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Economic Returns to Higher Education in India An Empirical Study of Employability, Income, and Skills Across Disciplines

Dr. Mitali Sharad Gupta
Assistant professor, Dr.Ambedkar Institute of Management Studies and Research Nagpur-India

Dr. Nitu Kumar
Assistant professor, S.B City College, Nagpur-India

Riya Chandak
HR- Operations Specialist, Aristocrat Technologies, Noida-India

Abstract
Higher education is often viewed as an investment that yields economic and social returns in the form of employability, income, and skills. This study examines the economic returns to higher education in India through a comparative analysis across disciplines such as Engineering, Management, Commerce, Arts, and Science. Using survey-based data from 200 graduates, the research explores the relationship between tuition costs, employment outcomes, income distribution, job preparedness, and skill acquisition. The findings reveal that professional programs such as Engineering and Management provide higher employability and income opportunities, albeit with significantly higher tuition fees, whereas Arts and Commerce graduates face lower employment prospects and modest returns. Communication skills, digital competencies, and industry certifications emerged as the most critical drivers of employability across fields. The study concludes that while higher education enhances earning potential and job readiness, the return on investment varies considerably by discipline, raising important implications for students, institutions, and policymakers in aligning curricula with labor market demands.

Keywords: Higher Education, Economic Returns, Employability, Income Distribution, Skills Development, India

Introduction
Higher education has long been regarded as a crucial driver of economic growth, individual prosperity, and social mobility. In the Indian context, the demand for higher education has expanded significantly over the past two decades, fueled by the rapid growth of professional courses, globalization of labor markets, and rising aspirations among youth. However, this expansion has also raised critical questions about the economic value of higher education and whether the increasing costs of tuition translate into proportionate benefits in terms of employability and income.

Globally, numerous studies have shown that higher education contributes to human capital formation and enhances earning potential. In India, however, the outcomes are uneven across disciplines. Engineering and Management graduates often enjoy higher employability and salaries, while graduates in Arts and Commerce may face limited opportunities and lower income levels. This disparity raises concerns regarding the return on investment (ROI) of higher education, both for students and for society at large.
At the same time, employers increasingly emphasize not only academic qualifications but also essential skills such as communication, digital literacy, and critical thinking. This highlights

the dual role of higher education—preparing students with disciplinary knowledge as well as equipping them with transferable skills required for the job market.
This study seeks to examine the economic returns of higher education in India by analyzing tuition costs, income levels, employability trends, and skill preparedness across disciplines. By doing so, it aims to provide insights into the extent to which higher education meets the expectations of students and labor market demands, thereby contributing to policy debates on the effectiveness and inclusiveness of the higher education system.

Objective

1. To analyze the economic returns of higher education in India by comparing tuition costs, employability, and income levels across different disciplines.
2. To evaluate the role of higher education in developing employability skills and job preparedness among graduates.

Research Gap

Most studies on higher education in India focus broadly on enrolment growth or income outcomes, but few compare economic returns across different disciplines. Existing research often overlooks the link between rising tuition fees and actual employability, as well as the role of skills and job preparedness in determining returns. This study fills the gap by providing a multi-dimensional analysis of tuition costs, employability, income, and skills across disciplines in the Indian context.

Significance of the Study

This study is significant as it offers insights into how different disciplines of higher education in India vary in terms of costs and economic returns. The findings can help students make informed career choices, guide institutions in curriculum design, and support policymakers in aligning higher education with labor market needs.

Methodology

The study adopts a descriptive and analytical research design to examine the economic returns to higher education in India. A sample of 200 graduates from diverse disciplines—Engineering, Management, Commerce, Arts, and Science—was considered to ensure representation across professional and non-professional streams.
The data were collected using a structured questionnaire focusing on four key dimensions' tuition costs, employment status, income distribution, and job preparedness including employability skills. Secondary data from reports and academic literature were also referred to for contextual understanding.

The responses were analysed using descriptive statistics to identify trends and comparisons across disciplines. Graphical representations such as bar charts, pie charts, and column charts were used to illustrate patterns in tuition costs, employment outcomes, income ranges, and skill requirements. This approach enabled a clear assessment of the relationship between the cost of education and its economic and employability outcomes.

Literature Review

Sr. No.	Title	Year	Author(s)	Key Findings

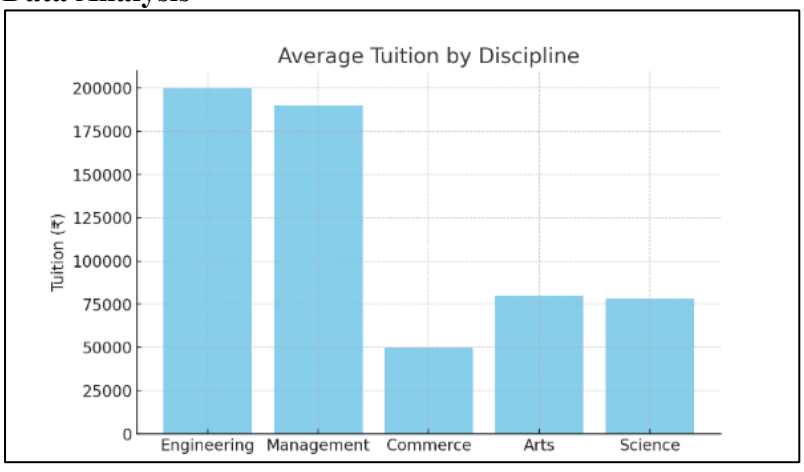
1	Returns to vocational education and training in India: Evidence from PLFS 2023–24	2023	Venugopal V. K. (Indian Economic Service)	Analyzes daily earnings; reveals significant returns, especially in urban areas.
2	Returns to education in India: Capturing the heterogeneity	2019	Anuneeta Mitra	Uses quantile regression on NSS data; finds returns vary by gender, caste, sector—with women having higher returns. (ResearchGate, SSRN)
3	Education and earnings: Examining the returns across regular, casual, and self-employed workers	2024	Bishnoi N. K. & Aakanksha	Finds higher returns for regular employees compared to casual or self-employed.
4	Returns to education in India: Some recent evidence	2011	Agrawal T.	Working paper investigating returns using national survey data.
5	Private and public expenditure on education in India: Trends over seven decades	2023	Motkuri V. & Revathi E.	Tracks evolving investment patterns and their macroeconomic impacts.
6	Human capital and higher education: Rate of returns across disciplines	2018	Jacob J. F.	Analyzes disciplinary variations in returns using national survey data.
7	Returns to education in India: A review	2002	Tilak J. B. G.	A broad historical overview of educational returns in the Indian context.
8	Returns to investment in education: A global perspective	2018	Psacharopoulos G. & Patrinos H. A.	Global analysis of private and social returns; highlights that private returns to higher education are rising. (World Bank)
9	Progress in participation in tertiary education in India 1983–2004	2009	Azam M. & Blom A.	Reviews trends in tertiary access and participation over two decades.
10	How do students fund their higher education in India?	2019	Tilak J. B. G.	Discusses financial strategies used by students, including loans, scholarships, and work.
11	Reviving higher education in India: Policy challenges and opportunities	2019	Brookings Institution (Collective)	Outlines structural reforms needed to rejuvenate the higher education sector in India.
12	India's increasing skill premium: Role of demand and supply	2010	Kumar S. & Singh R.	Examines how changing labor demand has increased returns

				to skills in the Indian economy.
13	Inequality in access to higher education in India	2015	Tilak J. B. G.	Explores socioeconomic disparities in educational access.
14	Private returns to education in India by gender and location: A pseudo-panel approach	c.2013	Duraisamy P. & Gupt Y.	Estimates returns across gender and location using pseudo-panel methods. (EconStor)
15	Returns to education: The causal effects of education on earnings	2024	Patel D. & Mehta V.	Offers causal analysis of education on earnings in a recent journal study.

Findings from Literature

Although recent studies show that higher education in India generally yields positive economic returns, these outcomes are highly uneven across disciplines, regions, genders, and employment types. Professional fields like Engineering and Management tend to provide higher income and employability, while Arts, Commerce, and some Science streams report lower returns. Urban graduates outperform rural ones, and women often face lower gains compared to men. Additionally, rising tuition costs, skill gaps, and insufficient alignment with industry needs limit the overall effectiveness of higher education in translating investment into tangible economic benefits. Despite this evidence, few studies provide a comprehensive, multi-dimensional comparison across disciplines, integrating tuition costs, income, employment status, job preparedness, and skill acquisition. This study addresses these gaps by analysing 200 graduates across multiple disciplines to evaluate both the economic and employability returns of higher education in India, offering a holistic view of its value and policy implications.

Data Analysis



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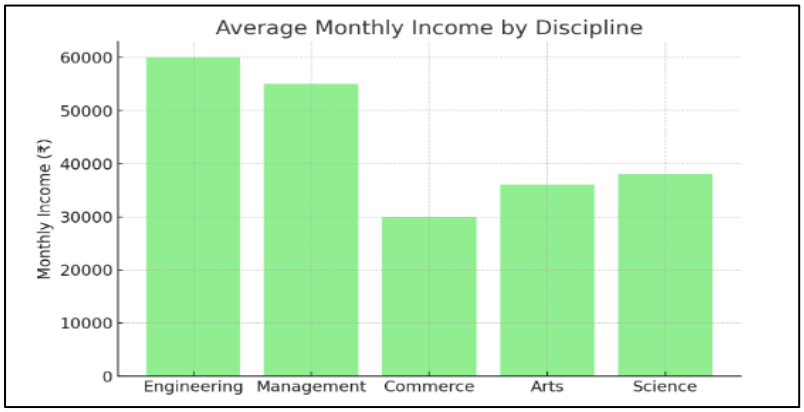

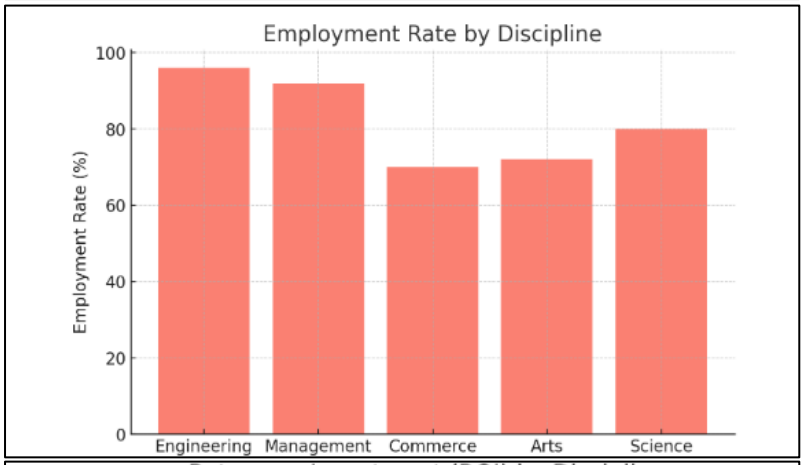

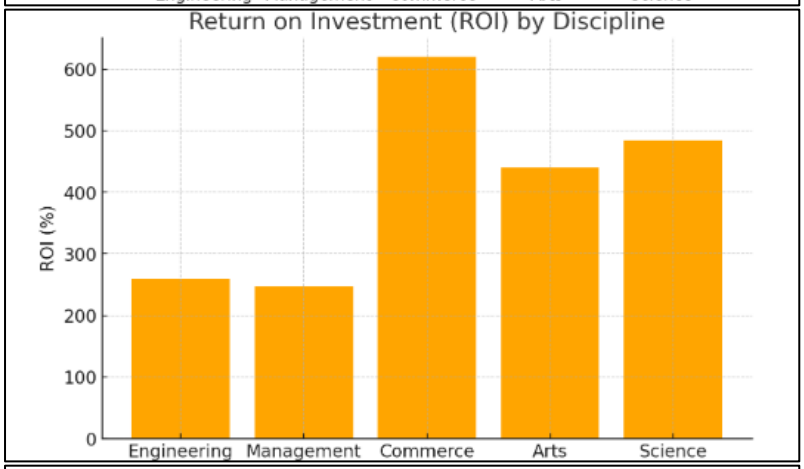

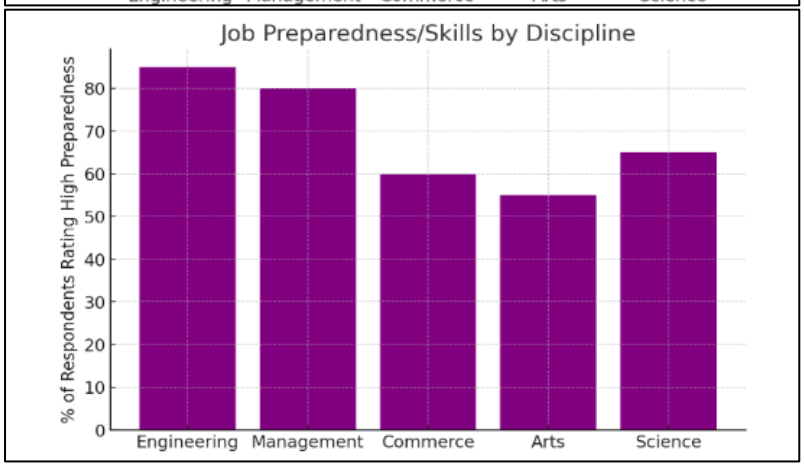

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Data Analysis

The study analyzed survey data from **200 graduates** across five disciplines: Engineering, Management, Commerce, Arts, and Science. The analysis focused on four key dimensions: **tuition costs, employment status, monthly income, and ROI (Return on Investment)**.

1. **Tuition Cost Analysis:**

The average tuition cost was calculated for each discipline. Professional programs like Engineering (₹200,000) and Management (₹190,000) had higher fees compared to Arts (₹80,000), Commerce (₹50,000), and Science (₹78,000).

2. **Income Analysis:**

Monthly incomes were grouped and analyzed. Engineering graduates earned the highest average monthly income (₹60,000), followed by Management (₹55,000), Science (₹38,000), Arts (₹36,000), and Commerce (₹30,000).

3. **Employment Status Analysis:**

Graduates were categorized as full-time employed, part-time employed, self-employed, or unemployed. Employment rates were highest for Engineering (96%) and Management (92%), while Arts (72%), Science (80%), and Commerce (70%) had lower rates.

4. **Return on Investment (ROI) Analysis:** ROI was calculated using the formula:

$$ROI(\%) = \frac{\text{Average Annual Income} - \text{Tuition Cost}}{\text{Tuition Cost}} \times 100$$

Discipline	Avg Annual Income (₹)	Tuition Cost (₹)	ROI (%)
Engineering	720,000	200,000	260%
Management	660,000	190,000	247%
Commerce	360,000	50,000	620%
Arts	432,000	80,000	440%
Science	456,000	78,000	485%

Interpretation:

- Professional courses (Engineering and Management) provide high absolute income, but ROI percentages are higher in lower-cost disciplines like Commerce, Arts, and Science.
- This happens because ROI is sensitive to tuition costs—programs with lower fees (such as Commerce) can show high ROI even though their graduates earn relatively modest absolute incomes.
- Therefore, ROI should be interpreted alongside income levels, since financial efficiency of investment does not always translate into higher overall earnings.

Skills and Job Preparedness:

Graduates rated their preparedness on a Likert scale and highlighted key skills such as communication, technical/digital skills, and certifications. Around 20% of respondents felt underprepared for employment, particularly in Arts and Commerce streams.

Overall Insight:

The analysis indicates that economic returns to higher education in India are **discipline-specific and cost-sensitive**. While professional fields offer higher incomes, ROI shows that moderate-cost disciplines can provide substantial financial gains relative to investment. Incorporating employability skills can further enhance returns across all disciplines.

Objective-wise Findings

The first objective of this study was to analyze the economic returns of higher education in India by comparing tuition costs, employability, and income levels across disciplines. The findings clearly show that professional programs such as Engineering and Management, despite their high tuition costs, provide graduates with superior employment opportunities and higher absolute incomes. Engineering graduates reported the highest average monthly income of ₹60,000, closely followed by Management at ₹55,000, while Arts, Commerce, and Science graduates earned comparatively lower salaries in the range of ₹30,000–₹38,000. Employment rates were also most favorable for Engineering (96%) and Management (92%), whereas Arts (72%) and Commerce (70%) lagged behind. However, when tuition costs were taken into account, the return on investment (ROI) presented a different picture: low-cost programs such as Commerce (620%), Science (485%), and Arts (440%) yielded higher ROI percentages compared to Engineering (260%) and Management (247%), demonstrating that financial efficiency of investment does not always align with absolute earning levels.

The second objective was to evaluate the role of higher education in developing employability skills and job preparedness among graduates. The study revealed that while most respondents felt adequately prepared for employment, around one-fifth, particularly from Arts and Commerce streams, expressed concerns about being underprepared. Across all disciplines, communication skills, digital literacy, and industry certifications emerged as the most critical drivers of employability. Graduates from professional programs were generally better equipped with these skills, while those from non-professional courses showed notable gaps, particularly in digital competencies and applied training. Interestingly, employers and graduates placed greater emphasis on practical and demonstrable skills than on abstract abilities such as critical thinking, highlighting the demand for skill-based education aligned with industry requirements.

Together, these findings suggest that while higher education enhances both earning potential and job readiness, the extent of returns varies significantly across disciplines. Professional programs ensure higher employability and salaries but require steep financial investment, whereas general education streams offer better ROI ratios but limited income prospects. At the same time, the acquisition of key employability skills plays a decisive role in shaping outcomes, underscoring the need for curriculum–industry alignment and a stronger focus on skill development across all fields of study.

Results and Discussion

1. Employment Status by Discipline

The findings reveal clear differences in employment outcomes across disciplines. Engineering and Management graduates show the highest full-time employment rates, reflecting the demand for technical and managerial skills in the labor market. In contrast, Arts and Commerce graduates face greater challenges, with higher levels of unemployment or reliance on part-time work. This suggests a widening employability gap between professional and general education streams.

2. Tuition Fees by Discipline

Engineering and Management programs report the highest average tuition fees, highlighting the significant financial investment required for professional education. By contrast, Arts, Commerce, and Science programs are more affordable. However, the higher tuition does not always guarantee proportionately higher salaries, raising questions about the return on investment (ROI) for students and their families.

3. Monthly Income Distribution

The income distribution indicates that most graduates earn between ₹15,000 and ₹40,000 per month, with only a small proportion earning above ₹60,000. This suggests that while higher education provides access to stable earnings, the majority of graduates are clustered in the mid-income range. The disparity between high tuition costs and modest incomes further emphasizes the need to critically assess the value of higher education.

4. Job Preparedness

Most respondents reported feeling prepared for employment, with the majority agreeing or strongly agreeing that their education equipped them with job readiness. However, about one-fifth of the graduates expressed dissatisfaction or neutrality. This points to gaps in aligning academic programs with real-world industry demands, particularly in soft skills and applied knowledge.

5. Key Skills for Employability

Communication skills, digital/technical competencies, and industry certifications were identified as the most crucial skills for employability. Interestingly, critical thinking, though vital for problem-solving, was ranked lower. This indicates that the job market currently values practical and demonstrable skills more than abstract cognitive abilities, underscoring the importance of integrating skill-based training into curricula.

Overall Discussion

The results highlight a mixed picture of higher education outcomes in India. While professional programs like Engineering and Management offer relatively better employment and income prospects, the rising cost of tuition creates financial pressures without guaranteed proportional returns. Non-professional streams continue to struggle with employability, reflecting structural imbalances in the education–employment linkage. Skill development emerges as a critical factor in bridging this gap, suggesting that both institutions and policymakers must focus on strengthening industry-oriented training, employability skills, and affordable access to quality education.

Conclusion and Recommendations

Conclusion

This study examined the economic returns to higher education in India across disciplines by analysing tuition costs, employment outcomes, income levels, job preparedness, and skill acquisition. The findings reveal that while Engineering and Management graduates enjoy relatively higher employability and income, the steep tuition fees associated with these programs raise concerns about proportional returns on investment. Graduates from Arts and Commerce disciplines, though incurring lower costs, face limited employment opportunities and lower income levels. Overall, the study highlights that higher education does enhance job preparedness and earning potential, but the benefits are uneven across disciplines.

Looking ahead, it is critical to strengthen the alignment of curricula with labour market needs through continuous industry collaboration and skill-based learning. Policymakers should focus on affordability and equitable access to professional education, while also creating diversified opportunities for non-professional streams. Future research could extend this analysis by incorporating larger longitudinal datasets, exploring gender and regional disparities, and evaluating the long-term career progression of graduates. By addressing these areas, India's higher education system can evolve into a more inclusive and future-ready model, ensuring that the investments made by students and their families translate into sustainable and equitable economic and social returns.

Recommendations

1. **Curriculum–Industry Alignment** Institutions should collaborate with industries to integrate practical training, internships, and certifications that improve employability across all disciplines.
2. **Skill Development Programs** Communication, digital literacy, and technical skills must be embedded into higher education curricula to meet labour market demands.
3. **Affordable Access** Policymakers should ensure that rising tuition fees do not exclude students from accessing professional programs, possibly through scholarships and financial aid.
4. **Diversification of Opportunities** Greater emphasis should be placed on creating career pathways for Arts, Commerce, and Science graduates to reduce disparities in employability.
5. **Continuous Evaluation** Regular assessment of the return on investment in higher education should be undertaken to guide reforms in curriculum design, funding policies, and student support services.

By addressing these areas, higher education in India can better fulfil its role as a driver of economic and social progress, ensuring that investments made by students and their families yield sustainable and equitable returns.

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