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ABSTRACT

There is no debate that higher education has an important role in enhancing productivity at individual and national level. Owing to this importance higher education expansion appeared as a major societal change of 20th century. Pakistan following the suit converted its institute dealing with higher education i.e. University Grant Commission (UGC) in 2002 to HEC Higher Education Commission (HEC) to step ahead in making higher education's access easy for a large number of people. Therefore, this study reviews in detail the reforms taken so far by HEC to advance the purpose of its creation and what impact it had on quality and demand of higher education and does this higher education materialise itself in the form of earnings and returns for the individuals. So, for this purpose, we reviewed the most relevant studies that have brought to light the aforementioned issues and have tried to summarise these studies' most critical findings. For presenting a clearer picture of the scenario we also estimated some facts and figures from latest datasets pertaining to Pakistan and also from cross-country analysis. The overall finding shows that although HEC has introduced many reforms to improve the quality of higher education, however due to budget constraint and many other hurdles, it could not achieve its objective up to the desired level. Moreover, regarding the impact of higher education expansion on employment opportunities it is observed that unemployment of higher education has reached 18 percent and over education is 40 percent according to LFS 2020-21. Although, returns to education are high, as highly educated people crowd out low educated, however when we compare returns across the cohorts, we see that these have declined as young, educated cohorts are getting low returns compared to their older cohorts. One of the reasons for these low returns could be the stagnant demand of highly educated people and second the lack of skills which are required by the labour market. Therefore, this literature review concludes that without developing the labour market and without improving the quality of higher education, further investment in higher education expansion would be a waste of public and private resources.

1. INTRODUCTION

According to Growth and household production theories human capital is crucial for economic growth at both at individual and national level. Competences, skills, knowledge, education, and training represent the storehouse of human capital. Accumulated human capital at the individual level boosts productivity through knowledge, which in turn serves to enhance earnings (Becker, 1964). At the national level, endogenous growth theories (Lucas, 1988) also highlight the notion that a nation's economic growth can be significantly aided by enhancing its innovative ability.

The Human Capital hypothesis states that there is a pure productivity component to any investment made in human capital (McMahon, 1999). Human capital theorists have long held that education increases labour productivity by enhancing workers' cognitive capabilities. Research has demonstrated that increased labour productivity is positively correlated with educational attainment. The positive impact of human capital on households as well as the economy contributed to an increased enrollment in educational institutions across the world as many countries adopted education enhancement as a public policy. There has been seen a considerable increase in the average level of education across the world during the past several years (Barro & Lee, 2001; OECD, 2014). This in turn led to the spread of education at all levels with more emphasis on the expansion of higher education. The enrollment rate in higher education saw an increase of 200 percent by the end of last century

Many other views also prevail in literature regarding this higher education expansion. Some researchers are of the opinion that the spread of industrial revolution throughout the world increased demand for highly skilled labour, which in turn resulted in the expansion of tertiary education (Keep & Mayhew 1999; Beduwe & Planas, 2003). Also, the Industrial Revolution increased the demands for engineering and management professionals and, more recently, for Information Technology (IT) experts and the phenomenon is termed as Skill-Biased Technology Change (SBTC) in the literature (Goldin & Katz, 2009; Kristal, 2013). Another reason proclaimed for this increase in higher education is the political struggle among different community groups in the world to ensure better mobility chances for their children. These groups fought for securing better educational opportunities for their children, especially higher education, perhaps without taking into consideration the changes labour markets would undergo in the future (Collins, 1971). Another strand of literature suggests that this education expansion is due to public policy rather than driven by free markets (Haim, et al. 2019). Whereas, Schofer & Mayer (2005) are of the opinion that education expansion is not a need of the labour market. Rather, it is the effect of institutional change.

In any case, we see that education expansion is one of the most important societal changes of the twentieth century, with more emphasis on higher education (Calderon, 2012). The major expansion took place in the middle of the century, both in developed and developing nations, impacting them differently. Ransom (1993), examining the growth of higher education in developing nations, contends that resources—public and private—have not kept up with the rising costs and enrolment rates. Rising demand and enrollments, unequal access policies, exclusive public funding, underutilisation of professional staff, excessively theoretical curricula, and inappropriate teaching methods have resulted in high unit costs, high dropout and repeat rates, low graduate completion rates, and the production of graduates whose specialisations and skills do not match those required in the labour market in many countries, especially in developing nations (Tansel

& Tai, 2010). Because of this, the majority of higher education institutions in developing nations are having trouble producing and using the knowledge required to keep up with the quickly evolving demands of scientific and technological innovation. Even though there is a widespread crisis in the effectiveness and quality of higher education in developing nations, there are notable regional differences in higher education as well as institutional differences within a single nation. This suggests a wide range of potential policy solutions for advancement and creativity.

In Pakistan too this phenomenon resulted in the conversion of UGC, institute dealing with higher education matters, into HEC to increase the scope of this institution and to make higher education access easy for all. Although HEC has implemented numerous reforms to modernise institutions and raise the standard of higher education, the outcomes have not been up to par (Khan, et al. 2021). Enhancing learning skills, behaviour, and lifetime empowerment as critical and logically reflective individuals is the primary goal of higher education investment at the household and national levels, which aims to improve job and life prospects (Khan, et al. 2021). However, higher education did not prove to be very beneficial because of the discrepancy between the skills graduates acquired and what the labour market wanted.

Moreover, due to the poor economic performance of the country, job markets were unable to absorb graduates passing out from higher educational institutes. As a result, this caused graduates to remain unemployed or to work as overeducated in occupations where their education was above the required level.

So, it is imperative to analyse that either this higher education expansion was really a need of the labour market, or it was due to SBTC or a result of some political struggle. Keeping these questions in consideration many studies have been done in Pakistan too which evaluate the role of HEC and expansion of higher education, quality of higher education, demand of higher education and its impact in terms of employment opportunities and earnings with reference to Pakistan. Therefore, this study is an attempt to evaluate the argumentative review of the literature that has been contributed so far for evaluating these different aspects of HEC and higher education expansion in Pakistan. For this we have considered mostly those research papers that have been published in HEC recognised journals both locally and on an international level. Secondly, I also included the studies that have been conducted in PIDE in this context. Moreover, for presenting a clearer picture of the scenario we also estimated some facts and figures from latest datasets pertaining to Pakistan and also from cross-country analysis.

The study deals with HEC and education step by step. Section 2 will discuss the literature contributed so far regarding HEC and its reforms. Section 3 will discuss the studies that have been conducted for the quality of higher education. While Section 4 analyses the demand of higher education at household level and impact of higher education in terms of employment opportunities and earnings has been discussed in Section 5. Whereas Section 6 presents conclusions and policy recommendations for future work.

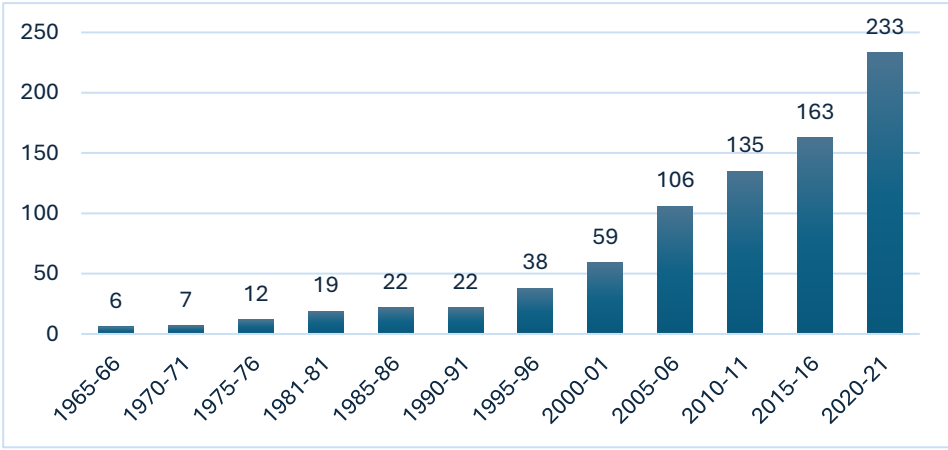
2. A HISTORY OF HEC REFORMS

The HEC formerly the UGC is a statutory body formed by the Government of Pakistan which was established in 2002 under the chairmanship of Atta-ur-Rahman. Its primary responsibilities include providing funds, supervising, regulating, and certifying the nation's institutions of higher learning. The commission is in charge of creating higher education policies, ensuring that the quality of education meets international standards,

awarding academic degrees, developing new institutions, and improving those that already exist in Pakistan.

The commission also assisted in the development of the nation's higher education system, primarily with the aim of modernising the nation's universities and degree-grant establishments to serve as hubs for advanced research, education, and development. As shown in Fig 1, a rapid expansion in the number of universities has been observed in the years 2003-04 and onwards.

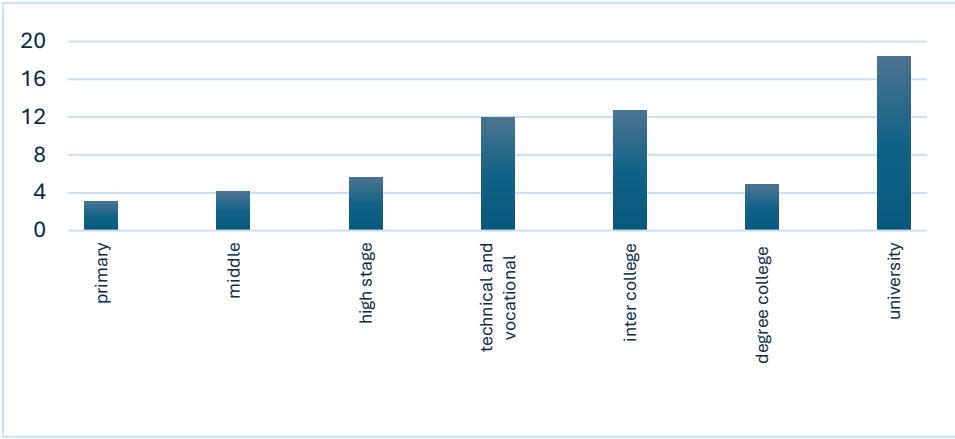
Fig 1. Number of Universities in Pakistan over the Recent Years.



Source: Pakistan Economic Survey (Various).

Moreover, a large number of indigenous and foreign scholarships were granted which resulted in increased student enrollment in higher education compared to other levels of education. We see from Fig 2 that the growth rate of universities' enrollment during the past 20 years has been substantially higher than the enrollment in the other levels of education.

Figure 2. Average Annual Growth Rate of Enrollment from 2001 to 2023.



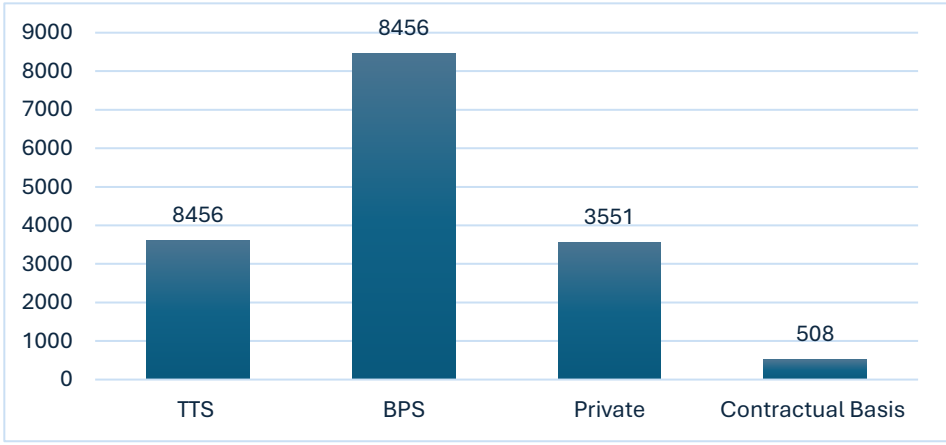
Source: Authors Calculations from Pakistan Economic Survey (Various).

There are many other initiatives that has been taken by HEC like to improve quality of higher education Quality Enhancement Cell (QEC) has been established similarly, to promote future knowledge economy and quality research for a sustainable economic growth HEC established the Offices of Research, Innovation and Commercialisation (ORICS). One of the other major reforms is to introduce the Tenure Track System (TTS) with in hiring the teachers for public universities that provides additional incentives to the existing and newly being hired teachers against the existing system of Basic Pay Scale (BPS).

To analyse the role of HEC and initiatives that HEC has taken a large number of studies have been conducted to review the importance of these reforms and how these reforms work. The study of Khan, et al. (2021) analysed all these reforms taken by HEC using both secondary and primary data. Where secondary data has been taken from various reports published by HEC and Government of Pakistan and primary data is taken from HEC senior officers. While analysing the key reforms regarding their accomplishment and implementation they found that human resource development is a major reform taken by HEC.

To higher the faculty in public universities HEC adopted TTS to promote educational and research productivity as it is a performance-based system offering much to only those who contribute significantly and fulfill their commitment to a quality teaching profession.

Fig. 3. Number of PHD Faculty in Private and Public Universities, by mode of Hiring.



Source: HEC Report, 2021-22.

Turning to scholarships, to develop better human resources, nineteen scholarship projects have been successively implemented by HEC. Nine are foreign scholarships and fellowship programmes and ten are indigenous. Scholarships are awarded every year for MS/MPhil and for PhD studies in the best universities of the advanced countries. To provide scholars with subsidised tuition, placement, supervision, and support throughout their studies, HEC also inked Documents of Understanding (DoUs) with international educational organisations and universities.

Moreover, there are many other reforms that have been taken by HEC that are deeply analysed by various studies. Below Table 1 presents the review of these studies.

Table 1
Literature Review of Various Studies Done Regarding HEC Reforms

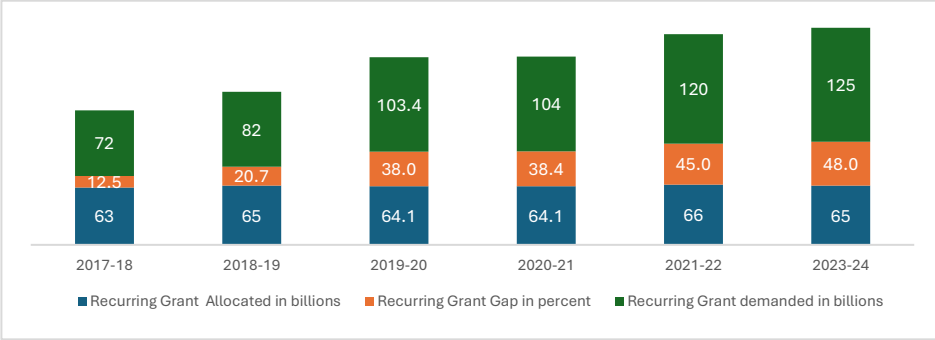
Authors	Objectives	Sample	Results
Parveen, et al. (2011)	Study explores the various dimensions of reforms suggest-ed and undertaken over the span of time for higher education in Pakistan.	Fifty staff members from different universities have been randomly.	The study claims that higher education system in Pakistan, despite multiple reforms, has faced persistent challenges, including-governance inefficiencies, lack of funding, and outdated curricula. The Higher Education Commission (HEC) has introduced initiatives such as faculty development, e-learning, and research funding, but issues like weak industry-academia linkages, and political interference remain. So, there is need of sustainable reforms that require better financial management, faculty incentives, and stronger institutional autonomy to improve higher education quality.
Riaz, et al. (2017)	To find out the major drivers of the higher education reforms; the process which initiated and drove this phenomenon in the country and also to bring to light the major policies introduced in the previous decade.	Two universities one each from the public and private sector were selected for the study. From the public sector the University of Punjab was selected and from the private sector COMSATS university was selected.	Key educational reforms and initiatives of HEC are TTS, curriculum, Quality and Control System, Quality Enhancement Cells (QEC) and Faculty Development Programmes.
Subhani, et al. (2017)	(i) Does more skilled oriented research faculty is available? (ii) Has HEC widened the scope for newly appointed PhDs in specialised professional fields? (iii) Does HEC provide better prospects for post-doctorate research studies? (iv) Have HEC scholarships supported female faculty to foster research culture?	Sample of 1000 respondents were collected from 10 public and 10 private universities of Pakistan.	The results of this study demonstrate that HEC has expanded its opportunities for recently appointed PhDs in specialised professional fields, has more qualified faculty who are focused on research, and offers post-doctoral research study opportunities. Female faculty members have been inspired to advance research culture by HEC scholarships.
Khan, et al. (2021)	to identify the (i) key reforms taken by HEC to promote higher edu-	They used both secondary (relevant reports published by HEC) and primary	They found that despite many successes, HEC failed to achieve the desired outcome on four major avenues: i) lack

Authors	Objectives	Sample	Results
	cation and research environment, (ii) to highlight the achievement made by the commission in this regard.	data (gathered through conducting in-depth Key Informant Interviews to the HEC 13 senior officials.	of political will, ii) squeesing budgetary allocation for higher education, iii) And among others challenges, absence of cooperation from public sector universities is the major hurdle in promoting an effective and inclusive education.
Riaz, et al. (2023)	The study analyses the present higher education reforms in Pakistan from a public management perspective.	Review Study	They highlighted the structural challenges, governance issues, and policy shortcomings, emphasising the hybrid nature of public administration paradigms affecting reforms. Their findings suggest that effective reforms require contextual compatibility, local stakeholder involvement, and strategic governance improvements to enhance higher education quality and impact.
Furqan, et al. (2022)	His research examines the progress of two important goals of HEC vision 2025 concerned with the quality of leadership, governance, management and faculty of universities and reveals challenges faced during the implementation of these two goals.	Seventeen semi-structured interviews were conducted with the personnel belonging to the Higher Education Commission (HEC), Punjab Higher Education Department (HED), Punjab Higher Education Commission (PHEC) and senior professors belonging to different public sector universities.	The study highlighted the initiatives taken for faculty development, governance improvement, and curriculum revisions identified the implementation gaps due to inconsistent policies and lack of stakeholder consultation.

HEC is continuously trying to play its major role in developing a knowledge-based economy in Pakistan. It has created a comprehensive plan of basic strategic reforms which will help to achieve goals like faculty development, higher research and learning quality, relevance to national priorities, and enhanced access. The development of technological infrastructure, management and governance, leadership development, research culture promotion, and the caliber of assessments and accreditations are the further main goals of the Institute, from which all of the previously listed strategic objective's stem.

However, HEC also faces many difficulties. The main obstacles to achieving HEC's desired goals are a lack of cooperation from public universities, obstacles related to institutional autonomy, and a limited budget (Khan, et al. 2021). Figure 4 presents the average, HEC recurring grant allocated by government of Pakistan is between PKR 64 billion to PKR 66 billion during the 2017-18 to 2021-22. However, these estimates reveal a shortfall of approximately PKR 53.75 billion (45 percent) to satisfy HEC's demand for the successful implementation of Pakistan's higher education strategy.

Fig. 4. Grant Demanded and Recurring Grant Allocated over the Time



Source: Khan, et al. (2021).

3. QUALITY OF HIGHER EDUCATION

The quality of education is ascertained by its role in the accomplishment of the national goals and objectives. These objectives and goals could broadly be classified into three categories: Social Excellence, National Excellence and Academic Excellence (US Department of Education, 2002).

Further Murnane (1987) defines three classes of quality indicators: educational processes, educational outputs, and educational inputs. Measures of money, space, and labour related to the resources offered to students at every educational level are examples of inputs. Education costs per student are typically used to summarise financial metrics. Physical measurements include the number of years, state, and features of classrooms, labs, and libraries as well as the availability and usage of foreign supplies and equipment. The number of employees of various types is included in manpower or human resource measures, which are frequently expressed as ratios in relation to the total number of students at each level. They also contain background data about these employees, including their educational background, work history, and possibly their knowledge, skills, and attitudes.

Higher education expansion in case of Pakistan also resulted in heterogeneity of skills as most of the newly established universities were producing graduates with skills not at par with the demands of the labour market. A huge gap exists between supply and demand for education in certain areas, with issues ranging from access, equity, quality, to especially the weak curriculum models that have a weak connection with employer requirements.

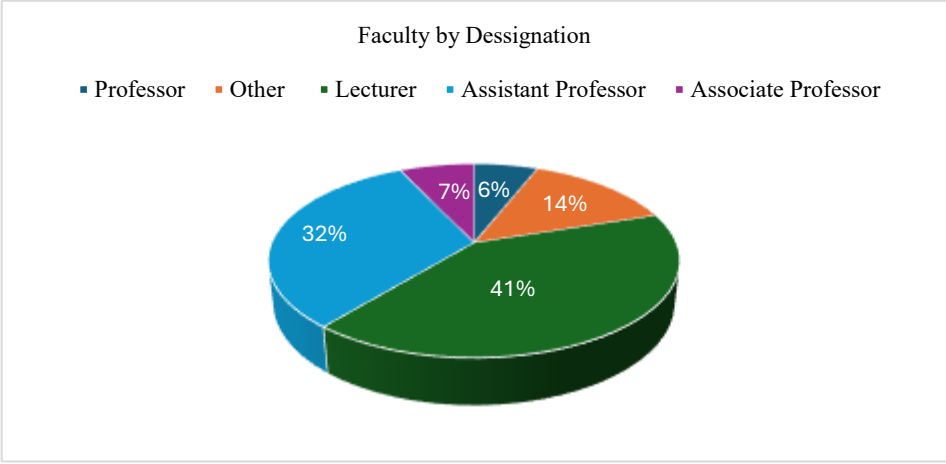
Although HEC has periodically initiated efforts to ensure quality of education being imparted and its document by Batool & Qureshi (2007) is an indicator of these efforts however least impact of these efforts have been manifested so far. The document lays prime responsibility of ensuring quality of education on the university quality enhancement cells. However, activities of these cells are limited to collecting QEC files from the teachers merely containing record of quizzes, assignments and the lectures delivered, and hardly any appropriate information which could be used to assess the quality of education imparted in the semester.

According to (Ahsan & Nasir, 2019; Khan & Usman, 2015) higher education quality does not stand at par with any of world's best education systems. Further, Murtaza & Liu's (2021) analysis of the state of higher education highlights that the primary causes of the decline in higher education quality are the study plan, student admission standards,

and the ability level of teachers. One of the major issues Pakistan's higher education system faces is ensuring the quality of education. Even though the government has always prioritised high-quality education, many universities and degree programme continue to fall short of the HEC's minimal standards. When it comes to research and quality standards, these universities are unable to compete with the world's best. Low industry participation, lack of creativity and innovation, and a lack of early research experience are all prevailing. The focus and reliance of universities and other higher education establishments is primarily on theoretical knowledge rather than fieldwork or experimental research.

Similarly, Haque & Khan (2022) highlight that there are professorless universities in Pakistan, as percentage of professors in social sciences is 0.54 percent and 5.30 percent in other disciplines with reference to total faculty size.

Fig. 5. Average Size and Distribution of Faculty and Professors Per University in Pakistan



Source: HEC Annual Report (2021-22).

Whereas in the USA and UK the average percentage of social sciences professors is 22.87 percent and 12.63 percent respectively and the percentage of professors in other disciplines is 32.46 percent in USA and 21.28 percent in UK. The politicians in Pakistan intending to please their vote bank keeping on building new universities irrespective of the education quality and the required number of professors. The focus is mainly on "brick and mortar" having name plate of the politician and unfortunately HEC guidelines for a university, too, are focused on land and hardware. They suggest a shift of policy focus from "brick and mortar" to better infrastructure and enhanced quantity and quality of professors.

They concluded that the HEC criteria mention no requirement of professors or quality for establishing a new university. As a result, universities are unable to deliver quality education and award degrees which are low in comparison to international standards. To analyse the quality of higher education few studies have been conducted in Pakistan, below Table 2 discusses the main finding of these studies.

Table 2

Literature Review Regarding the Quality of Higher Education in Pakistan

Author	Objective	Data	Findings
Mukhtar, et al. (2011)	This study investigates the impact of conflicts in Pakistani public university-es on perceived education quality.	The sample consisted of 202 employees from four universities of Pakistan. That were chosen on the basis of the selection criteria, namely, their contribution to education, date of establishment and being in the public sector.	Their analysis shows that conflicts (e.g., teaching styles) negatively affect educational outcomes, but faculty mediation (through students' engagement, communication) can mitigate these effects. The research underscores the need to manage conflicts constructively to enhance education quality and human resource development.
Ullah, et al. (2012)	To explore the quality of management, the infrastructure quality across private and public universities.	Sample was selected using stratified sampling approach to select the sample. The sample consisted of 100 administrators, 300 teaching staff and 1000 students from twenty universities.	Results of their study show that private universities were better in infrastructure facilities like building, classrooms and maintenance facilities. Whereas public sector universities were better in terms of faculty, computer labs, faculty, admission policy and hostel facilities. However, a study revealed that quality of education was declining in both public and private universities and also that HEC criteria were not equally implemented across public and private sector (reasons for diminishing quality of education).
Halai (2013)	The goal of study was to analyse how education has evolved in Pakistani private universities in comparison to those in the public sector. Moreover, understanding the quality of education in private universities in light of the HEC 2012 Pakistani universities ranking data is another objective.	The study analyses the overall scores and the research scores of private universities in the top ten rankings within the specified categories using data provided by HEC on its website. The quality and accessibility of private higher education in Pakistan are assessed using this comparison.	Study concludes that most of the private sector universities are performing poorly and are not exposed to due to the good performance of a few universities. The study also highlighted that even the quality measures that are in place by HEC are not vigorously followed by these universities. So, if HEC plays its effective role in implementing these quality measures stringently, by incentivising those universities which show progress and penalising those which are repeatedly large behind the said benchmarks only then students studying at these universities could have value for their time and money.

Author	Objective	Data	Findings
Hina and Ajmal (2016)	The main objective of study is to analyse the expectation of teachers and students about quality assurance and enhancement polices in different of universities of Pakistan.	To achieve the objective both secondary data (HEC reports) and primary data, conducting semi structure interviews from four different universities of Islamabad, were used. To analyse the data thematic analysis was done.	Findings of their study suggest that most of the respondents, especially students, were not aware that a quality assurance department exists in their university. And those who were aware didn't know much about the functions of this department. They maintain that to get full benefit from such initiative input should be collected from all stakeholders and only in such a way quality of higher education be enhanced in the universities. Moreover, they found that although HEC is more committed to ensure quality assurance of higher education by establishment of QEC, however yet quality of higher education is a big challenge for both HEC and universities.
Urtaza & Hui (2021)	To analyse the quality of higher education in Pakistan.	Review Study	Analysing the quality of higher education study emphasises that teachers' low ability level, students' admission criteria, poor study plans, and poor research standards are the main reasons for deterioration of higher education quality in the universities. While providing suggestions to improve higher education they point out improving teaching methods. Moreover, they emphasise improving standards of libraries, bringing them equal to international standards.
Haq ,et al. (2020)	Aim of the study was to analyse the level of students' integrity in academic settings and to bring to light factors that influence this academic integrity.	This qualitative research came from the discussion held with focus groups in three different universities.	Student's attitude regarding academic integrity poses a great challenge to higher education in Pakistan. Four main factors have been identified as forcing students to engage in academic misconduct: peer pressure, teacher behavior in the classroom, and teacher evaluation practices during exams. Further Students believe that rote learning is given more importance in classrooms and universities than conceptual analysis and hands-on learning. Thus, a culture of academic misconduct is created by these factors coming together, and students begin to accept plagiarism and cheating as normal, acceptable behaviour.
Sain (2023)	Objective of the study was to explore the factors that influence educational excellence in Pakistan's Higher Education Institutions (HEIs).	Primary data has been collected from 475 graduates, 25 lecturers and 19 administrative staff.	Their finding shows that quality of higher education institution is declining in Pakistan, especially of public universities. Moreover, they found that curriculum, lack of train-

Author	Objective	Data	Findings
			ing, education corruption, poor research, teacher behavior are the major factors for declining the education quality.
Hussian (2023)	The objective of the paper is to analyse the quality of higher education with focus on (i) the perception of graduate students regarding quality of education. (ii) what are the most important factors that can contribute to maintain the quality in higher education?	Primary data was gathered to conduct the study.	Their findings concluded that the HE recognized education institute-ions provide high-quality instructions. However, to preserve the quality of education, there are a few things that must be ensured. The infrastructure of the universities is the most crucial of these, as students are dissatisfied with the physical amenities offered by the institutions. Students claim that they cannot access research journals, hence the research habits and procedures in these schools are the second most significant factor. A better strategy to uphold the caliber of higher education will be in place if universities construct their academic policies considering these findings.
Ahmad & Ahmed (2023)	This study explored how leaders' attributes, understanding of, and attitude towards Quality Assurance (QA) shape their practices towards effective implementation of QA in universities.	The data was collected from nine institutional leaders purposively selected from two universities.	The results showed that a leader's personal qualities, including their knowledge of QA, attitude towards QA, and practices, influence whether they are a transformative or compliance leader. By putting QA methods into practice, the transformational leader hopes to increase the calibre of research, teaching, and learning. The compliance leaders, on the other hand, are mostly focused on implementing QA procedures in order to satisfy external regulatory bodies' criteria.
Salman, et al. (2023)	To explore curriculum and teacher training programms, their efforts and activities.	Heads of four departments, 19 facu-lties and students of the general universi-ties of Karachi were chosen as the population for this study.	They came to the following conclusions: there are no worldwide standards; they are antiquated and outmoded; there are not enough contents; they are inflexible and underfunded; and there is not enough use of technology. Furthermore, teaching methods do not follow current trends; they do not incorporate technology and resources, they do not prioritise the provision of high-quality education and sustainable development, and they disregard human rights, gender equality, global citisenship, sustainable lifestyles, non-violence and peace culture, cultural diversity, and the role of culture in sustainable development.

There has been a huge increase in the number of higher education institutions, both public and private. This higher education expansion improved access to higher education for many students. However, HEC needs to communicate clearly its quality goals both to

faculty and the students. The lack of competent and experienced teachers is a serious problem. There aren't enough academics with advanced degrees and related research expertise at many universities (Hoodbhoy, 2009). Further it needs to strongly implement its quality benchmarks in all public and private universities as only by doing this quality of education be enhanced and maintained at these universities.

4. DEMAND FOR HIGHER EDUCATION

Human capital theory proponents continue to argue that since education is expected to provide benefits and returns, both society and individuals should invest in it. The individual's entire income gained from education less the private school expenses is known as the "private rate of return" or benefits to the individual. The private costs comprise actual fees, supplies, and other costs, as well as what the individual would have made had they worked during the years of education ("income foregone"). People are said to weigh the benefits and likely return when determining whether it "pays" to enroll in school or to stay on for more years if they are already enrolled.

Regarding demand for the education at household level, there are few studies that analysed the demand of higher education in Pakistan. Like Butt & Sheikh (1988) analyse the gap between demand and supply of higher education for Pakistan's economy. They measured the demand of higher education as "number of applications received for admission to public institutions of higher education in Pakistan" and supply of higher education as "number of candidates actually admitted out of applications received by public institutions of higher education in Pakistan". To identify the gap between supply and demand of higher education they gather data form Punjab university for period 1982 to 1987. Futher to analyse the causes of this gap and to suggest possible remedies they collected the primary data from faculty, students and parents.

Their results show that the average gap between demand and supply of higher education increases over time. They argue that demand for higher education can be considered as derived demand for high earning employment opportunities and enhanced social status. And direct private cost of higher education like tuition cost, transportation cost etc. Whereas on the other side the supply of higher education is stagnant due to shortage of higher education institutions. In Pakistan, a negligible proportion of GNP is allocated to education in general and out of it only 19.4 percent goes to higher education. Moreover, the underutilisation of existing institutes causes the gap between demand and supply of higher education. They recommended that due to low tuition cost and high subsidy of higher education in public universities demand higher education increases so there is need to reduce the subsidy and increase the cost of higher education. On the other hand, to increase the supply of higher education they suggested that efficient use of existing public universities and encourage the private sector to supply higher education may reduce the gap between demand and supply of higher education.

Yasser, et al. (2022) analysed the demand of higher education from both supply and demand perspective for Pakistan's economy. To conduct the study, they collect the primary data through structured questionnaires from graduates studying or employed in Lahore city. The sample consisted of 412 respondents. To analyse the demand of higher education and what are the factors that help in continuing higher education, they used the multiple regression technique. Their analysis shows that the number of universities, the disciplines universities offered, scholarship and availability of funds, along with parents' education & student's gender are important for the demand of higher education. In contrast, pathetic banks procedures and limited HEC scholarships for educational loans are the major hurdles for the continuation of higher education. They conclude that the primary

deterrent to pursuing higher education is a lack of funding. They propose that shariah based financing should be promoted to help continuation of higher education in Pakistan.

Idress & Khan (2020) attempted to fill this research gap by estimating household's demand for education at all levels including university level. For this purpose, they divided the demand of education into three groups: secondary education, college education and university education. Demand of education category for specific age groups was measured by the proportion of household members accruing education. The study divides the demand for education into 1 to 5 categories for each education category, where 1 is low or no demand for education and 5 presents the highest demand for education. Study employed the Multinominal logit model to analyse the determinants for demand of education by using the data of Pakistan social Living Measurement (2014-15).

Their results show that households belonging to urban areas have more demand for higher education as compared to households belonging to rural areas. Moreover, a household's desire for a university education is not determined by its income. Nonetheless, the decision to enroll in higher education in Pakistan is strongly and favorably influenced by the household head's level of education. One of the interesting findings is that a son has more chance to enroll in higher education as compared to a daughter. Why sons' welfare and education are prioritised above females' may be best explained by a widespread male or pro-son bias in our nation.

To analyse the demand of higher education at household level for Khyber Pakhtunkhwa Khattak, et al (2012) used the primary data from 100 students enrolled in different universities. They concluded that the main factors influencing demand for higher education in Khyber Pakhtunkhwa are student age, marital status, access to universities, parents' educational attainment, family income, and awareness of the advantages of a college education.

So, the above analyses show that the main contributions for the demand for higher education at household level are parental education, household income and son have more chance to enroll in higher education as compared to daughter. Moreover, urban region ha smore demand for higher education compared to rural regions that may show better prospects and opportunities against education in urban region people invest more in higher education.

5. IMPACT OF HIGHER EDUCATION ON EMPLOYMENT OPPORTUNITIES AND EARNINGS

When we talk about the impact of education in terms of employment opportunities and earnings, a lot of research has been done which analysed matter from different perspectives to get true and reliable results. Such as to analyse the returns to education Mincer Earning Model has been used, and after higher education expansion a lot of research has been done focusing on the mismatch of education, its impact in terms of earnings, and absolute returns to education over the period by using Age Period Cohort (APC) model. So, we will review literature that has covered all these aspects with special focus to Pakistan.

5.1. Returns to Higher Education

Regarding returns to education, most of the studies used the Mincer Earning Model given by Mincer (1958). It is a single-equation model that explains wage income as a function of schooling and experience. Basically, this model is based on Human Capital Theory (HCT) given by Mincer (1958), Schultz (1961) and Becker (1994), which explains

the relationship between human capital and earnings, and has been a dominating theory before 1970. The theory shows that individuals are paid according to their marginal product in the labour market: with additional years of schooling, earnings also increase provided there is no rigidity in the labour market and shortage or surplus of educated workers. Firms fully utilise the productive potential of their workers and as a result, educational mismatch or over-education does not exist.

Where Mincer Earning Model (1972) is defined as

$$log\, Y_i = \alpha + \beta\, E_i + \gamma_1\, X_i + \gamma_2 X_i^2 + \ \delta\, Z_i + \varepsilon_i$$

where Yi is the earnings of the ith individual, E_i is the years of education attainment and the vector Xi includes characteristics of workers and other explanatory variables that can potentially affect earnings.

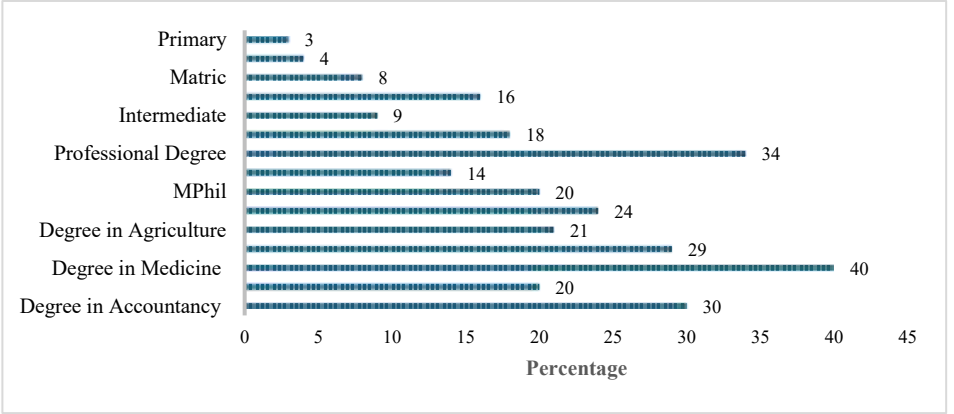
Based on Mincer earning model a lot of research has been conducted for Pakistan's economy to analyse the returns to education (Ashraf & Ashraf, 1993; Nasir, 1998, Siddiqui & Siddiqui, 1998; Nasir & Nazli, 2000; Nazli,2004; Hina & Nazir, 2023). These studies used secondary data such as Pakistan Social and Living Standards Measurement (PSLM) survey, Labour Force Survey (LFS) and Pakistan Integrated Household Survey (PIHS) to analyse the returns to education for Pakistan's labour market. Whereas some studies used primary data to analyse the returns to education for Pakistan economy (Hamdani,1977; Haque, 1977; Khan & Irfan, 1985; Afzal, 2011).

All these studies have concluded that education improves the productivity of the individual and hence raises the earrings. Moreover, the highly educated people get more returns as compared to low educated people. Below Figure 6 from Hina & Nazir (2023) shows the returns to education across different degrees. One of the interesting results is that individuals having a medicine degree get higher returns than all other degrees and it is 40 percent high when compared with the illiterate given in below Figure 6. Further, results also show that the returns for additional years of education are significantly higher for females than males (Abbas & Foreman-Peck, 2007; Hyder, 2007 and Aslam, 2009).

Moreover, Heckman (1979) believes earnings are only observed for employed workers who are not randomly selected; therefore, a selectivity bias can arise when estimating earnings equations. Therefore, studies that incorporate the sample selection bias suggest that OLS overestimates the returns to education (Aslam, 2009; Kingdon & Soderman, 2007).

While analysing the returns to education, the assumption that education attainment is an exogenous phenomenon may not be true due to the issue of 'unobserved heterogeneity'. For example, the workers with higher skills/abilities may have higher levels of education attainment, whereas abilities/skills that are not observed, and hence included in error terms, also affect the earnings of the individuals. In that case, the assumption of OLS that explanatory variables like education attainment are exogenous may not hold true. It is widely believed in education that productivity is reflected not only through educational attainments but also through hidden factors like ability. In that case estimating the returns to education without controlling unobserved heterogeneity bias may give bias results. The studies that incorporate unobserved heterogeneity bias through IV estimates concluded that OLS underestimates the true returns to education (Kingdon & Soderman, 2007; Aslam, 2009).

Fig. 6. Returns to Education across Different Degrees



Source: Hina & Nazir, 2023.

From the above literature it could be inferred that relative returns to highly educated workers are greater as compared to less educated workers. That may reveal the earning gap between low educated and high educated individuals (Rotman, et al. 2016) and show the crowding out effect on low educated individuals by high educated ones (Ben-David, 2009). In that case there is a need to analyse the absolute returns to education over time.

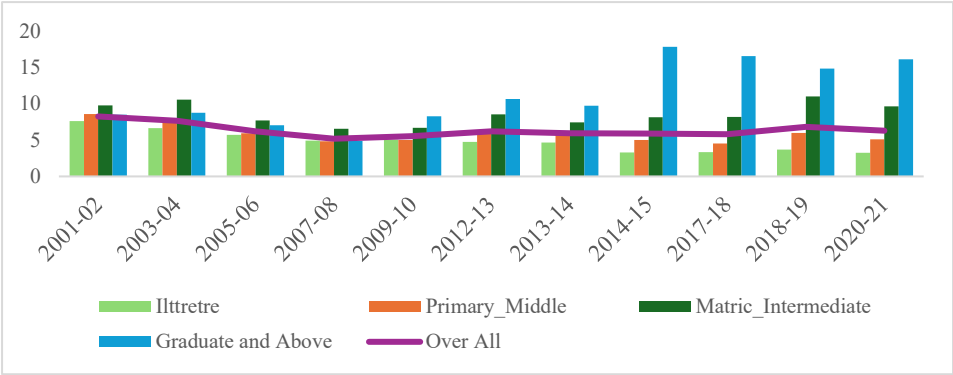
5.2. Impact of Higher Education Expansion in Terms of Employment Opportunities and Earnings

Education expansion during the past decades did improve workers' productivity and economic growth, however it also led to the problem of graduates' unemployment and mismatch of education in a given occupation. On one side the supply of highly educated labour is outpaced than the demand of these in the labour market. In other words, there is an excess supply of highly educated labour showing poor performance of the labour market, shrinking state of economy and macroeconomic imbalances. Now when labour markets are not responsive and do not absorb the huge surge of highly educated lot, this causes "education inflation" (Collins, 1979) or overeducation or education beyond the optimum level that is required for a certain occupation (Tsang & Levin, 1985; Hartog, 2000). And this happened in many developing countries, where the skilled labour market lagged the educational expansion. As a result, increased competition is seen in the labour market so education expansion may not be a blessing but a challenge for the developing countries (Battu & Bender, 2020).

Since most of the new universities were unable to provide the level of skills that the labour market required, Pakistan's rapid development in higher education over a short period of time also led to a heterogeneity of skills in the labour market. In some areas, there is a massive disparity between the demand and supply of education. Problems include equity, accessibility, and quality, but in particular, there are subpar curricular models that have little bearing on what employers require. Furthermore, labour markets are unable to take in the vast amount of skilled labour that Pakistan is producing because of the worsening economic conditions (see British Council, 2015).

Consequently, unemployment rate among the tertiary educated has been more alarming which reached about 18 percent in the year 2014 from 5 percent in year 2004,

Fig. 7. Unemployment Rate by Education Level from 2001-02 to 2020-21



Source: Author's Calculations from various Labour Force Surveys.

whereas the average unemployment rate in Pakistan has been between 5 percent and 10 percent during same period, Figure 7 manifests the given scenario. Narrowing down these stats shows that unemployment of young graduates reached 31 percent (Haque & Nayab, 2022) while unemployment rate by field of study given in Table 3 worked out by Ahsan & Khan (2023) also presents a sad state of affairs.

Table 3

Unemployment Rate of Graduates against Field of Study

Field of Study	Overall		Male		Female	
	2018-19	2020-21	2018-19	2020-21	2018-19	2020-21
Degree Engineering	11.2	23.5	9.43	22.2	37.25	42.6
Degree Medicine	6.4	10.8	2.67	6.1	14.65	18.4
Degree Computer	14.2	22.6	10.56	16.7	37.96	51.5
Degree Agriculture	11.4	29.4	0.00	32.1	34.07	26.8
Degree in other Subjects	15.5	16.1	6.66	8.1	39.39	35.2
MPhil/ PhD	12.0	12.2	6.05	6.9	26.76	20.2
Total	14.9	16.1	6.75	8.8	37.98	33.8

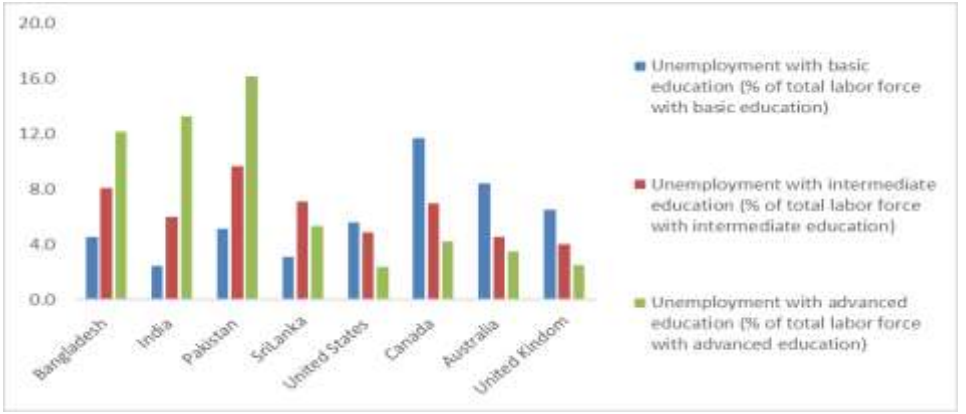
Source: Ahsan & Khan, 2023.

According to the Table, the unemployment rate for engineers has doubled in just two years, rising from 11 percent to 23.5 percent. For those with degrees in agriculture and computer science, the situation is comparable. Though graduates in medical sciences face the lowest unemployment when compared with graduates in other disciplines, the unemployment rate within the medical discipline even increased by 68 percent in just two years.

The above Figure 8 presents some interesting facts. In developed countries there is a higher unemployment rate for primary education. However, in developing countries the situation is totally different as the unemployment is higher for advanced education in these countries and Pakistan has the highest level of unemployment rate within the region. In developed countries education plays an important role against unemployment: higher the

educational level, lower the risk of unemployment (Mincer,1991). However, in developing countries this role of education is questionable as unemployment risks are quite higher for well-educated individuals as well due to insufficient demand of graduates in the labour market (Tansel & Tai, 2010). Therefore, excess education may not be a blessing but a challenge for the developing countries (Battu & Bender, 2020).

Fig. 8. Unemployment rate for Different Education Categories across Countries



Source: Word Development Indicator, 2023.

Similarly, when we compare the impact of education expansion for other neighboring countries like Bangladesh and India, same situation is observed for these economies. Due to rapid expansion of higher education in Bangladesh the total enrollment in higher education increased more than double by jumping from 1.75 million in 2009 to 3.96 million in 2017 with a gigantic 126 percent growth. However, on the other side the total budget allocation for education was just 2 percent of the GDP in 2017 (Chowdhury et al., 2020). They further mention that as a result of poor research budget, outdated facilities, lack of conducive environment and rewards, absence of university-industry collabouration, university research remains highly unsatisfactory and colossal politicisation further causes to produce the low skilled graduates which are not demanded by labour market raising unemployment of graduates to 11.2 percent in 2017 compared to the national average of 4.2 percent.

In India too situation is almost same maintaining that higher education expansion is too being pursued here without giving due consideration for increasing employment opportunities. University enrollment role in India increased from 20.8 percent in 2011-12 to 26.3 percent in 2018-19 and is much higher for graduates than other levels of education. Further these graduates face a lot of difficulties in finding jobs as per their academic credentials leading to huge graduate unemployment in India, again much higher than other levels of education (Varghese et, al. 2022 and Bairagya, 2018.). They emphasise the inclusion of courses in curricula, which may increase employability of these graduates and in improving the quality of present higher education.

5.3. Education Mismatch in Labour Market: Evidence from Pakistan Economy

In developing countries, the absence of any unemployment insurance policies compels many individuals to work as underemployed (in terms of hours) or to accept a job which may not be equivalent to their educational achievements and skills (Chua & Chun,

2016). This education mismatch, that tends to persist due to changing structural composition of economies, could result in poor allocation of human resources in the labour market, causing workers to suffer in the form of low job satisfaction and reduced earnings.

Concern regarding mismatch of education was raised first in developed countries in the 1970s when supply of educated people seemed to exceed demand in the labour market. Moreover, it got due attention after publication of the book "The Over-Educated American" by Freeman in 1976. Different theories were proposed to analyse and understand this phenomenon. Based on these theoretical models, researchers also analysed the problem empirically to determine supply and demand side factors affecting education mismatch.

From theoretical perspective Human Capital Theory (HCT) could be considered a prominent theory before 1970s however after that, opponents of this theory reject it by arguing that there is no perfect information in the labour market and due to this imperfection over-education may exist in the labour market (Dolton & Vignoles, 2000; McGuinness, 2006)

A number of theoretical frameworks have been proposed to conceptualise mismatch of education in labour market including (a) the Job Search Theory, (b) Signaling Theory (c) Theory of Career Mobility (d) Job Competition Model and (e) Assignment Theory.

Jobs Search Theory (JST) of Jovanovic (1979) theorises that initially many employees accept a job less than their reserved wages due to presence of imperfect information at their end leading to mismatch of education. The second theory by Spence (1979) purports that individuals use their academic credentials as signals to the employer thus reducing the information gap and a result educational mismatch too. However, this also puts individuals in a race to invest in their academic credentials to send better signals to the hiring firms. Theory of Career Mobility by Rosen (1972) ascertains that many individuals would accept jobs in which they may be overqualified as such jobs increase the possibility of their promotion in the long run. Job Competition Model by Thurow (1975) believes that two queues are formed in the laboure market: one by the employers regarding qualification required for each job and the second is formed by individuals as per their academic credentials. So in order to move ahead in the second queue individuals keep on investing in education which may result in educational mismatches in the labour market.

Literature reveals that attempts made to measure education mismatch can be broadly categorised into two approaches: Subjective approach and Objective approach (Groot & Maassen Van den Brink, 2000). The subjective approach is based on the workers self-assessment (WSA) method in which workers are asked directly through surveys to assess whether their qualification/education matches with the job they are doing.

Regarding the objective approach, two methods are specifically used to measure education mismatches. In the first method a professional job analyst ascertains the required level of education for the job and this method is called normative/job analysis (JA) method. (see, for example, McGoldrick & Robst, 1996; Rumberger, 1987). The second method is Statistical/Realised method (RM) Statistical/Realised method (RM) (Bauer, 2002; Kiker, et al. 1997) based on mean and mode which takes into consideration the distribution of workers' education levels against each occupation to decide the required level of education for a job. With the mean/mode of the workers' education level against each occupation group mismatch situations are highlighted when a worker's education level departs from the mean/mode by more than one standard deviation.

In case of Pakistan few studies have been conducted to measure the education mismatch of graduates and its impact on earnings. The study of Farooq (2011) measured this

mismatch of education for graduates in Pakistan by using different methods. To measure the mismatch of education form LFS he used the realised method base on mean and while analysing the primary data collected from Employed Graduates Survey (SEG) he used the WSA method, JA method and RM method. His estimates show that on average the over-education of graduates has increased from 22.3 percent to 27.9 percent whereas undered-ucation has decreased from 8.9 percent to 2.5 percent during 2006-07 to 2008-09. More-over, female is more over educated than male as the percentage of female over education is 35.4 percent and of male is 25.6 percent from LFS 2008-09 as given in Table 4.

Table 4

Mismatch of Education, by Various Methods

Datasets	Measures	Matched	Under-education	Over-education	N
RM Method on LFS 2006-07	Female	65.7	4.4	30.0	457
	Male	69.4	9.7	20.9	2,382
	Total	68.8	8.9	22.3	2,839
RM Method on LFS 2008-09	Female	60.5	4.2	35.4	577
	Male	71.2	2.3	26.6	3,319
	Total	69.6	2.5	27.9	3,896
SEG, 2010	WSA Method	65.4	9.9	24.7	514
	JA Method	69.5	4.5	26.1	514
	RM Method	63.4	21.6	15.0	514

Source: Farooq, 2011.

However, when we measure the mismatch of education from current LFS 2020-21 the situation appears even more alarming as the over education of graduates becomes 48.28 percent from Mean method and 49.37 percent from Mode method as presented in Table 5.

Table 5

Mismatch of Education from LFS (2020-21)

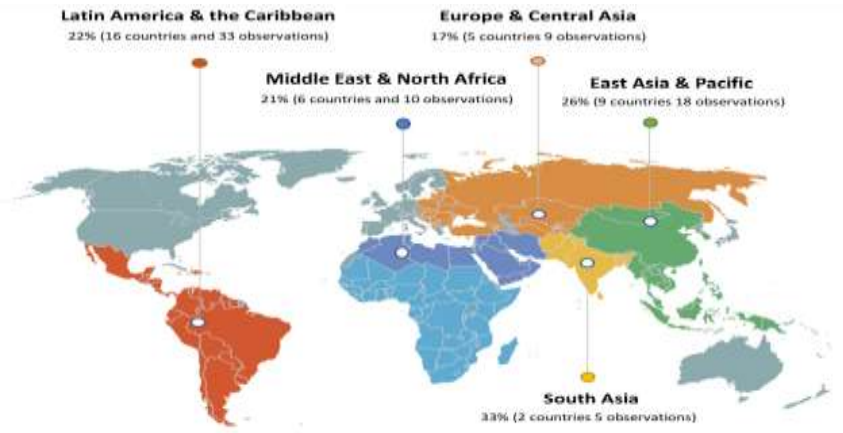
Mismatch of Education		Mean Method	Mode Method
Overall	Under Educated	4.68	5.43
	Adequate Educated	47.04	45.19
	Over Educated	48.28	49.37
Gender			
Male	Under Educated	3.44	4.2
	Adequate Educated	47.83	45.96
	Over Educated	48.73	49.84
Female	Under Educated	17.96	18.53
	Adequate Educated	38.59	37.07
	Over Educated	43.45	44.4

Source: Authors Calculations through LFS, 2020-21.

With respect to gender, our results of education mismatch are different form Farooq (2011) study, as over the time male may get a job in which they are more over educated as compared to female. As on average over education of male is 48 percent and that of female is 43 percent as possible explanation for this phenomenon could be that women don't face the level of competition which men face in the labour market. Moreo-ver, in traditional societies, women typically have greater domestic responsibilities but lower economic status. That raises the opportunity cost of women joining the labour force,

which could make educated women reluctant to work if they can't find a job that pays well enough or doesn't fit their educational background.

Fig. 9. Overeducation Rate among Tertiary Graduates across Regions



Source: Sam (2018).

However, the average value of overeducation for graduates in Latin America & Caribbean is 22 percent and for European countries it is estimated at 17 percent (Sam, 2018). For middle east and North Africa over education on average is 21 percent whereas in South Asia it is 33 percent as presented in Figure 9.

5.3.1 Impact of Education Mismatch on Earnings

Regarding the impact of education mismatch on earnings, two methods have been used in literature to measure this impact. First is Duncan & Hoffman (1981) who claim that overeducated workers earn higher returns than their co-workers who are not overeducated, however returns are lower when compared to workers having similar education but whose education is well matched with their jobs. Further, undereducated workers earn lower earnings when compared to their coworkers having the required level of education. The earning function is given below.

$$\log Yi = \alpha + \beta_a \ E_i^a + \beta_o \ E_i^o + \beta_u \ E_i^u + Xi \cdot \delta + \varepsilon i$$

Where, $\beta_a > {}_o$ and $\beta_u < 0$ and E_i^a is adequately educated, E_i^0 over educated and E_i^u under educated.

The second approach by Verdugo & Verdugo (1989) concluded that over-educated workers are hit by earning penalties, while under-educated workers enjoy earning premiums when compared with the matched workers. The earnings function from this method is this.

$$\text{Log } y_i = \beta_0 + \beta_1 \text{ Year School}_i + \beta_2 D_i^0 + \beta_4 D_i^u + Xi \cdot \delta + \varepsilon i$$

Where, $\beta_1 < 0$ and $\beta_2 > 0$ and D_i^0 is dummy of over educated and D_i^u is dummy for under educated

While using Verdugo & Verdugo (1989) and Farooq (2015) analysing the impact of education mismatch on earnings shows over educated individuals face 30 percent to 37

percent wage penalty from WA and JA method. However, after controlling the unobserved heterogeneity by dividing into 'genuine' and 'apparent' category, the penalty for over-qualification is still statistically significant with less penalty to apparently over-qualified (20 percent to 26 percent) and more to the genuinely over-qualified graduates (49 percent to 53 percent).

5.4. Absolute Returns to Education over the Period

In Pakistan lot of studies have used the Mincer Earnings Model to assess how human capital affects the distribution of earnings. On the other hand, Mincer's earning equation, which accounts for the cohort effect, remains stable under the assumption that the labour supply increases smoothly and keeps pace with demand. But as time went on, it was discovered that the cohort effect happens when the supply and demand for labour are out of balance. As a result, the straightforward Mincer earning equation produces biased results for life cycle earning growth (Lemieux, 2006; Card & Lemieux, 2001).

The stability of average education premium over time could have much larger effects across cohorts (Freeman 1976; Welch, 1979). Freeman (1976) was the first to observe that college wage premiums were declining for young cohorts in the U.S. during 1970's and argued that this decline was due to the excessive supply of college graduates in the labour market. The degree to which education contributes to an individual's increased income is a crucial question for scholars and policy makers. Even though this question has been around for decades, it only received due attention in 1976 when Freeman's book "The Over-Educated American" was published. The book revealed the shocking conclusion that, in the United States, between 1969 and 1974, the average income of high school and college graduates fell by 16 to 40 percent (Freeman, 1976).

The main idea behind the cohorts' effect is that when large young, educated cohorts enter the labour market and the labour market is not responsive but in fact stagnant to absorb these highly educated people according to their qualification, then as a result these young cohorts are compelled to work as overeducated and hence face a decrease in earnings as compared to older cohorts.

Haim, et al. (2019) estimated the returns to tertiary education for twelve European countries using APC model. The study pointed out that the countries where skill-biased labour demand is lagging the education expansion experienced a decline in the incomes of highly educated workers. However, in the countries where the skill-biased technology change (SBTC) is stronger than the education expansion, the higher demand of skilled labour leads to increase in returns to education for young cohort. In the context of German economy Boockman & Steiner (2006) estimated the returns to education for cohort born from 1925 to 1974. They found a large and robust decline in schooling premium for women in the private sector.

However, Hñgeland, et al. (1999) explained that there is a stable and moderate earning dispersion in education system of Norway. Estimating the earning equations for 1980 and 1990, the study maintained that returns to education have been greatly stable in Norway.

In the context of developing countries limited work has been done to analyse the returns to education across the cohort and overtime. Ahsan, et al. (2022) using data from the Pakistan Social Living Measurement (PSLM) 2004-05 to 2019-20 examined the returns to education across cohorts for Pakistan's economy. They used the Age Period Cohort De-trended model (APCD) to estimate the cohort variable and applied the mincer type earning model. According to their findings, young cohorts' earnings decrease both

before and after the control variables are introduced. Interestingly, graduates and those with higher education levels who were born in Pakistan between 1979 and 1987 see a considerable decline in their earnings.

In a similar vein, Mustafa (2023) discovered that returns on higher education in Pakistan are decreasing over time in comparison to lower education. All available rounds of PSLM datasets were used for the empirical purpose. Using the Instrumental Variable (IV) approach and Inverse Probability Weighting Regression Adjustment (IPWRA), the Mincerian wage equation was estimated. The IV results show that there is a non-linear relationship between schooling years and that the ideal level of education after 2010–11 is 12–14 years. After these returns to schooling years tend to fall. He recommended that to improve education standards and labour skills, the government should put more of its attention into supporting programms for skill development.

Above literature regarding absolute returns to education over period shows that education is rendering less value for young cohorts in Pakistan. It is possible that relative returns for highly educated workers are greater compared to less educated workers as the former crowd out the later from the job market however, absolute returns to education of current cohorts are less than the older cohorts. This transpires that in case of Pakistan huge education expansion, especially in the higher education sector, did not produce the desired results as it seems that supply of highly educated individuals was more than their demand in the labour market. Therefore, ignoring the cohort effect to measure the returns to education may produce biased results.

6. SKILL GAP OF GRADUATES IN PAKISTAN

Emerging technologies like automation, the gig economy, and artificial intelligence are causing a rapid shift in the labour market. Consequently, the talents that employers rely on and value are evolving. As a result, there is now a "skill gap" where employers find it difficult to find workers with the necessary training. The phrase "skill gap" refers to a basic discrepancy between the abilities that employers value in workers and those that job seekers possess. Where skills can be defined as general cognitive and non-cognitive abilities or the characteristics of a particular job, profession, or sector. Further skills can also be categorised as technical, cognitive, or soft skills (Rikala, et al. 2024).

While having a bachelor's degree or above is a prerequisite for most white-collar jobs, getting a higher education may not necessarily lead to a better job. That is because developing new skills or upgrading existing ones starts to lose value when more people are doing it, as it makes the job market highly competitive. The employers' view, however, is that schooling does not adequately prepare students to meet the various demands of the changing labour market (Sarin, 2019). It is argued that Pakistani universities do not provide the skills that are needed in the 21st century (Ahmad, 2023). Most of these degree programms focus on academic knowledge without a clear link with the job market and impart limited practical skills, which are insufficient for the job market. The outcome is graduates' low employability, employers' dissatisfaction with their skill set, and a general sense of discontent and disappointment among graduates as well as employers. About 60 percent of the employers report that they have difficulty finding the Right talent for the job (Khattak, 2023). State Bank of Pakistan report (2023) revealed that a mere 10 percent of IT graduates possess the necessary skills to secure employment in the industry.

In global ranking in skill proficiencies which are composed of business skills, technology skills and data science skills, Pakistan ranks at 92 out of 100 countries. When it comes to specific skills domain, Pakistan's score is 22 percent in Business, 10 percent in

Technology and 8 percent in data science. Whereas the average regional score in business is 41 percent, technology and data science are 49 percent and 52 percent respectively. So, this is very alarming picture that Pakistan's skill proficiencies is far below than the average value in region.

Table 6

Regional Skill Proficiencies

Rank	Countries	Business	Technology	Data Science
92	Pakistan	22%	10%	8%
60	India	52%	52%	34%
73	Bangladesh	68%	15%	29%
5	Japan	27%	92%	98%
6	Indonesia	1%	98%	100%
16	Singapore	79%	77%	79%

Source: Global Skill Report, 2023.

In the dynamic landscape of today's global economy, the potential of the workforce to adapt to new trends and technologies hugely influences innovation and competitiveness. For Pakistan, to move from a traditional agricultural to a modern industrial economy, the role and quality of graduates are very important. Moreover, there is a common criticism regarding Pakistan's education system's failure to prepare graduates for employment in the labor market. It is mostly argued that our curriculum is based on theoretical knowledge while little or no attention is paid to practical knowledge (Mirza et al., 2014).

There are few studies that tried to analyze the skill gap of graduates for Pakistan's labor market. Below is the summary of literature contributed to highlight the skill gap for Pakistan's economy.

Table 7

Literature Review Regarding Skill Gap in Context of Pakistan's Labour Market

Author	Objective	Data	Findings
Mirza, et al. (2014)	The objective of this study was to examine the difference between employers' and graduates' ssessment of skills needed in the labour market.	To carry out study they conducted surveys of 100 industrial employers and 151 final year students from 6 universities and postgraduate colleges in the Gujrat, Gujranwala and Sia-lkot cities.	They found that skill gap exists in business specific skills, core employ-ability skills, and professional skills. Employers were least satisfied with the professional skills of new graduates. Students also scored their own professional skills lower than the needed importance of these skills in the job market.
Rizwan & Manzoor (2018)	To investigate the difference of perception between employers and fresh graduates about skills required for a getting a job.	The survey was conducted from 129 industrial employers and 812 final year engineering students from all over Pakistan	The results reveal that wide gap exists between the perception of both, as employers give more importance to skills like creativity, communication, interpersonal, decision making and problem solving, while engineering

			graduates perceive that their technical skills would play a major role in getting them jobs. Moreover, they maintain that in the presence of weak industry-academia linkage, students would be either less or not aware of the expectations of their future employers.
Ahmad, et al. (2023)	Purpose of the study was to examine the hurdles associated with employability skill gaps that graduates face when looking for jobs aligning with their academic qualifications.	A sample of 400 students was surveyed from three different universities to analyze the employability skill of recent graduates.	Their findings show that graduates from public universities fall short in communication, creativity critical thinking, teamwork, leadership, and decision-making. Whereas all these skills are crucial for the workforce for both public and private sector jobs. Most of participants voiced dissatisfaction with the level of employability skills acquired via schooling in the public sector. They recommend substantial improvements in the public school system. Incorporating entrepreneurship into university courses nationwide could be a crucial step towards improving student comprehension and encouraging self-sufficiency. It is imperative to put these reforms into practice in order to produce graduates with the employability skills required to succeed in their career aspirations.

The reviewed studies collectively highlight a persistent and alarming gap between the skills possessed by Pakistani graduates and those demanded by employers in the labor market. This gap is most evident in professional, interpersonal, and employability skills such as communication, problem-solving, ability to lead, and teamwork—areas in which graduates, particularly from public universities, consistently fall short. The mismatch is further worsened by weak industry-academia linkages and an education system that mainly focuses on theoretical knowledge while neglecting practical, market-relevant

training. Bridging this gap requires urgent reforms in curriculum design, stronger collaboration between universities and industries, and the integration of soft skills and entrepreneurial thinking into higher education. Without such measures, Pakistan risks producing a generation of educated but underprepared youth, unable to meet the evolving demands of its economy.

7. CONCLUSION AND WAY FORWARD

It is generally believed that human capital has an important role in increasing productivity as it raises earnings at an individual level and leads to economic growth in a country. Owing to this perspective, when UGC was converted to HEC for making higher education access easy for all, the average growth rate of higher education increased more rapidly compared to other levels of education.

Although foreign direct investments in the country in the banking, media and telecom sectors did absorb some portion of this highly educated lot (Tanoli, 2007) but the overall job market did not seem to coincide with these educational developments. This imbalance between supply and demand raised many problems like unemployment and overeducation of graduates in the labour market, indicating a limited demand of highly educated workers in the domestic economy and may also show the slow growth and weaknesses of the business sector along with the poor economic performance of the country.

On the other side these graduates are lacking in terms of employability skills. About 60 percent of employers report that they have difficulty finding the right talent for the job. Moreover, literature regarding the developing countries like Pakistan India and Bangladesh (British Council, 2015) also shows that rapid expansion of higher education leads to the heterogeneity of skills in the labour market. A lot of universities that came into existence during this higher education expansion era were unable to deliver the quality education or skills which were required by the labour market.

Government has taken a great initiative in the form of URAAN Pakistan which envisions to align Pakistan's education, especially higher education, with the economic and technological development of the country. The critical issues highlighted in the review like graduates' skills enhancement, economic growth through higher education and focusing on the new technologies which are demand of the new era all aligned with the URAAN objectives. Further the URAAN Pakistan project visions to increase exports manifold through knowledge economy and this is only possible if quality of current education is enhanced by focusing more on practical knowledge and through a vibrant university industry linkage. The vision further intends to reduce graduates' unemployment in Pakistan through entrepreneurship and this is only possible by revamping the current education system by incurring in students the entrepreneurship spirit during their studying years.

So, HEC reforms should be more focused now on quality rather than quantity of higher education. Establishment of Quality Enhancement Cells (QEC) in universities is a good step but strict supervision and periodic accountability of these QECs should be a regular exercise. Further, these QECs should be mandated with clear goals which would enhance the quality of higher education, as currently, the whole exercise of these QECs is focused on gathering and piling up files by the faculty regarding the best, average and worst of the different assessments done in a semester. Similarly, an active and vibrant role needs to be played by ORIC (Office of Research, Innovation and Commercialisation) and its primary goal should be the enhancement of university-industry linkage. Clear and

measurable goals should be set for this HEC entity too in all universities and regular accountability should be done on its annual outcomes, which is currently being assessed on the numbers shared by these ORICs themselves. Last but not least, the criteria for opening new universities should be made more stringent, and HEC should resist any moves by the politicians to build new universities solely to please their constituencies.

Furthermore, it is becoming challenging for the government in Pakistan to provide jobs to bulk of graduates passing out every year. At the moment the government seems unable to create any new job opportunities. Focussing on the connection between graduates' fields of study and available employment is crucial in Pakistan.It is imperative to analyse the student's current enrollment patterns in science subjects and the subjects for which jobs are advertised by the employers. Many remarkable studies have been done in the world regarding this important issue, however, from Pakistan's perspective, we could not find a single study that have addressed this important matter.

- To address this supply demand gap of highly educated individuals, a quantitative model is needed to project labour demand, adding input from policymakers and planners while deciding about higher education development and investment.
- There is need of a model to generate labour demand projections including broad economic sectors and occupations.
- The objective of the prognosis is to facilitate the convergence of labour supply and demand through promoting transparency, thus reducing the incidence of unemployment and mismatch in the labour market.
- Literature also shows that low-ability individuals have more chance of being overeducated as these individuals may invest more in their education to increase their job opportunities. However, this may lead to more unemployment and overeducation in the labour market. Therefore, Government should try to increase number of jobs which require low levels of education as this strategy may stop people from unnecessary pursuit of higher education. Moreover, organisations like NAVTEC (National Vocational and Technical Training Commission) and TEVTA (Technical Education & Vocational Training Authority) are performing a good role in providing short- and long-term technical courses to the youth enabling them to be an earning professional after matriculation or intermediate. However, the network of these institutions needs to be spread further along with ensuring a strict check on quality and making sure courses offered are the ones which are really in demand by the local and international labour markets.

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