

## Higher Education, Migration, and Unemployment: A Comparative Analysis of Iran and Regional Countries

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### ABSTRACT

Higher education, as the most influential institution responsible for achieving national development goals, should critically evaluate its programs, policies, and structures while leveraging the successful experiences of other countries. This study examines university education in Iran and selected regional countries from economic, educational, and social perspectives. This applied research adopts a descriptive-analytical approach, utilizing cross-sectional data from 2014 to 2023. The study employs secondary data analysis, relying on statistics and information from national and international institutions. The research focuses on Iran, Saudi Arabia, Turkey, Pakistan, and the United Arab Emirates (UAE). In all studied countries (except for minor fluctuations), the share of higher education expenditure in GDP has generally declined. The UAE exhibits the highest fluctuations in net higher education enrollment, reflecting rapid policy shifts. In contrast, Pakistan and Saudi Arabia show the most stable trends, while Iran and Turkey have experienced declines since 2019. The highest unemployment rates are observed in Iran, followed by Turkey, Pakistan, Saudi Arabia, and the UAE. The UAE and Saudi Arabia lead in attracting foreign students, indicating active university internationalization policies and investments in globally competitive higher education. Conversely, Iran and Pakistan have the lowest rates, likely due to political-economic constraints and inadequate infrastructure for international students. In Saudi Arabia and the UAE, strong correlations exist between higher education budgets, enrollment rates, immigration policies, and unemployment reduction. In Iran and Turkey, enrollment and unemployment are closely linked, yet policies have failed to curb unemployment effectively. Pakistan shows no significant relationship between these variables. The interplay between higher education and economic indicators is heavily influenced by national policy frameworks. Countries with cohesive strategies (e.g., Saudi Arabia and the UAE) demonstrate greater success, whereas others face structural inefficiencies. Key recommendations include: reforming higher education to align with labor market demands; supporting startups and private-sector collaboration; developing national employment policies through university-industry partnerships; diversifying economies to reduce reliance on natural resources; and fostering innovation-driven industries.

**Keywords:** Higher education, policy evaluation, educational policies, education, immigration, unemployment

## Introduction

Higher education is a critical driver of economic growth, providing the skilled workforce essential for modern economies (Pee & Vululleh, 2020). It fosters societal development by bridging universities and local economies, enhancing graduate employability, and stimulating regional markets. For instance, research shows that higher education can lead to job creation and economic transformation within communities, particularly in regions where graduates significantly influence local market dynamics and employment opportunities (Khalafollah, 2021).

Despite its potential, many higher education systems—especially in developing nations like Iran and its neighbors—face a persistent challenge: the misalignment between quantitative expansion and qualitative impact on socioeconomic development. While enrollment rates in higher education have risen across the Middle East and South Asia (e.g., reaching 58% in Turkey and over 40% in Saudi Arabia, according to 2024 World Bank data), this growth often coincides with significant challenges. These include high graduate unemployment (youth unemployment rates hover around 10% in Pakistan and exceed 25% in Iran) and widening social inequality. Global rankings further highlight these disparities: in the Times Higher Education 2025 rankings, Saudi Arabia and the United Arab Emirates entered the top 200 global universities for the first time. In contrast, despite notable progress in younger institutions (Iran ranks second among Islamic countries in the 2024 Young University Rankings), it remains lower in overall global standings. This underscores the urgent need for structural reforms, as higher education not only contributes to GDP growth (with an estimated rate of return of 17%, per World Bank reports) but also plays a pivotal role in reducing inequality and fostering cultural cohesion. Yet, in the Middle East, educational expansion often paradoxically aligns with brain drain and unemployment (World Population Review, 2025).

In this context, higher education's mission as a key institution for realizing national development goals requires critical attention to its programs, policies, and foundational pillars while drawing lessons from the experiences of other countries. Moreover, in line with the commitments outlined in its 20-Year Vision Document, the Islamic Republic of Iran aims to achieve regional leadership in scientific production through strategic planning and systematic reforms in its higher education system. Achieving this goal necessitates continuous monitoring of global higher education trends and policies, as well as systematic benchmarking against international standards.

In summary, analyzing and comparing higher education systems from economic, educational, and social perspectives is essential due to their profound impact on individual lives and societal progress. Such analyses enable more informed policymaking and educational practices that align with the needs of both society and the economy.

## Methodology

This study is applied in purpose and falls under descriptive-analytical research in terms of methodology. The data were considered cross-sectionally for the period 2014 to 2023. The present study was conducted using secondary data analysis and relies on the analysis of statistics and information obtained from national and international institutions. The collection of secondary data was primarily carried out through library methods, including the study of various documents, compilation of organizational, national, and international data and statistics, online surveys and searches of various databases, review of theses and scientific books, and examination of various organizational reports and plans. The research population consisted of the Islamic Republic of Iran, Saudi Arabia, Turkey, Pakistan, and the United Arab Emirates. The four main indicators studied in this research were extracted from various sources as follows.

**Table 1. Studied Indicators and Their Data Sources**

No.	Indicator	Data Source
1.	Share of Higher Education Budget from GDP (%)	World Bank / UNESCO
2.	Net Enrollment Rate in Higher Education (Ages 18–24) (%)	World Bank
3.	Unemployment Rate of Graduates (Ages 15–34) (%)	International Labour Organization (ILO) / National Statistics
4.	Rate of Academic Migration (International Students to Total Students) (%)	UNESCO

Descriptive and analytical statistics were performed using the following methods.

**Table 2. Statistical Methods Used in the Present Study**

Statistical Method	Analytical Purpose	Application in the Study
Correlation (Pearson/Spearman)	Examining linear/non-linear relationships between variables	Relationship between budget and unemployment in each country
Multiple Regression	Predicting unemployment using multiple variables	Iran, Turkey, Saudi Arabia
K-Means Clustering	Classifying countries based on patterns	Identifying country groups
Time Trend Analysis	Examining long-term trends	Iran (rising unemployment), UAE (growth in migration)
Sensitivity Analysis	Examining the impact of outliers	Regression models in Iran and Pakistan
Granger Causality Test	Testing causality in time series data	Effect of previous year's budget on current year's unemployment

To analyze the overall results at the country level, a combination of statistical methods was used:

- Descriptive Methods: Calculation of mean, standard deviation, and time trends.
- Inferential Methods: Correlation, regression, and cluster analysis.
- Advanced Methods: Granger causality test to examine causal relationships.

## Findings

The share of higher education budgets as a percentage of GDP in Iran, Turkey, Saudi Arabia, Pakistan, and the UAE (2014–2023) has exhibited a declining trend across the region. In Iran, the consistent decline, coupled with a low standard deviation, reflects the diminished priority of higher education due to economic pressures and the reallocation of resources to other sectors. Turkey, while experiencing a milder decline, maintains relatively higher investment levels compared to Iran, focusing on advancing its top-tier universities and attracting international students. Saudi Arabia allocates the highest budget share to higher education, aligning with Vision 2030's goals for economic diversification and educational enhancement. In contrast, Pakistan, with the lowest budget allocation, struggles with inadequate facilities and subpar educational quality. The UAE, investing moderately in higher education, leverages partnerships with international universities to attract global talent and bolster its academic ecosystem.

Higher education enrollment rates among youth aged 18–24 vary significantly across these countries. Saudi Arabia leads with the highest rate (65.2%), followed by Turkey (56%). Iran, however, has seen a decline since 2019, with its current rate at 40.7%. Pakistan records the lowest enrollment rate (14.4%), reflecting systemic challenges in access and infrastructure. The UAE demonstrates rapid growth (35.3%) but exhibits high fluctuation, driven by policies aimed at attracting international students and enhancing its global educational footprint.

Graduate unemployment rates further highlight regional disparities. Iran faces the highest rate (33% in 2023), underscoring a significant mismatch between educational outcomes and labor market demands. The UAE reports the lowest rate (8%), benefiting from its diversified economy and targeted skill-development programs. Turkey (25.2%) and Pakistan (18%) show moderate but steady unemployment levels, while Saudi Arabia has seen improvements since 2020, with its rate now at 11%.

Academic migration trends also reveal notable differences. The UAE (19.4%) and Saudi Arabia (7.3%) lead in attracting international students, thanks to their aggressive internationalization policies and world-class institutions. Turkey (8%) has experienced steady growth in this area. In contrast, Iran (0.82%) and Pakistan (0.45%) report the lowest rates, constrained by infrastructural limitations and geopolitical challenges.

Overall, the data underscores the impact of economic pressures and shifting priorities on higher education in the region. Persistent challenges such as graduate unemployment, skills mismatch, and uneven access to quality education remain critical obstacles to socioeconomic development. Addressing these issues requires strategic reforms and sustained investment to ensure higher education systems can meet both individual aspirations and broader societal needs.

## Conclusion

In this comparative study, the higher education systems of five countries—Iran, Turkey, Saudi Arabia, Pakistan, and the United Arab Emirates—were comprehensively analyzed from economic, educational, and social perspectives. The findings reveal that Saudi Arabia and the UAE have successfully established positive feedback loops connecting economic investment, educational development, and social progress through integrated, long-term policies such as Vision 2030. By consistently

allocating over 1.5% of their GDP to education, these nations have not only significantly increased higher education enrollment rates but also reduced graduate unemployment through skill-oriented programs and targeted international student recruitment. Statistical analyses show strong correlations (above 0.9) among key indicators in these countries, highlighting the effectiveness of their strategies.

In contrast, Iran and Turkey, despite having young populations and considerable scientific potential, face structural challenges due to economic instability, international sanctions (in Iran's case), and a mismatch between educational outcomes and labor market demands. While higher education enrollment rates have increased, this has not translated into reduced unemployment and, in some cases, has widened the gap between the supply and demand for skilled labor. Similarly, Pakistan, the fifth country examined, shows no significant correlation between higher education indicators and socioeconomic outcomes, reflecting deep deficiencies in both educational infrastructure and economic planning.

This research underscores that the mere quantitative expansion of higher education is insufficient for achieving socioeconomic development goals. Success in this domain requires forging organic linkages among educational institutions, industrial sectors, and government policymakers. The experiences of regional leaders demonstrate that coherent strategies, sustainable investment, and institutional flexibility are the three fundamental pillars for transforming higher education systems. This study serves as a critical warning to policymakers in developing nations: without substantial reforms to current approaches, the educational and economic gap with regional leaders will continue to widen.

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