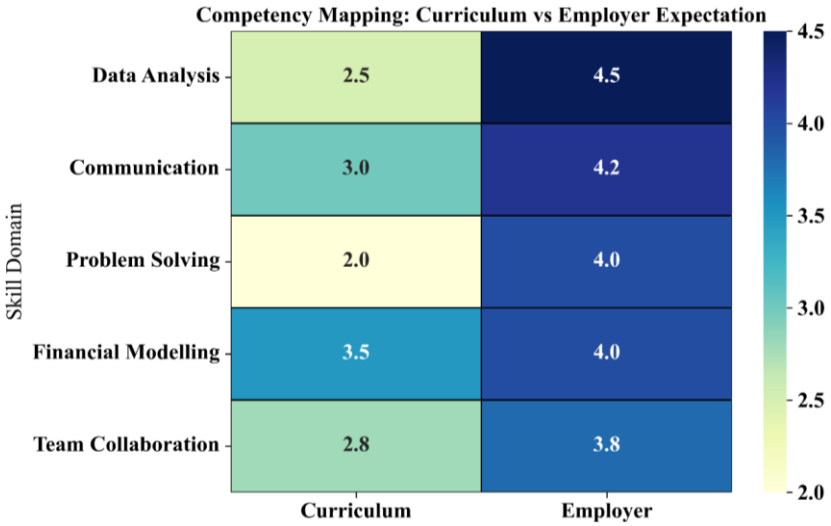

Figure 1: Competency

Figure 2 presents the alignment index, expressed as a percentage, between the economics curriculum and employer expectations across five core skill domains. Financial modelling demonstrates the highest level of congruence, with an alignment of approximately 75 per cent, indicating that existing technical training is largely in line with labour market needs. Business communication follows at around 70 per cent, reflecting moderate suitability while still signalling scope for enhancement to keep pace with workplace standards. Team collaboration shows a slightly lower alignment of 65 per cent, suggesting the need for stronger integration of interpersonal and cooperative learning experiences. Data analysis records an alignment of only 55 per cent, confirming a substantial shortfall in the development of practical analytical capabilities. The lowest alignment is observed in problem-solving at roughly 50 per cent, highlighting a significant deficit in preparing graduates to manage complex, real-world challenges. Collectively, these findings underscore the necessity for differentiated and targeted curriculum reform to strengthen competencies that remain considerably below the expectations of contemporary labour markets.

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

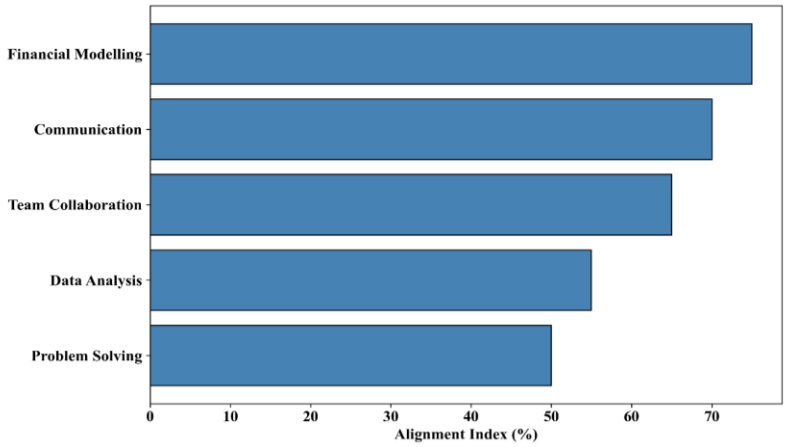

Figure 2: Alignment Index

Figure 3 illustrates the prevalence of major skill requirements identified in job advertisements, revealing employer priorities within the regional labour market. Data analysis emerges as the most frequently requested capability, appearing in nearly 120 listings, reinforcing its central role in contemporary data-driven organisational environments. Communication abilities follow with slightly above 100 mentions, indicating that employers continue to place strong emphasis on articulate interpersonal engagement and workplace communication. Problem-solving skills are referenced in approximately 95 postings, demonstrating their significance in roles that necessitate analytical reasoning and strategic judgement. Financial literacy appears around 85 times, confirming its essential contribution to business- and economics-related professional functions. Proficiency in spreadsheet software, including Excel, is recorded in roughly 78 vacancies, underscoring its importance as a baseline technical requirement across numerous occupations. Taken together, these trends suggest that graduates must be equipped with both advanced analytical competencies and adaptable soft skills, supported by sound financial knowledge and digital tool fluency, in order to align effectively with current employer expectations.

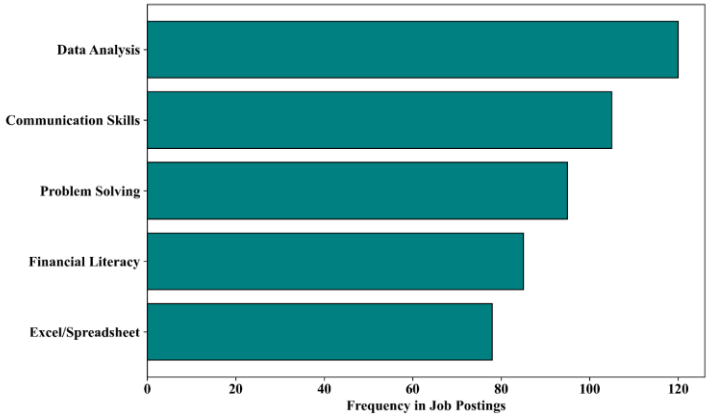

Figure 3: Frequency in Job Postings

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

Figure 4 depicts the progression of internship participation alongside employment rates between 2018 and 2022, reinforcing the proposition that practical learning experiences are positively associated with post-graduation labour market success. Both indicators exhibit a generally upward pattern over the five-year period, despite occasional year-to-year fluctuations. Student involvement in internship activities increased from 40 per cent in 2018 to 55 per cent by 2022, signalling a growing emphasis on experiential learning within the programme. Correspondingly, the employment rate reached a peak of 78 per cent in 2022, compared with the lower level observed in 2018, illustrating a strengthened nexus between workplace exposure and graduate readiness. A slight decline recorded in 2020 for both measures likely reflects external global disruptions that influenced educational and employment conditions during that year. Subsequent recovery and improvement from 2021 onwards underscore the enduring relevance of industry-linked learning. Overall, the results suggest that structured internship pathways contribute significantly to enhancing employability and ensuring that academic attainment remains aligned with contemporary labour market requirements.

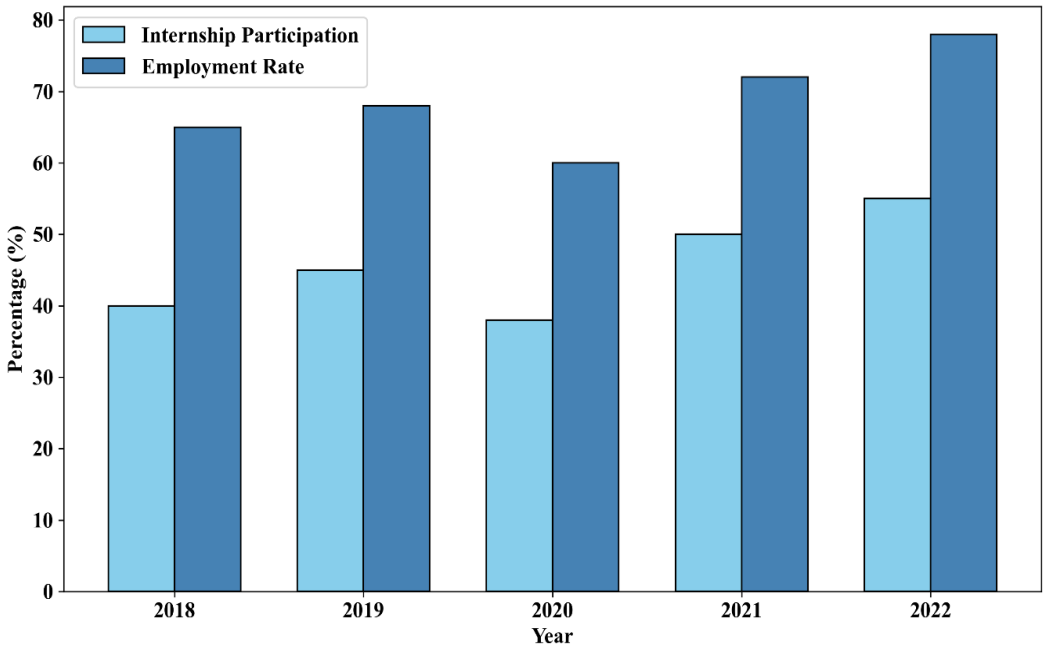

Figure 4: Internship Participation

Figure 5 illustrates participant satisfaction (scored on a 10-point scale) across five core domains of skill development, reflecting perceptions of how effectively learning activities have contributed to professional preparedness. Financial literacy receives the highest appraisal at approximately 7.2, suggesting that learners feel comparatively well supported in acquiring finance-related competencies. Collaboration and communication follow with ratings of around 6.5 and 6.0 respectively, indicating moderate confidence in team-oriented and interpersonal skill formation. By contrast, data analysis and

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

problem solving are evaluated less favourably, with mean scores of roughly 5.5 and 5.0. These figures highlight areas where instructional practice or curriculum emphasis may fall short of learner expectations, particularly regarding analytical reasoning and critical response to complex tasks. Overall, the distribution of scores provides actionable insights into which competencies participants perceive as strongly or insufficiently nurtured, thereby informing targeted enhancement of future training interventions.

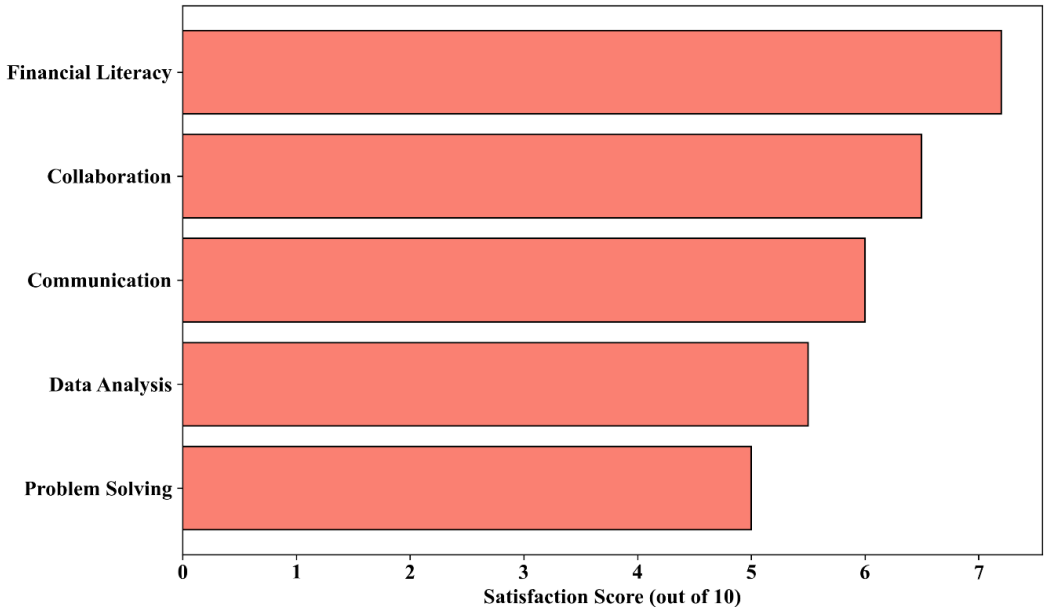

Figure 5: Satisfaction Score

Figure 6 illustrates the SMI, scored on a 100-point scale, offering a quantitative overview of learners' competence across five essential skill domains. The results indicate that Presentation Skills and Data Analysis occupy comparatively stronger positions, with SMI values of 60 and 58 respectively. These relatively higher outcomes may reflect prior exposure to structured learning experiences that emphasise verbal, visual, and analytical forms of communication. Conversely, Critical Thinking and Financial Modelling demonstrate more modest performance levels, achieving scores of 50 and 45. These skills are typically associated with advanced cognitive processing and specialised financial expertise, suggesting a need for enhanced pedagogical focus. Providing more targeted guidance and opportunities for sustained practical engagement may support stronger development in these domains. Overall, the dataset shows that foundational communicative competencies receive adequate attention within the existing training context. However, a more deliberate instructional strategy is required to strengthen complex reasoning abilities and discipline-specific technical proficiency, thereby achieving a more balanced skill portfolio.

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

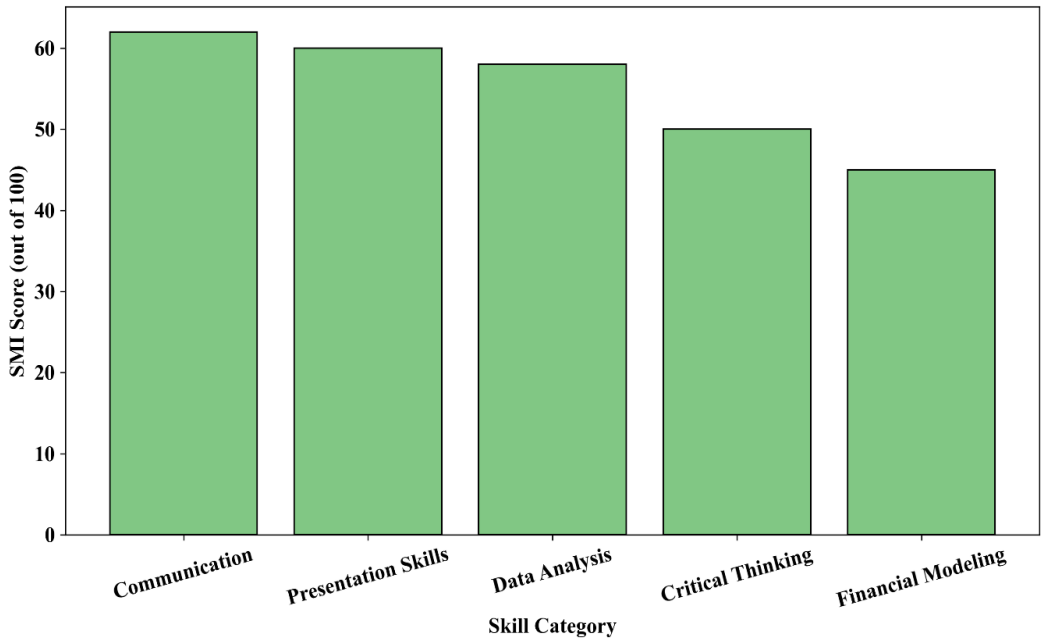

Figure 6: SMI Score

Figure 7 depicts the distribution of employment outcomes among economics graduates across several occupational sectors. The Finance industry accounts for the largest proportion at 30.0 percent, reflecting a relatively strong alignment between disciplinary preparation and market absorption. Both the Government and Public sector, and the Unemployed or Other category each represent 20.0 percent, illustrating that a substantial share of graduates either pursue public service trajectories or continue to face challenges in securing roles that match their qualifications. Consulting emerges as a moderately represented destination with 13.3 percent of graduates entering strategic or advisory functions. In contrast, only 10.0 percent transition into Tech or Data Analytics positions, despite increasing labour market demand, highlighting limited penetration into technologically driven domains and indicating potential shortfalls in data-centric skill training. Education and Research demonstrate the lowest uptake, comprising just 6.7 percent, which may suggest reduced interest in academic careers or restricted opportunities for early-career researchers. Collectively, these outcomes reveal indications of structural misalignment between the competencies cultivated through economics education and the evolving requirements of the employment landscape. The persistent incidence of unemployment or underemployment among graduates further underscores the need for more responsive curricular reforms and strengthened industry engagement.

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

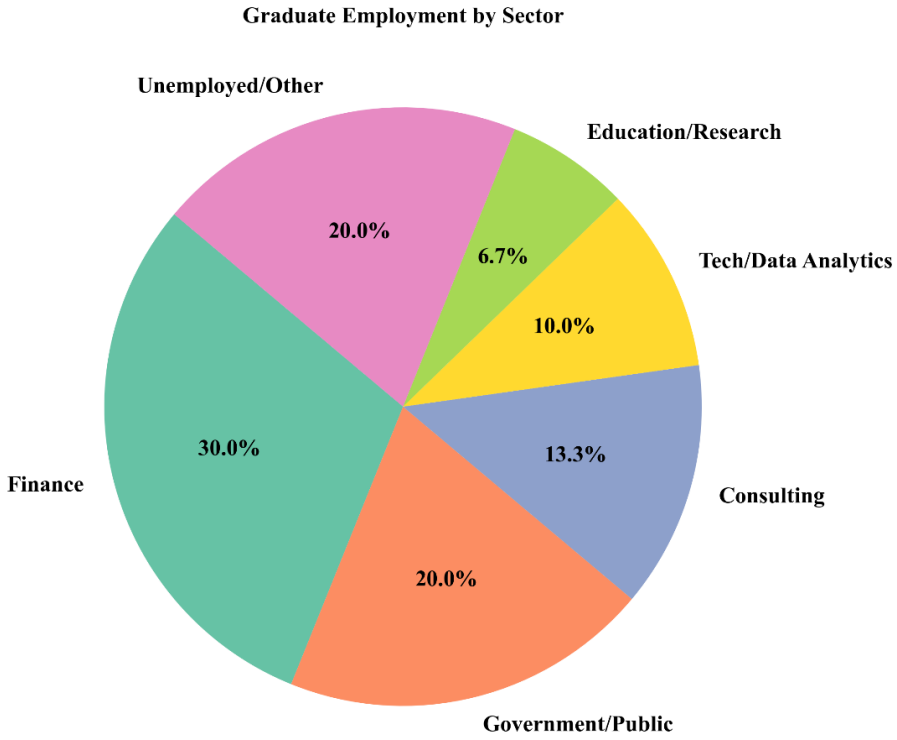

Figure 7: Graduate Employment by Sector

Figure 8 compares curriculum coverage with employer expectations across six essential skill domains, clearly revealing several prominent competency gaps in contemporary economics education. Data Analysis presents the most pronounced discrepancy, with employer demand at level 5 versus a curriculum rating of 3, indicating substantial shortages in quantitative skill development. A similar deficiency appears in Communication, where the employer requirement peaks at 5 but instructional emphasis remains limited to level 3, pointing to insufficient preparation in professional and interpersonal capabilities. Python Programming demonstrates a particularly stark mismatch, supported at only level 2 in current teaching despite a market expectation of level 4, reinforcing the urgency for greater integration of technical and computational content. In contrast, Econometrics shows near-complete alignment, with both indicators at level 4, suggesting that this component adequately meets employer needs. Problem Solving reflects another significant divergence, with demand at level 5 and curricular representation at 3, signalling underdeveloped analytical adaptability. Critical Thinking displays a smaller yet notable gap, where provision (3) still falls short of the desired proficiency (4). Overall, the figure emphasises continuing misalignments between educational provision and labour-market priorities, particularly in applied analysis, communication, and digital competencies. Enhancing these areas would likely improve employability outcomes for economics graduates.

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

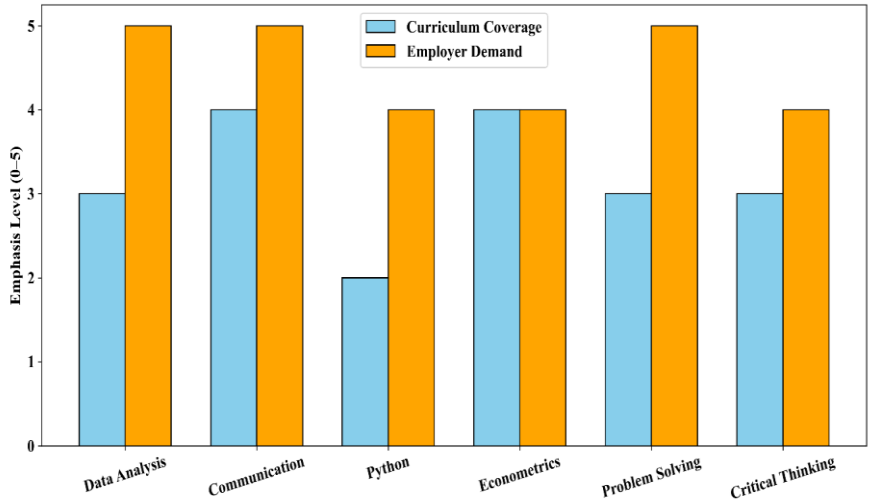

Figure 8: Emphasis Level

Figure 9 demonstrates the regression analysis examining how the SAI and industry engagement contribute to curriculum relevance. The model indicates a strong baseline level of relevance, as reflected by the intercept ($\beta_0 = 12.50$). The coefficient for SAI ($\beta_1 = 0.65$) reveals a moderate yet positive association, suggesting that improvements in graduate skill alignment directly enhance curriculum suitability. In contrast, the industry-related parameter ($\beta_2 = 4.20$) exhibits a notably larger effect size, highlighting the substantial influence that employer participation and real-world expectations have on shaping academically responsive programmes. Furthermore, the R^2 value of 0.76 demonstrates that 76% of the variation in curriculum relevance is reliably accounted for by these two predictors, reinforcing the robustness of the model in diagnosing the educational-labour market compatibility issues.

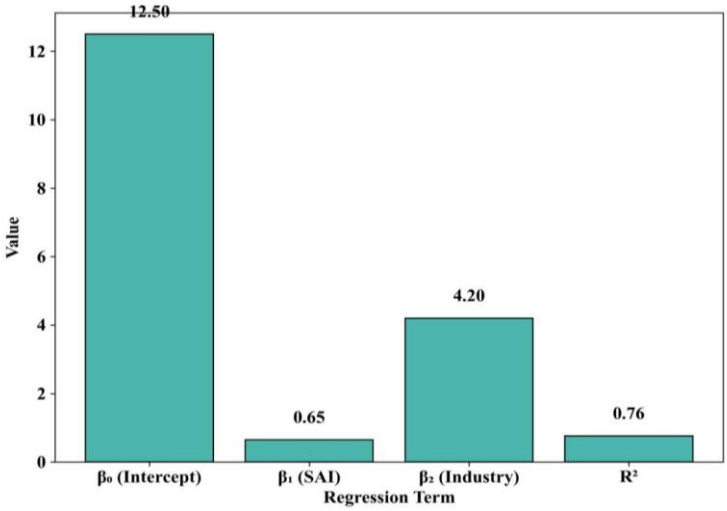

Figure 9: Regression Analysis

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

DISCUSSION

The SMI findings reinforce the presence of a persistent structural disparity between the capabilities fostered within economics programmes and those required by the labour market. Although graduates attain comparatively higher proficiency in Communication (62), Presentation Skills (60), and Data Analysis (58), these strengths alone do not adequately meet the advanced technical and quantitative competencies demanded in contemporary business environments. The lowest performance domains—Critical Thinking (50) and Financial Modelling (45)—highlight constraints in developing skills essential for economic forecasting and strategic decision-making. This disparity reflects an educational emphasis that continues to prioritise general analytical and interpersonal development while underrepresenting problem-solving and quantitative mastery, both of which are increasingly prioritised by employers (Salem et al., 2024; Ariansyah et al., 2024). Consequently, the identified skill gaps provide clear justification for systematic reforms aimed at equipping economics and business graduates with the technical expertise and innovative capabilities needed to thrive within a rapidly evolving labour market.

CONCLUSION

The findings of this study clearly demonstrate a substantial structural misalignment between the competencies currently cultivated in economics education and the dynamic skill requirements of the contemporary labour market. Persistent challenges in graduate employment, despite strong academic credentials, highlight the limited effectiveness of traditional curriculum models in fostering market-relevant and practically applicable capabilities. The pronounced gaps in data analytics, problem-solving, and communication—skills consistently ranked as top employer priorities—underscore the urgency for a strategic transformation toward experiential and application-driven learning. Accordingly, the study concludes that economics curricula should be comprehensively redesigned to incorporate hands-on and interdisciplinary learning opportunities, including applied coursework, real-world industry projects, and sustained engagement with employers. Such reforms are essential not only for enhancing graduate employability but also for ensuring responsiveness to evolving economic conditions and labour market demands. Bridging this divide will require coordinated effort across academia, industry, and policymakers to ensure that educational inputs are effectively harmonised with professional expectations. Ultimately, aligning economics education with practical workplace needs will better support graduates in transitioning seamlessly from academic environments into productive, future-ready careers.

LIMITATIONS AND FUTURE DIRECTIONS

Although the study provides meaningful insights into the relationship between

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

economics curricula and labour market demands, several limitations should be acknowledged. The analysis is largely qualitative and restricted to a specific institutional context, which may limit the generalisability of the findings to diverse educational systems or industry sectors. Moreover, the study does not quantitatively evaluate the direct effects of proposed curricular reforms on graduates' employability outcomes. Future investigations should therefore incorporate broader, multi-institutional samples and longitudinal tracking to assess the sustained impact of curriculum redesign over time. There is also considerable scope to advance interdisciplinary, industry-integrated learning models through stronger collaboration among universities, employers, and policymakers. Embedding digital competencies, labour market analytics, and applied learning experiences within economics programmes will further enhance the alignment between academic preparation and evolving workforce expectations.

REFERENCES

Alanazi, A. S., & Benlaria, H. (2023). Bridging higher education outcomes and labour market needs: A study of jouf university graduates in the context of vision 2030. *Social sciences*, *12*(6), 360. https://doi.org/10.3390/socsci12060360

Amber, H., & Chichaibelu, B. B. (2023). Patterns and Causes of Female Labor Force Participation: An Age–Period–Cohort Analysis for Pakistan. *Population Research and Policy Review*, *42*(2). https://doi.org/10.1007/s11113-023-09751-9

Andersson, A. B. (2021). Social capital and self-efficacy in the process of youth entry into the labour market: Evidence from a longitudinal study in Sweden. *Research in Social Stratification and Mobility*, *71*, 100580. https://doi.org/10.1016/j.rssm.2020.100580

Ariansyah, K., Wismayanti, Y. F., Savitri, R., Listanto, V., Aswin, A., Ahad, M. P. Y., & Cahyarini, B. R. (2024). Comparing labor market performance of vocational and general school graduates in Indonesia: insights from stable and crisis conditions. *Empirical Research in Vocational Education and Training*, *16*(1), 5. https://link.springer.com/article/10.1186/s40461-024-00160-6

Bae, Y., & Kim, T. (2023). The labor market impacts of graduating from university during a recession: evidence and mechanisms. *Empirical Economics*, *64*(2), 931-958. https://doi.org/10.1007/s00181-022-02260-2

Becker, R., & Blossfeld, H.-P. (2022). Changes in the returns to education at entry into the labour market in West Germany. *Longitudinal and life course studies*, *13*(1), 61-86. https://doi.org/10.1332/175795921X16197756998006

Brophy, S., Christie, F., & Scurry, T. (2025). Field of study and the subjective labour market outcomes of UK graduates: examining meaningful work, career progression, and skills utilisation. *Studies in Higher Education*, *50*(5), 974-987. https://doi.org/10.1080/03075079.2025.2492799

Buenstorf, G., Koenig, J., & Otto, A. (2023). Expansion of doctoral training and

doctorate recipients' labour market outcomes: Evidence from German register data. *Studies in Higher Education*, *48*(8), 1216-1242. https://doi.org/10.1080/03075079.2023.2188397

Cheng, Z., Wang, B. Z., & Taksa, L. (2021). Labour force participation and employment of humanitarian migrants: Evidence from the building a new life in Australia longitudinal data. *Journal of Business Ethics*, *168*(4), 679-720. https://doi.org/10.1007_s10551-019-04179-8

Chigbu, B. I., & Makapela, S. L. (2025). Data-driven leadership in higher education: advancing sustainable development goals and inclusive transformation. *Sustainability*, *17*(7), 3116. https://doi.org/10.3390/su17073116

Conti, V., Manitiu, D. N., & Pedrini, G. (2024). Analyzing the Gap Between Job, Earning, and Career Satisfaction Among Young Graduates: Evidence from Italy. In *Young People's Career Development and Wellbeing: An Enquiry across National Education Systems Based on Longitudinal Data* (pp. 39-59). Springer. https://link.springer.com/chapter/10.1007/978-3-031-68229-2_3

Hassan, M. (2025). Higher Education and Labor Market Outcomes: Investigating the Rise of Educated Unemployment. *Universal Insights in Research and Innovation*, *1*(01), 01-13. https://doi.org/10.71292/uiri.v1i01.19

Hong, Y., & Lee, K. (2022). Segmented and unequal: evidence on the dual labor market and youth unemployment from the Korea youth survey. *International Review of Public Administration*, *27*(3), 151-167. https://doi.org/10.1080/12294659.2022.2091739

Jackson, D., & Li, I. (2022). Transition to work, mismatch and underemployment among graduates: an Australian longitudinal study. *International Journal of Manpower*, *43*(7), 1516-1539. https://doi.org/10.1108/IJM-03-2021-0195

Kyui, N., & Radchenko, N. (2021). The changing composition of academic majors and wage dynamics: Beyond mean returns. *Journal of Comparative Economics*, *49*(2), 358-381. https://doi.org/10.1016/j.jce.2020.07.009

LaForest, M. (2023). The Effects of High School Career and Technical Education on Employment, Wages, and Educational Attainment. *Journal of Human Capital*, *17*(1), 39-71. https://doi.org/10.1086/722309

Lindemann, K. (2020). How labor-market integration affects perceptions of discrimination: school-to-apprenticeship transitions of youth with migration background in Germany. *International Migration Review*, *54*(4), 1045-1071. https://doi.org/10.1177/0197918319885892

Lu, Y., & Hou, F. (2020). Immigration system, labor market structures, and overeducation of high-skilled immigrants in the United States and Canada. *International Migration Review*, *54*(4), 1072-1103. https://doi.org/10.1177/0197918319901263

Lysenko, T., & Wang, Q. (2023). College location and labor market outcomes for STEM graduates in the US. *GeoJournal*, *88*(2), 1469-1491. https://doi.org/10.1007/s10708-022-10700-w

Moss-Pech, C. (2021). The Career Conveyor Belt: How Internships Lead to Unequal Labor Market Outcomes among College Graduates. *Qualitative Sociology*, *44*(1). https://doi.org/10.1007/s11133-020-09471-y

Neugebauer, M., & Daniel, A. (2022). Higher education non-completion, employers, and labor market integration: Experimental evidence. *Social Science Research*, *105*, 102696. https://doi.org/10.1016/j.ssresearch.2022.102696

Ngo, Q. D., Nguyen, Q. H., & Vu, C. (2025). Envisioning Future Workforce Adaptability: A Multi-Layered Analysis of Skills Ecosystems in Vietnam's Emerging Economy. *Futures & Foresight Science*, *7*(1), e70000. https://doi.org/10.1002/ffo2.70000

Ozgen, C. (2021). The economics of diversity: Innovation, productivity and the labour market. *Journal of Economic Surveys*, *35*(4), 1168-1216. https://doi.org/10.1111/joes.12433

Petrongolo, B., & Ronchi, M. (2020). Gender gaps and the structure of local labor markets. *Labour Economics*, *64*, 101819. https://doi.org/10.1016/j.labeco.2020.101819

Salas-Velasco, M. (2021). Mapping the (mis) match of university degrees in the graduate labor market. *Journal for Labour Market Research*, *55*, 1-14. https://doi.org/10.1186/s12651-021-00297-x

Salem, I. E., Alamir, A.-A., Moosa, S., El-Maghraby, L., Alkathiri, N. A., & Elbaz, A. M. (2024). Examining different learning modes: A longitudinal study of business administration students' performance. *The International Journal of Management Education*, *22*(1), 100927. https://doi.org/10.1016/j.ijme.2023.100927

Tominc, P., & Rožman, M. (2023). Artificial intelligence and business studies: study cycle differences regarding the perceptions of the key future competences. *Education Sciences*, *13*(6), 580. https://doi.org/10.3390/educsci13060580

Uddin, M. (2021). Addressing employability challenges of business graduates in Bangladesh: Evidence from an emerging economy perspective. *Australian Journal of Career Development*, *30*(2), 83-94. https://doi.org/10.1177/1038416220986887

Van Mol, C., Caarls, K., & Souto-Otero, M. (2021). International student mobility and labour market outcomes: An investigation of the role of level of study, type of mobility, and international prestige hierarchies. *Higher Education*, *82*(6), 1145-1171. https://doi.org/10.1007/s10734-020-00532-3

Wiedner, J., & Giesecke, J. (2022). Immigrant men's economic adaptation in changing labor markets: why gaps between Turkish and German men expanded, 1976–2015. *International Migration Review*, *56*(1), 176-205. https://doi.org/10.1177/01979183211029903

Yu, P., & Hsieh, T.-L. (2022). Social stratification in higher education investment: An analysis of students' choices of college majors and pathways to future labor-market outcomes in Taiwan. *International Journal of Educational Research*,

Vol: 17 **No:** 02 **Year:** 2025 **ISSN:** 1309-8055 (Online) (**pp.** 384-406) **Doi:** 10.34109/ijefs.2025170219

113, 101953. https://doi.org/10.1016/j.ijer.2022.101953

Yue, Z., & Zhao, K. (2020). Understanding the effectiveness of higher education system: Evidences from market outcomes of early university graduates in seven European countries. *Sustainability*, *12*(18), 7761. https://doi.org/10.3390/su12187761