International Journal of Instructional Cases
ISSN: 2399-830x

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: directorshape@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: mzuber@ukm.edu.my

*Corresponding Author Email: directorshape@ukm.edu.my

Received Date: 08-12-2024; Accepted Date: 11-01-2025; Publication Date: 30-03-2025

Abstract
This research investigates the structural misalignments between the outcomes of economics education and the requirements of the labour market, utilising longitudinal evidence from business graduates tracked over a five-year span. Although the university maintains a strong academic standing, a notable reduction has been observed in the employment rates of economics graduates, indicating a discrepancy between the skills delivered through the curriculum and those valued by employers. Adopting a longitudinal design, the analysis incorporates graduates' academic and employment records in conjunction with labour market indicators obtained from regional job advertisements and employer surveys. The study applies competency mapping, skill

How to cite (APA):
Guo, F., Hussin, M., Abd Majid, M. Z. (2025). Structural Disparities Between Economics Education Output and Labour Market Demand: Evidence from Longitudinal Data on Business Graduates. *International Journal of Instructional Cases*, *9*(1), 287-307.
International Journal of Instructional Cases

International Journal of Instructional Cases
ISSN: 2399-830x

alignment measures, and regression analysis to assess the extent of correspondence between educational provision and employer expectations. Findings demonstrate considerable shortcomings in key capabilities, particularly in data interpretation, analytical problem-solving, and effective communication, all of which are vital for professional success. Feedback from employers substantiates these results, offering further evidence of the competencies insufficiently represented within the curriculum. The study ends by suggesting curriculum reforms that include a greater emphasis on applied learning, sector-oriented projects, and strengthened partnerships with industry, with the aim of equipping graduates more effectively for the evolving demands of the labour market.

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

Introduction

The advent of digital transformation has intensified global interconnectedness, placing changes in industrial practice at the centre of contemporary discourse. Consequently, higher education institutions, particularly those focused on economics and business disciplines, are increasingly compelled to adapt to labour market requirements. Yet, the design of university programmes has historically remained misaligned with employer-defined competencies (Salas-Velasco, 2021). While human capital continues to evolve, higher education remains central to skill formation but consistently faces challenges in adjusting to the rapid restructuring of organisations and the emergence of new skill sets.

Economics and business curricula are typically framed within traditional paradigms, emphasising theoretical depth and analytical rigour, yet often neglecting the interdisciplinary and technological competencies now required (Becker & Blossfeld, 2022). This misalignment contributes to graduate underemployment and a disconnect between academic preparation and employment rolls (Jackson & Li, 2022), limiting both individual career progression and the cultivation of a workforce capable of driving innovation and contributing to economic growth (Cheng et al., 2021). With the progression of digitalisation and the increased visibility of industry transformation, higher education institutions, especially those offering economics and business programmes, face growing pressure to demonstrate responsiveness to labour market needs. Persistent structural gaps exist between what universities provide and what employers demand (Salas-Velasco, 2021). Although human capital development remains in flux, higher education continues to hold a pivotal role while struggling to keep pace with rapid occupational shifts and skill demands.

Business-oriented curricula often adhere to conventional frameworks, maintaining theoretical and analytical strength but failing to instil adaptable, interdisciplinary abilities necessary in technologically driven contexts (Becker & Blossfeld, 2022). As a result, many graduates encounter underemployment or mismatches between their education and workplace responsibilities (Jackson & Li, 2022). These mismatches slow individual professional advancement and undermine the preparation of a new

International Journal of Instructional Cases
ISSN: 2399-830x

generation of professionals with the potential to innovate and enhance economic development (Cheng et al., 2021). Institutional responses to such challenges remain limited, with curriculum reform largely reliant on periodic internal reviews rather than ongoing engagement with market developments or employer feedback (Andersson, 2021). In the absence of sustained industry dialogue and long-term analysis of graduate outcomes, there is a substantial risk of perpetuating outdated curricula that fail to address the demands of a rapidly changing economy (Alanazi & Benlaria, 2023; Lysenko & Wang, 2023). To mitigate these shortcomings, integrating longitudinal evidence with market-sensitive analytics in curriculum design is essential to strengthen employability outcomes and ensure closer alignment with practical skills.

The availability of longitudinal datasets provides a valuable opportunity to critically examine the disjunction between economics education and labour market expectations. By tracking graduate pathways over five years and incorporating market indicators, such as regional job postings and employer survey results, this study identifies ongoing disparities between the competencies developed in economics curricula and those required by employers. Despite the strong academic reputation of the university, graduate employment outcomes demonstrate noticeable deficiencies in critical skills, particularly in data analysis, problem-solving, and communication. While real-time labour market analytics offer valuable insights into evolving skill demands, curriculum reforms within higher education often remain fragmented and reactive, relying heavily on scheduled reviews rather than continuous engagement with industry. In light of these challenges, the central aim of this research is to examine the extent and characteristics of the alignment between economics education outcomes and labour market skill requirements, employing longitudinal graduate data and employer perspectives to guide evidence-based curriculum reform and enhance graduate employability.

Learning Objectives

- Evaluate how curriculum content affects graduate employability.
- Apply regression analysis and thematic coding in an educational research context.
- Interpret longitudinal trends in skill alignment and job market integration.
- Develop practical policy recommendations using empirical evidence.

Discussion Questions

- What structural or institutional factors might explain the persistent misalignment between academic training and employer expectations?
- How can the university enhance graduate employability without diluting academic standards?
- What role does longitudinal data play in identifying meaningful trends and informing curriculum decisions?
- How can employer feedback be systematically integrated into curriculum development to ensure responsiveness and relevance?

International Journal of Instructional Cases
ISSN: 2399-830x

Related Works

Previous studies addressing the misalignment between economics and business education and labour market requirements have been examined, with key methodologies and findings forming the context for developing an integrative and adaptive framework. Scholars have employed various approaches, including employer perception surveys, labour market analytics, graduate outcome tracking, and curriculum benchmarking (Salem et al., 2024). These methods are selected based on their ability to capture different dimensions, such as immediate skill demand or long-term graduate outcomes. Despite their respective merits, the approaches remain constrained by limited real-time applicability, insufficient stakeholder involvement, and weak connections to actionable curriculum reform. A synthesis of these techniques and their contributions is presented in Table 1. This review highlights the fragmented and often arbitrary nature of current practices and establishes the foundation for the comprehensive, data-driven model advanced in this study.

Table 1: Problem Formulation of the Conventional Techniques.

Author(s)	Techniques Involved	Advantages	Disadvantages
Salem et al. (2024)	Longitudinal study on learning modes (online, hybrid, in-person)	Highlights impact of delivery method on student performance.	Does not assess employability or skill demand.
Ariansyah et al. (2024)	Comparative labour market analysis: vocational vs. general graduates (Indonesia)	Shows resilience of vocational graduates in crisis.	Limited to regional context; weak curriculum focus.
Ngo et al. (2025)	Multi-layered skills ecosystem analysis	Integrates policy, employer, and workforce perspectives.	Lacks direct curriculum-level analysis.
Brophy et al. (2025)	Graduate surveys on job satisfaction, skills use, and progression	Captures subjective labour outcomes by field of study.	Employer perspectives not included.
Chigbu and Makapela (2025)	Case studies on data-driven HE leadership & SDGs	Links higher education reform to inclusive, future-ready goals.	Conceptual focus; not skill-specific.

Salem et al. (2024) conducted a longitudinal investigation into business administration students' performance across different instructional formats, namely online, hybrid, and face-to-face learning. Their findings highlighted how delivery modes influence academic outcomes and offered recommendations for optimising teaching practices. Nevertheless, the study provides limited evidence on how these results can be extended to curriculum–workforce alignment or graduate employability. Ariansyah et al. (2024) examined the relationship between vocational and general education pathways and labour market outcomes in Indonesia under both stable and crisis contexts. Their analysis revealed that vocational graduates demonstrated stronger labour market resilience, thus reinforcing the value of skill-based education. However, the study did not explore curriculum design or its responsiveness to labour market

International Journal of Instructional Cases
ISSN: 2399-830x

dynamics.

Ngo et al. (2025) investigated Vietnam's skill ecosystems by analysing how educational policies influence employer expectations and subsequent workforce outcomes. Their research offered a comprehensive account of systemic alignment, particularly in understanding global adaptive skill systems, with insights relevant to enhancing workforce adaptability in broader contexts. Despite this, the study did not address curriculum-level reforms or how policy recommendations could be operationalised into specific academic content. Christie, Brophy et al. (2025) explored the subjective labour market outcomes of UK graduates, focusing on perceptions of meaningful employment, career progression, and the utilisation of skills across different fields of study. Graduate surveys were employed to capture how students evaluated the relevance of their academic content in real-world contexts. However, the study did not incorporate employer perspectives, limiting its insight into demand-side skill requirements. Chigbu and Makapela (2025) advanced the concept of data-driven leadership in higher education, proposing a case-based framework for supporting progress towards the Sustainable Development Goals (SDGs). Their work underscored the potential of inclusive and analytics-informed decision-making in universities, but its conceptual orientation meant it did not explicitly identify skill gaps or connect findings to curriculum development.

Recent scholarship consistently highlights the persistent divide between higher education and labour market requirements, particularly within economics and business programmes. While Salem et al. (2024) focused on instructional modes and student performance, employability remained unaddressed. Similarly, Ariansyah et al. (2024) emphasised vocational graduates' resilience but overlooked curriculum responsiveness. Ngo et al. (2025) contributed to systemic perspectives on education–policy alignment, though they did not provide curriculum-based recommendations. Brophy et al. (2025) captured graduate perceptions of career relevance but failed to integrate employer feedback, while Chigbu and Makapela (2025) emphasised leadership strategies without connecting them to workforce competencies. Collectively, these works demonstrate limited engagement with the structural discrepancies between economics education and labour market needs.

Current labour market developments highlight the growing importance of analytical reasoning, communication, and problem-solving, competencies that remain inadequately represented within economics curricula. Despite the emergence of real-time labour market analytics, curriculum change continues to be slow, fragmented, and poorly informed by employer feedback, which sustains graduate underemployment and skills mismatches. Although previous research has shed light on the relationship between education and labour market outcomes, much of it has centred on specific or partial concerns rather than presenting a comprehensive analysis. Studies on instructional modes largely emphasise academic performance without examining post-graduation employability. Comparisons of vocational and general education highlight resilience in specific national settings but fail to evaluate

International Journal of Instructional Cases
ISSN: 2399-830x

curriculum development directly. Broader studies of skill ecosystems contribute valuable policy-level insights, yet they remain disconnected from programme-level reforms. Graduate surveys provide useful information about how students perceive labour market relevance but exclude employer perspectives, while institutional strategy models rarely translate into concrete curricular changes capable of addressing identified gaps. This fragmented approach reflects an absence of an integrative, action-oriented framework that systematically connects educational outputs to labour market requirements.

The central objective of the present study is to identify and assess the structural gaps between educational provision and labour market demand by employing quantitative analysis of official data sources. By examining key labour market indicators alongside educational performance metrics, the research seeks to measure the extent of the mismatch between the skills imparted through curricula and those expected by employers. Statistical tools will be used to quantify these disparities, and only after presenting and discussing the findings will recommendations be advanced. Proposed solutions will include curriculum reform and closer collaboration with industry to strengthen graduate employability and address the evolving needs of the labour market.

Methodology

This study employed longitudinal panel data analysis together with competency mapping to investigate the connection between economics education and labour market requirements. The gap between employer-demanded competencies and students' academic performance was measured through the application of the Skill Matching Index (SMI) and the Skill Alignment Index (SAI), which were derived using vector analysis and regression techniques. These indices provided practical tools for informing curriculum reform and for enhancing the employability of graduates.

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

A mid-sized university offering a Bachelor of Economics is confronting a growing crisis within its curriculum planning. Although the institution has consistently upheld a strong academic profile, recent years have witnessed a marked downturn in graduate employment outcomes. Employers across finance, marketing, and management sectors have expressed concern that many graduates enter the workforce without mastering core competencies, including analytical reasoning with data, effective problem-solving, and clear communication. These shortcomings underscore a fundamental disconnection between what the curriculum provides and the evolving skill sets required in professional practice. In response, the Curriculum Committee must turn to longitudinal evidence drawn from successive cohorts of business graduates to trace emerging patterns and identify persistent skill gaps. This analysis is crucial in determining whether the capabilities imparted by the programme

International Journal of Instructional Cases
ISSN: 2399-830x

correspond to the demands of employers. On the basis of these findings, the committee is expected to design reforms that realign the curriculum with market expectations. Such adjustments must strike a balance between responsiveness to labour market needs and the preservation of academic rigour, thereby improving the employability of graduates and ensuring that the economics programme remains competitive and relevant in a rapidly changing professional environment.

Data Collection and Panel Data Structure

To systematically investigate the mismatch between outcomes of economics education and the competencies demanded by the labour market, the Curriculum Committee employed a longitudinal research framework grounded in panel data gathered over a five-year period (Van Mol et al., 2021). Two primary data streams informed the analysis: records relating to graduates' academic and professional progression, and evidence of employer demand derived from regional job postings and surveys of labour market stakeholders. The graduate dataset encompassed a range of variables, including indicators of academic performance such as grade point averages, competencies developed during the programme such as critical thinking, quantitative reasoning, and communication, as well as post-graduation employment outcomes. These outcomes covered employment status, the degree of industry integration, salary progression, and levels of job satisfaction. In parallel, the employer demand data was compiled from advertised vacancies relevant to economics graduates, highlighting recurrent and prioritised skills such as data analysis, financial modelling, and professional communication (Buenstorf et al., 2023). By consolidating this evidence into a panel data structure, the committee was able to examine both cross-sectional and longitudinal patterns. This multi-layered approach provided insight into how graduate competencies evolve in comparison with shifting market expectations. The framework further enabled the tracking of individual career trajectories alongside broader industry-level changes, thereby offering a dynamic mechanism to evaluate the effectiveness of the educational programme and to guide curricular modifications (Uddin, 2021).

Competency Mapping

An essential stage in identifying the structural discrepancies between economics education and labour market expectations involves systematically mapping the competencies embedded within the curriculum against those demanded by employers (Yue & Zhao, 2020). This process begins with the Curriculum Committee conducting a detailed content analysis of course syllabi, programme-level learning objectives, and assessment rubrics to establish the range of skills currently cultivated within the economics degree (Petrongolo & Ronchi, 2020). These competencies encompass both technical capabilities, such as statistical analysis, econometrics, and data analytics, alongside communication skills, teamwork, and critical thinking. Additionally, the programme incorporates domain-specific abilities, including financial modelling and policy evaluation. In parallel, the committee compiles a

International Journal of Instructional Cases
ISSN: 2399-830x

dataset of job postings targeted at economics graduates across fields such as finance, marketing, consultancy, and public administration (Conti et al., 2024). These postings are examined to extract the skill sets most frequently prioritised by employers, often grouped under recurring categories such as proficiency in Excel, expertise in data visualisation tools including Tableau and Power BI, and soft skills such as leadership and problem-solving. To quantify the extent of alignment or misalignment between the academic outcomes and labour market needs, the SMI is calculated using the formula presented in equation (1).

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

Where C_e represents the set of competencies extracted from the educational curriculum, and C_J represents the set of competencies demanded in job postings. A lower value of the SMI signifies a wider disparity between the competencies delivered through the curriculum and those sought by employers, thereby underlining the urgency of curricular reform (Ozgen, 2021). The mapping exercise not only exposes particular skill deficiencies but also brings to light newly emerging categories of expertise that remain absent from the current programme design. The outcomes of this analysis are 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	Graduate academic and employment records.	Academic records, employment data.	GPA, skills gained, job placement, salary.
Labour Market Data	Skills demanded by employers in job postings.	Job ads, employer surveys.	Skill demands (e.g., data analysis, communication).
Competency Mapping	Comparison of curriculum competencies with market needs.	Course syllabi, job advertisements.	Curriculum skills vs. employer skills.
Skill Alignment	Measure of curriculum and market skill alignment.	Competency mapping data.	Skill Alignment Index (SAI).
Employment Outcomes	Graduate job success linked to skill alignment.	Employment data (placement, salary).	Job placement rate, salary, satisfaction.
Employer Feedback	Qualitative employer insights on graduate skills.	Employer interviews.	Technical and soft skills gaps.
Curriculum Adjustments	Recommendations to align curriculum with market needs.	Data analysis, employer feedback.	Suggested changes (e.g., new courses).

Skill Alignment and Disparity Quantification

Building on the competency mapping exercise, the Curriculum Committee (CC) proceeds to measure the degree of alignment, or misalignment, between educational outputs and labour market requirements through the use of longitudinal cohort data (Moss-Pech, 2021). This stage is essential in shifting from descriptive evaluations

International Journal of Instructional Cases
ISSN: 2399-830x

towards an evidence-based approach that introduces empirical rigour in assessing curriculum effectiveness (Kyui & Radchenko, 2021). For each graduating cohort over the five-year period, a SAI is computed, capturing the extent to which the competencies developed within the economics programme correspond to those demanded by employers in relevant occupational 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 given by equation (2).

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

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 framework enables the CC to standardise the measurement of alignment across different years, sectors, and graduating cohorts (Yu & Hsieh, 2022). By plotting SAI values longitudinally, the CC can identify temporal patterns, highlighting periods in which curriculum reform enhanced employability or, conversely, failed to address skill gaps. Moreover, disaggregating SAI scores by industry or job function facilitates targeted interventions in areas with the weakest alignment, thereby supporting evidence-based curriculum reform (Hassan, 2025).

Longitudinal Analysis of Graduate Employment Outcomes

To broaden the scope of analysis, the CC conducts a longitudinal assessment of graduate employment outcomes in economics over a five-year span. This evaluation is essential for establishing whether the competencies embedded in the curriculum translate into favourable LMD outcomes such as higher job placement rates, competitive entry-level salaries, and sustained job satisfaction (Lu & Hou, 2020). Regression modelling is employed to test the association between SAI and employment outcomes, with the specific model presented in equation (3).

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

In this model, the dependent variable is a specific employment outcome – the probability of placement of graduates within six months, average salary or job satisfaction score. The coefficient β_1 shares the effect of skill alignment on the employment success, β_2 controls for the industry specific effects, acknowledging that the sectoral demand is highly inclusive. The error term ϵ is used to explain unobservable (Lindemann, 2020). This analytical method helps the CC identify the effect of the congruence of curriculum with labour market from other contributing variables. By making this model work through various cohorts and industries, the CC can discover whether graduates who are well-aligned score higher in the labour market, thus making the evidence-base for curriculum revising even stronger (Neugebauer & Daniel, 2022).

International Journal of Instructional Cases
ISSN: 2399-830x

Employer Feedback and Adjustments to Curriculum

Although quantitative data provide critical insights into macro-level trends, the CC recognises the necessity of incorporating qualitative perspectives to capture nuanced competency gaps. To achieve this, semi-structured interviews are conducted with employers, including hiring managers, HR specialists, and industry leaders from key economic sectors (Hong & Lee, 2022). These interviews elicit perceptions of graduate readiness, encompassing both technical proficiencies, such as data analytics and financial modelling, and essential soft skills, including communication, adaptability, and teamwork. Thematic analysis is applied to the responses, enabling the identification of recurring concerns that would be difficult to detect through statistical methods alone (Bae & Kim, 2023). For instance, even if quantitative data indicate adequate coverage of econometrics, employers may still highlight deficiencies in applied data literacy or digital tool competency. Drawing on this triangulated evidence, the CC formulates targeted interventions (Wiedner & Giesecke, 2022). Proposed reforms include the integration of applied coursework in data analytics and business communication, the inclusion of industry projects and internships, and strengthened collaboration with employer advisory boards. These adjustments are designed to narrow the competence gap, ensuring that future graduates are not only academically proficient but also adequately prepared to thrive in industry contexts (Amber & Chichaibelu, 2023).

Instructional Relevance: Classroom Use of the Case

This scenario-based case is particularly relevant for courses in curriculum design, education policy, and labour economics, as it equips students with a practical lens through which to examine the alignment of higher education with labour market requirements. By working directly with real institutional data and grappling with authentic challenges of programme reform, students are exposed to the complexities inherent in treating curriculum change as a data-driven process (Tominc & Rožman, 2023). The exercise encourages active engagement and the cultivation of evidence-informed reasoning, while its learning aims can be outlined as follows: to demonstrate the consequences of misaligned competencies, to apply mixed-methods approaches in analysing educational issues, and to generate robust recommendations for curricular adjustment. For instructors, the case provides a valuable tool to initiate debate around strategic academic planning and the involvement of key stakeholders in shaping reform agendas (Laforest, 2023).

Curriculum-Industry Gap Analysis and Discussion

This section presents a detailed account of the validation and analytical procedures undertaken to uncover the structural misalignment between labour market expectations and the outcomes of economics education. The CC employed a longitudinal panel data design to trace patterns in graduate employment trajectories alongside shifts in industry skill requirements. Deficiencies in key competencies, particularly applied data analytics and communication, were identified through

International Journal of Instructional Cases
ISSN: 2399-830x

competency mapping and quantified using the SAI to highlight mismatches. Regression modelling confirmed the significance of skill alignment by establishing its association with improved employment indicators. Complementary qualitative evidence, derived from employer feedback, exposed weaknesses that might otherwise remain undetected in purely statistical analysis. The findings informed curriculum adjustments, such as the integration of applied skill-oriented coursework and strengthened industry partnerships. Collectively, these results validate the framework as a practical mechanism for identifying competency gaps and advancing evidence-based reforms that enhance graduate employability while preserving academic integrity.

As illustrated in Figure 1 through the heatmap, a pronounced divergence exists between the skills addressed in the economics curriculum and those prioritised by employers. In the area of data analysis, the programme records a rating of 2.5, whereas employer expectations stand at 4.5, indicating a considerable deficiency in analytical training. Communication skills show a similar gap, with curricular provision rated at 3.0 compared to an employer expectation of 4.2. The shortfall is particularly acute in problem-solving, where the curriculum score of 2.0 contrasts sharply with the desired level of 4.0, demonstrating that graduates are insufficiently prepared for practical problem-solving challenges. Financial modelling, by contrast, displays relatively closer alignment, with a curricular score of 3.5 against an expectation of 4.0, reflecting some strength in technical competencies. Teamwork also highlights a misalignment, as the programme rates it at 2.8 compared with the employer requirement of 3.8, signalling the need for greater emphasis on collaborative and experiential learning. Taken together, these discrepancies highlight the urgency of curriculum reform, particularly through the integration of applied skills, industry-oriented projects, and mechanisms that respond more effectively to evolving labour market demands.

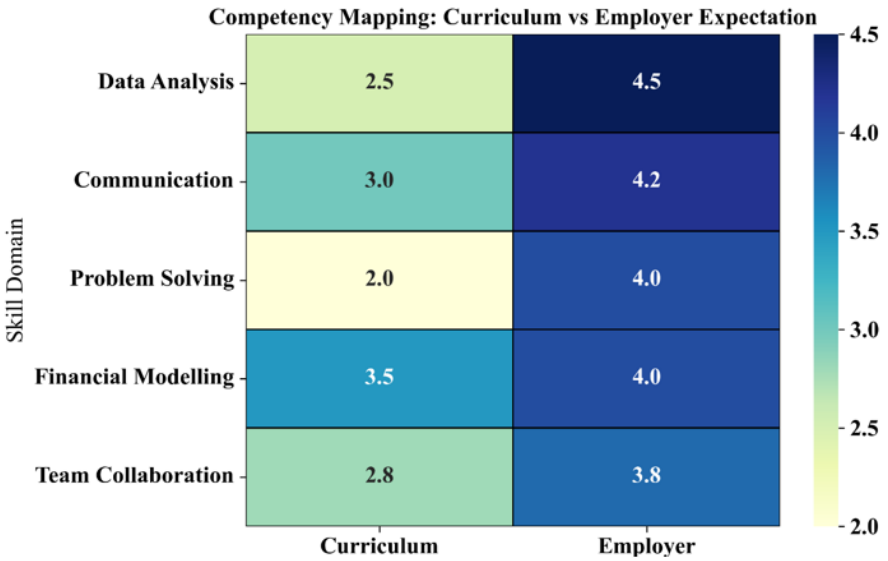

Figure 1: Competency

Figure 2 presents the alignment index, expressed in percentages, between the economics curriculum and employer expectations across five critical skill domains.

International Journal of Instructional Cases
ISSN: 2399-830x

The strongest correspondence is observed in financial modelling, with an alignment of approximately 75 percent, suggesting that curricular provision in this area closely meets labour market demands. Another skill area shows a near 70 percent alignment, which indicates moderate adequacy, although further refinement would still be required to meet workplace needs more effectively. Team collaboration is rated at around 65 percent, pointing to continuing limitations in the curriculum's capacity to develop interpersonal and group-based competencies. Data analysis reflects a considerably lower alignment of approximately 55 percent, reinforcing earlier evidence of substantial shortcomings in fostering analytical proficiency. The weakest correspondence is identified in problem-solving, where the alignment stands at only 50 percent, underscoring a critical gap in preparing graduates to address complex, real-world challenges. Collectively, these findings underscore the necessity for targeted curriculum reform, particularly in areas where the existing training falls markedly short of employer expectations.

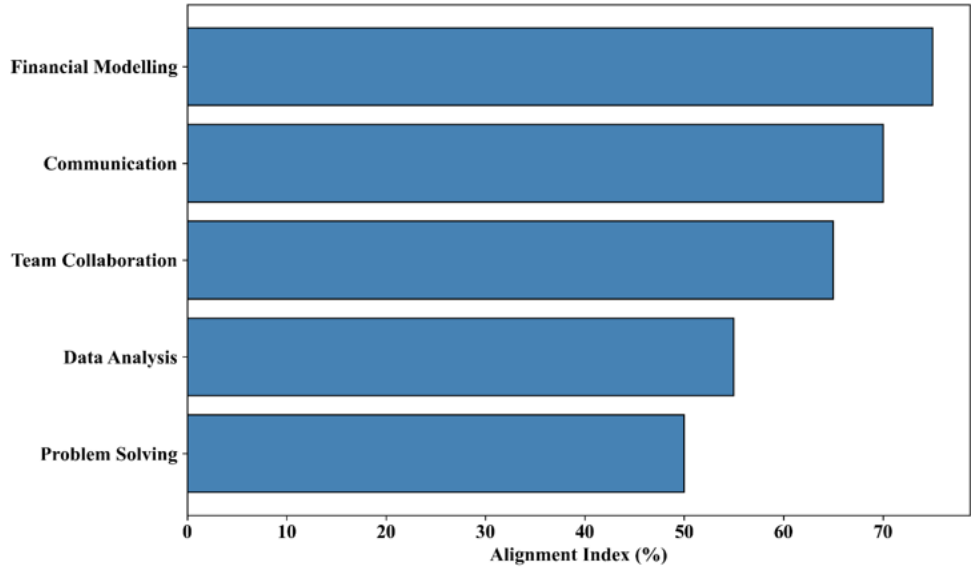

Figure 2: Alignment Index

Figure 3 illustrates the frequency of key skills most frequently emphasised in job advertisements as indicators of employer demand within the labour market. Data analysis emerges as the most sought-after competency, appearing in nearly 120 vacancies, which underscores its centrality in contemporary data-driven workplaces. Communication skills are ranked second, cited in over 100 postings, thereby highlighting the premium placed on interpersonal and verbal proficiency. Problem-solving appears in approximately 95 postings, evidencing its significance for roles requiring critical thinking and strategic decision-making. Financial literacy is mentioned around 85 times, reflecting its indispensable role in economic and business-related occupations. Technical expertise in Excel and spreadsheet applications is slightly less prevalent, yet still notable, with about 78 occurrences, signalling its continued relevance across a wide range of positions. Collectively, these results indicate that to align effectively with industry requirements, graduates must acquire proficiency in analytical tools, develop strong communication and problem-

International Journal of Instructional Cases
ISSN: 2399-830x

solving capabilities, and possess solid foundations in both financial and digital literacy.

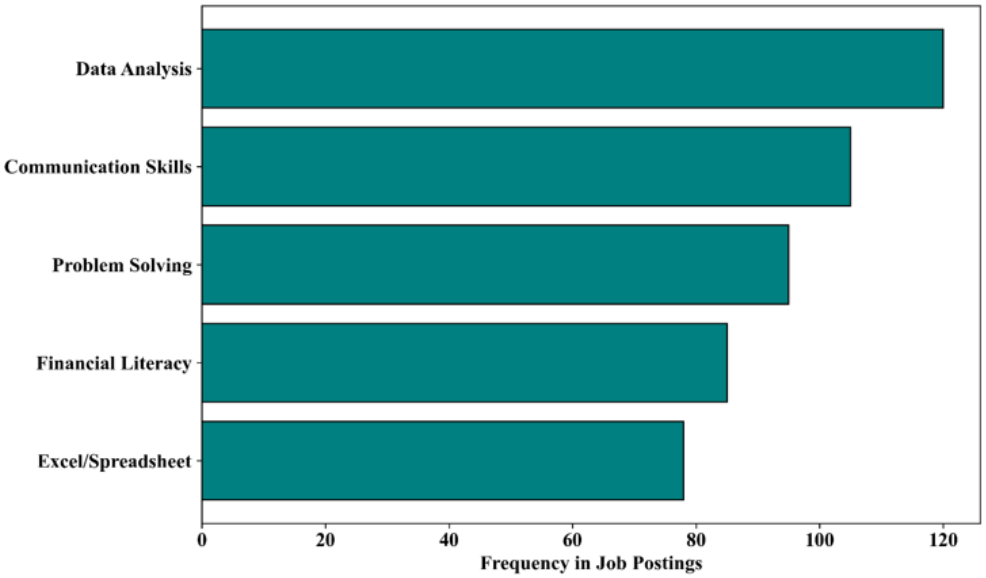

Figure 3: Frequency in Job Postings

Figure 4 illustrates the trends in internship participation and subsequent employment outcomes over the period 2018–2022, thereby supporting the hypothesis that experiential learning is positively associated with graduate employability. Both indicators display an overall upward trajectory across the five-year span, despite isolated episodes of year-on-year decline. Internship participation increased steadily from approximately 40 per cent in 2018 to 55 per cent in 2022, signalling growing student engagement in activities centred on practical work experience. Correspondingly, employment rates reached their highest point in 2022 at 78 per cent, further reinforcing the link between hands-on industry exposure and enhanced job readiness.

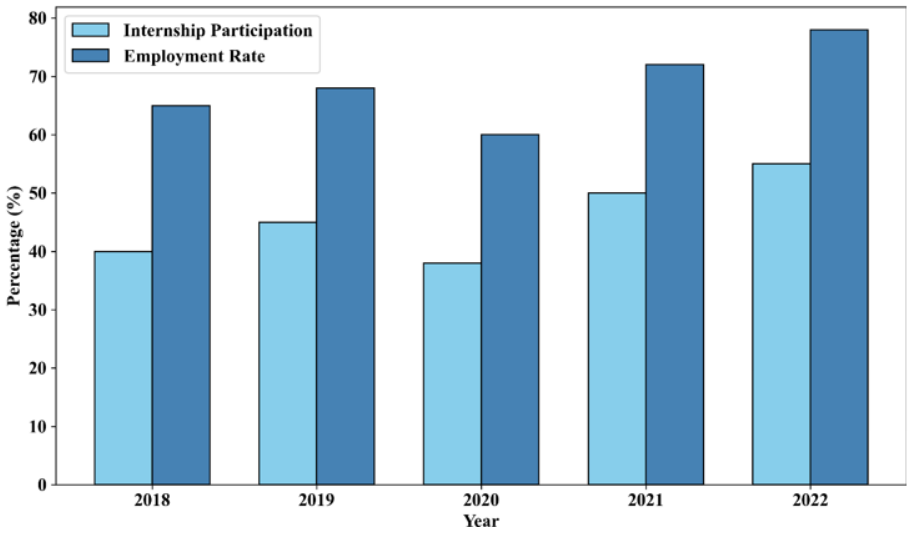

Figure 4: Internship Participation

The temporary reduction observed in 2020 for both measures may be attributed to

International Journal of Instructional Cases
ISSN: 2399-830x

global disruptions that affected higher education and labour markets during that year. The subsequent recovery from 2020 onwards highlights a renewed recognition of the value of practical components within academic programmes. These results confirm that internship opportunities substantially contribute to the development of employability and strengthen academic outcomes in line with labour market expectations.

Figure 5 reports the satisfaction ratings (on a scale of 10) across different domains of skill development, reflecting participants' perceptions of the effectiveness of training in these areas. Among the five categories, Financial Literacy achieved the highest score of approximately 7.2, indicating a strong level of satisfaction with the learning experience in this domain. Collaboration and Communication followed with scores of 6.5 and 6.0 respectively, suggesting that participants considered these skills to be moderately well addressed, particularly in relation to teamwork and interpersonal interaction. In contrast, Data Analysis and Problem Solving were rated lower, at around 5.5 and 5.0 respectively, signalling areas where instructional delivery and perceived relevance require strengthening. These findings imply that while financial and interpersonal skills are being reasonably well supported, further curriculum enhancement is needed to foster analytical and critical thinking capacities more effectively. Overall, the results provide valuable evidence on learner perceptions of competency development, offering a practical basis for informing the refinement of future training initiatives.

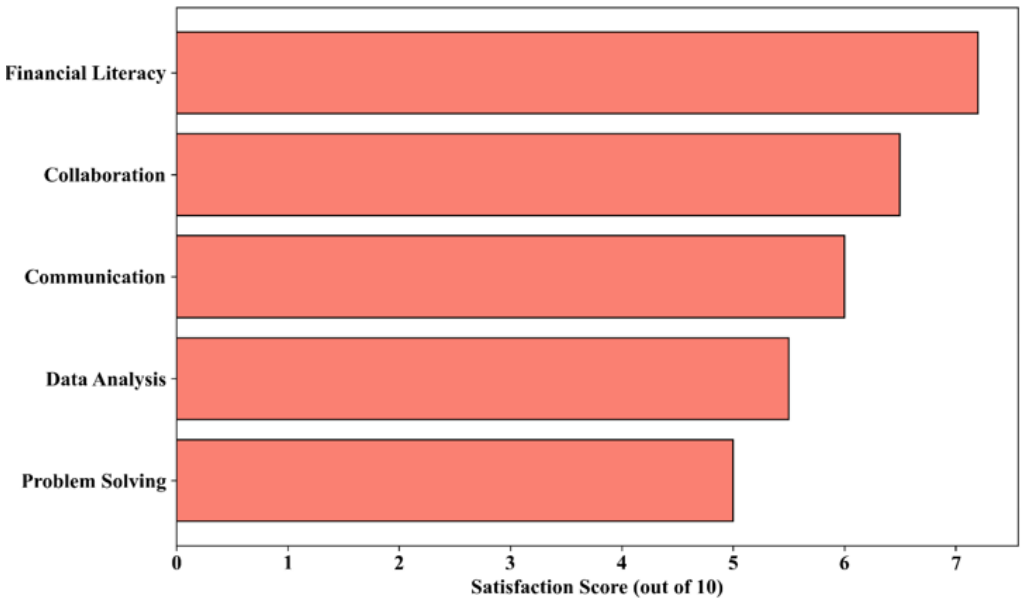

Figure 5: Satisfaction Score

Figure 6 illustrates the Skill Mastery Index (SMI) scores (ranging from 0 to 100), offering a quantitative measure of proficiency across five key competency areas. Among these, Presentation Skills secured the second-highest score at 60, closely followed by Data Analysis at 58, indicating moderate but relatively limited mastery in

International Journal of Instructional Cases
ISSN: 2399-830x

these domains. These comparatively stronger results may be attributed to participants' exposure to structured training in verbal, visual, and analytical communication. In contrast, Critical Thinking and Financial Modelling received lower SMI scores of 50 and 45 respectively, highlighting significant scope for the development of higher-order reasoning abilities and specialised financial expertise. Strengthening these areas may require more practice-oriented pedagogy and targeted instructional design to foster applied competence. Overall, the chart underscores that while core communication and presentation abilities are reasonably supported, advanced cognitive skills and technical financial capacities remain underdeveloped, necessitating more specialised curricular interventions.

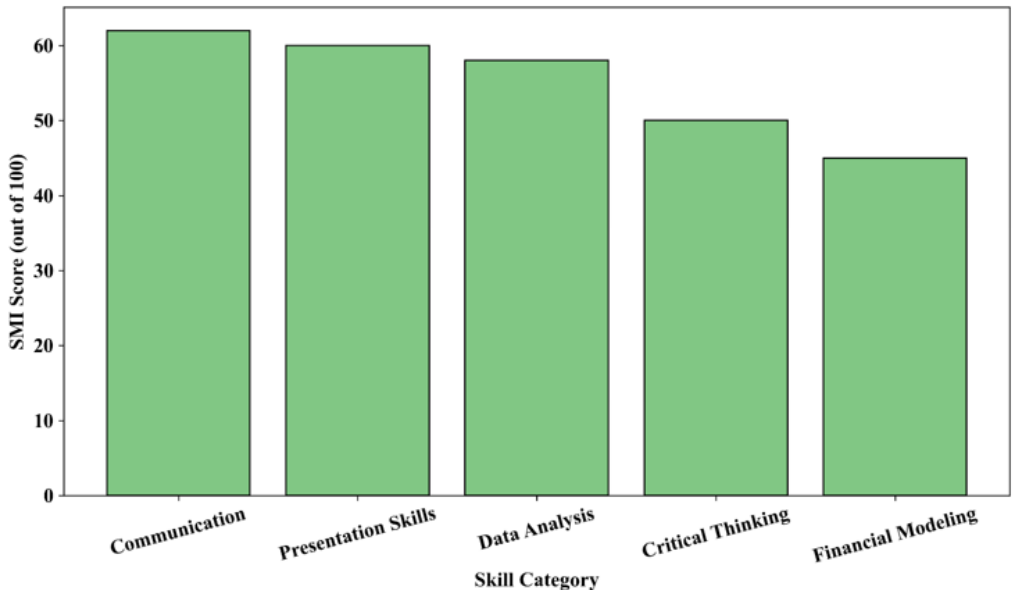

Figure 6: SMI Score

Figure 7 presents the distribution of unemployment and sectoral absorption among economics graduates across different employment domains. The Finance sector accounts for the largest share, at 30.0%, reflecting a relatively strong alignment with economics training. Both the Government/Public sector and the Unemployed/Other category constitute 20.0% each, suggesting that a considerable proportion of graduates either pursue public service roles or encounter difficulties in securing suitable employment. Consulting positions represent 13.3%, indicating a moderate level of integration into strategic and advisory occupations. In contrast, only 10.0% of graduates are employed in Tech/Data Analytics, a sector characterised by growing demand, thereby pointing to a gap in data-related and technical preparation. Education and Research comprise the smallest proportion, at 6.7%, reflecting limited engagement with or opportunities in academic pathways. Taken together, these figures highlight a potential misalignment between educational preparation and labour market requirements, with particular concern arising from underrepresentation in technology-driven fields and the notable levels of unemployment or misemployment among recent graduates.

International Journal of Instructional Cases
ISSN: 2399-830x

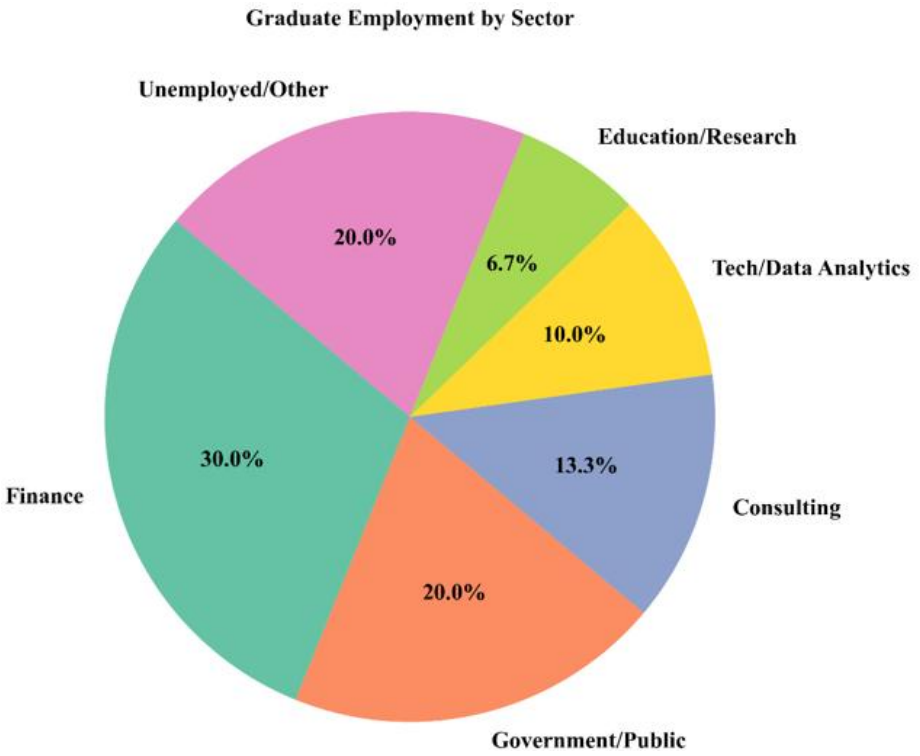

Figure 7: Graduate Employment by Sector

Figure 8 demonstrates the comparative assessment of Curriculum Coverage and Employer Demand across six essential skill domains, clearly exposing the extent of mismatches between economics training and workplace expectations. In Data Analysis, employer demand reaches the maximum rating of 5, while curricular provision lags at 3, underscoring a considerable deficit in quantitative preparation. A similar shortfall is observed in Communication, where employers rate the importance at 5 but the curriculum offers only 3, revealing insufficient attention to interpersonal and professional competencies.

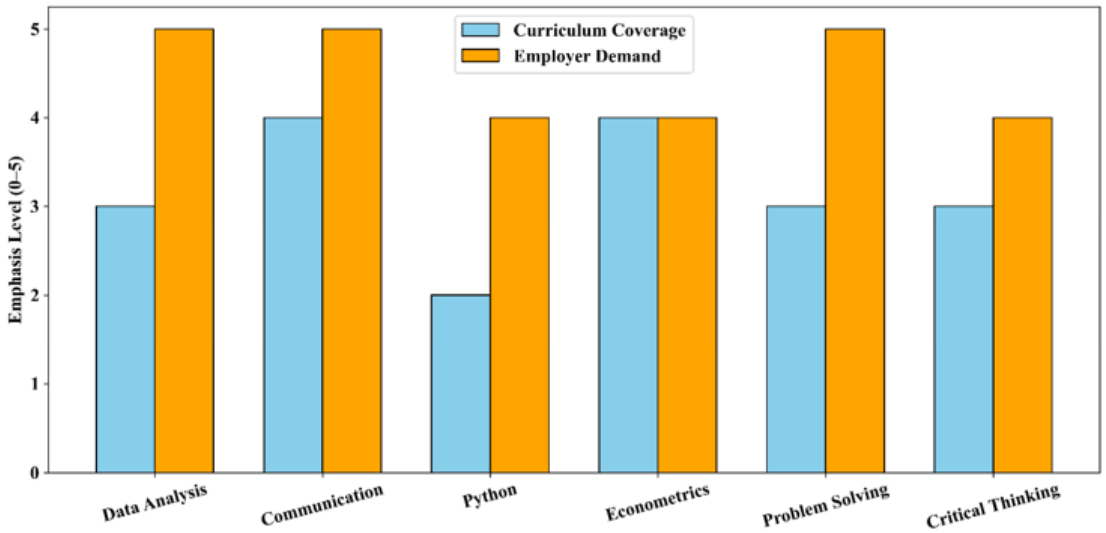

Figure 8: Emphasis Level

The disparity is even more pronounced in Python programming, with a minimal

International Journal of Instructional Cases
ISSN: 2399-830x

curricular score of 2 compared to a demand level of 4, signalling the need for stronger integration of technical and programming skills within economics education. Econometrics presents a comparatively balanced picture, with both employer expectations and curricular coverage rated at 4, making it one of the few areas of close alignment. Conversely, Problem Solving illustrates another marked deficiency, with employers valuing it at 5 while the curriculum addresses it at only 3. Critical Thinking reveals a moderate misalignment, with employer demand at 4 against a curricular rating of 3. Collectively, these results reinforce the persistence of structural gaps between academic provision and industry requirements, particularly in applied analytical, technical, and communicative domains, and stress the necessity of curricular revisions to strengthen graduate employability.

Figure 9 presents the regression analysis evaluating the interrelationship between the SAI, employer input, and the perceived relevance of the curriculum. The regression output reveals a notably strong intercept (β_0 = 12.50), indicating that even in the absence of explanatory factors, a substantial baseline of curriculum relevance is present. The coefficient associated with SAI (β_1 = 0.65) reflects a moderate but positive contribution of alignment to curriculum relevance, whereas the coefficient for employer input (β_2 = 4.20) demonstrates a considerably stronger effect, emphasising the decisive role of industry expectations in guiding programme design. The model's explanatory capacity is further confirmed by the R^2 value of 0.76, signifying that 76 per cent of the variation in curriculum alignment can be accounted for by SAI and employer requirements. This outcome underscores the importance of combining alignment indices with industry insights to accurately address discrepancies between higher education provision and labour market expectations.

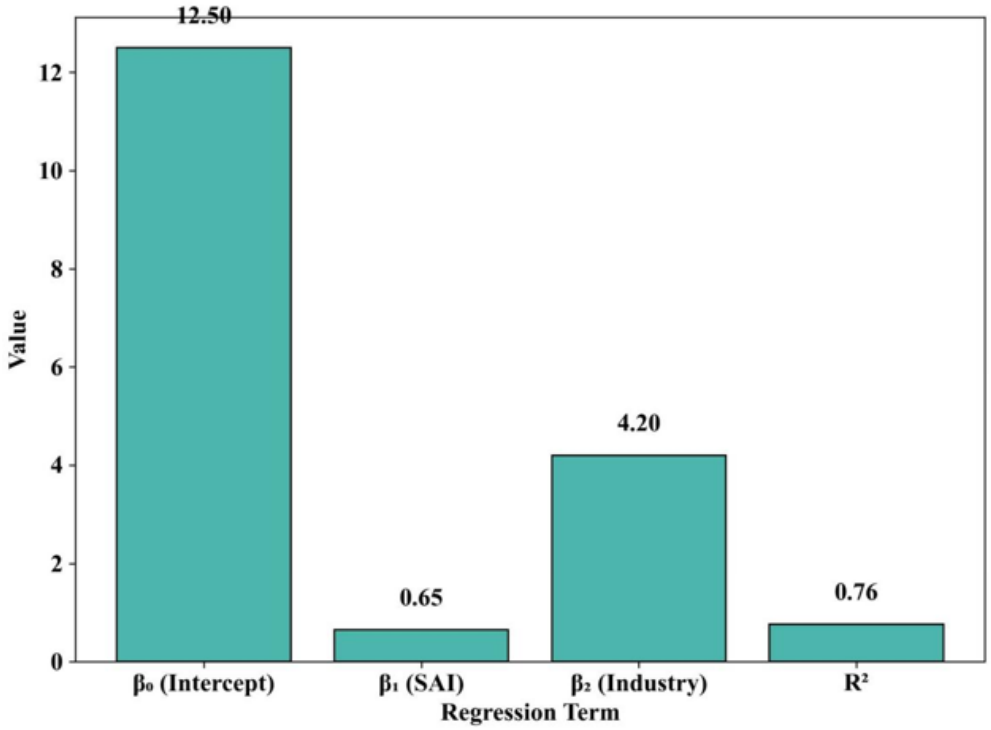

Figure 9: Regression Analysis

International Journal of Instructional Cases
ISSN: 2399-830x

Discussion

The SMI findings reinforce the evidence of a persistent structural imbalance between the competencies developed within economics education and those prioritised in the labour market. While graduates demonstrate comparatively stronger outcomes in Communication (62), Presentation Skills (60), and Data Analysis (58), these proficiencies, though valuable, do not sufficiently correspond to the technical capabilities required in professional business environments. The lowest scores, Critical Thinking (50) and Financial Modelling (45), point to marked deficiencies in advanced reasoning, economic analysis, forecasting, and strategic decision-making. This disparity illustrates how current academic provision tends to emphasise interpersonal and general analytical skills, while employers continue to stress the necessity of applied problem-solving and robust quantitative expertise (Ariansyah et al., 2024; Salem et al., 2024). The consistent neglect of technical competencies within curricula reflects a systemic shortfall in aligning education with workplace expectations. Consequently, these outcomes highlight the pressing need for reform to ensure economics and business graduates acquire the specialised skill sets required to perform effectively and contribute innovatively within industry contexts.

Conclusion

The findings of this study demonstrate a pronounced structural misalignment between the competencies imparted in economics education and the dynamic skill requirements of the labour market. The persistent decline in graduate employment rates, despite strong academic records, underscores the inadequacy of existing curricular frameworks in preparing students with relevant and practically applicable expertise. Deficits in data analysis, problem-solving, and communication—skills consistently prioritised by employers—signal the urgent need for instructional transformation towards practice-oriented learning. This research therefore concludes that economics curricula must be redesigned to incorporate applied coursework, industry-based projects, and sustained engagement with employers. Such reforms are essential not only to enhance graduate employability but also to ensure responsiveness to evolving labour market conditions. Bridging this divide necessitates coordinated efforts across academia, industry, and policy spheres, creating a framework where educational provision and workplace demands are harmonised, enabling graduates to transition seamlessly from academic study into productive professional roles.

Limitations and Future Directions

While the study provides important insights, certain limitations must be acknowledged. The analysis is largely qualitative and restricted to a particular set of

International Journal of Instructional Cases
ISSN: 2399-830x

curricula and labour market requirements, which may not adequately reflect the breadth of educational contexts or sectoral variations. Moreover, the research does not include a quantitative assessment of the direct impact that the recommended curricular reforms might have on graduate employability. Future investigations should therefore adopt broader institutional samples and longitudinal datasets to evaluate the long-term effectiveness of such reforms. There is also significant potential to design interdisciplinary, industry-responsive learning frameworks through closer collaboration between universities, employers, and policymakers. Strengthening curricula with digital competencies, incorporating real-time labour market analytics, and embedding applied learning experiences can further enhance the congruence between academic training and 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), 20. 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://doi.org/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

International Journal of Instructional Cases
ISSN: 2399-830x

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), 697-720. 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 International Publishing. https://doi.org/10.1007/978-3-031-68229-2_3

Hassan, M. (2025). Higher Education and Labor Market Outcomes: Investigating the Rise of Educated Unemployment. *Strategic Data Management and Innovation*, *1*(01), 1-13.

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), 77-102. https://doi.org/10.1007/s11133-020-09471-y

International Journal of Instructional Cases
ISSN: 2399-830x

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 and Foresight Science*, *7*(1), e70000-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., Al-Alawi, 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. *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*, *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