Private Returns to Education in Goa

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DECLARATION BY STUDENT

I hereby declare that the data presented in this Dissertation report entitled, "**Private Returns to Education in Goa**" is based on the results of investigations carried out by me in the **Master of Economics at the Goa Business School, Goa University** under the Supervision of **Ms. Ankita Navso Chari** and the same has not been submitted elsewhere for the award of a degree by me.

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COMPLETION CERTIFICATE

This is to certify that the dissertation report "**Private Returns to Education in Goa**" is a bonafide work carried out by **Ms. Sonam Pramod Shirodkar** under my supervision in partial fulfillment of the requirements for the award of the degree of **Master of Economics in the Discipline of Economics at the Goa Business School, Goa University.**

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Preface

My dissertation represents the peak of an intellectual journey that has been both challenging and rewarding. It reflects my passion for Economics and my dedication to exploring growth and development. Throughout this research aim, I have encountered numerous opportunities for growth, learning, and self-discovery. The inspiration for my dissertation stems from a desire to make a meaningful contribution to society, human well-being, and also opportunities to contribute to human development. As I search deeper into the literature and engage with various methodologies, my understanding of the subject yields leading to new insights and perspectives.

In embarking on the journey of this dissertation, titled "Private Returns to Education in Goa", I found myself at the intersection of curiosity, inquiry, and a deep-seated commitment. The decision to delve into the topic was a choice fueled by a desire to shed light on an underexplored facet of educational economics. Goa, with its rich cultural tapestry and diverse socioeconomic landscape, provided an ideal backdrop for this investigation. This dissertation seeks to illuminate the private benefits accrued by individuals through investments in education in the Goan context. By examining factors such as educational attainment and labour market outcomes, it endeavors to see relationship between education and economic returns at the individual level. Through analysis of primary and secondary data, supplemented by quantitative insights revealed from interviews and surveys, this dissertation endeavors to offer a comprehensive understanding of the private returns to education in Goa. I hope that the findings presented herein will not only contribute to the existing body of knowledge but also inform policy interventions aimed at fostering inclusive and equitable educational opportunities in the region. In presenting this dissertation, I humbly offer it as a modest contribution to the pursuit of knowledge and understanding. May it serve as a catalyst for further inquiry and may its insights reach beyond the confines of academia.

Sonam Shirodkar

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Finally, I would like to express my gratitude to all those who have contributed to my dissertation in ways both seen and unseen. Your assistance and encouragement have played an integral role in the completion of my dissertation.

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Abstract

Education plays a major role in the development of human capital. It is known as one of the key determinant of people's earning. The study investigates trends in broad employment categories and unemployment rate and also examines the impact of education and type of work, on expenditure of an individual in Goa. It also aims to examine the determinants of expenditure of an individual. Data is analysed using bar graphs and Mincerian wage model of econometrics. The secondary data source for the study is "CMIE-states of India" and primary data was collected by survey using questionnaire method. The findings suggests that there is no relationship between educational attainment and expenditure of an individual whereas type of work does affect the expenditure of an individual and also found that determinants does play an important role in expenditure of an individual.

CHAPTER 1

Introduction

1.1 background

Education is identified as the most vital aspect in human capital development. It increases labour productivity, skilled manpower, and sustainable monetary growth. It encompasses knowledge and skills acquisition, important for enhancing productiveness and financial development. Endogenous and augmented growth theories emphasize education's position in sustainable economic increase. it is taken into consideration as a number one driving force of earnings and wealth version throughout countries. Returns to schooling, consisting of financial and non-financial gains, illustrate its multifaceted blessings. education additionally contributes to welfare of the society through reducing poverty, inequality, and unemployment. Empirical analysis Shows that returns to schooling varies based totally on education level and region of work. significantly, education undoubtedly correlates with earnings, encouraging higher schooling attainment and fostering financial mobility and stability. There are types of returns; one is social returns and other is private returns. Social returns refer to the returns which contributes within the welfare of the society and personal returns refers back to the person gain or profit, it essentially helps the individual to boom his wealth or mobility.

Empirical analysis of returns to education has proven mixed effects. (Psacharopoulos, 1994)summarized the rates of return to schooling prevailing at some stage in the sector as: The rate of returns to schooling diminishes with the level of education, i.e. primary schooling has more returns than those of secondary schooling and the secondary schooling gives more returns than even higher education. The returns to schooling are higher in rural area than that of urban area.

The distinction is the outcome of the productiveness enhancement position of schooling inside the rural area and fixed and inflexible pay structure inside the urban area. Women's personal returns to schooling are higher than their male counterparts. The fees of returns to schooling developing countries are better than the developed countries.

Returns to education in India

The returns to schooling in India range depending on elements like the level of education and the field of work. according to various researchers on average, each extra year of schooling ends in an increase in earnings by means of approximately 10-15%. but the returns may vary across states due to various financial situations, policies, and academic infrastructure. normally, the findings indicate that higher levels of education incur better income capability and socioeconomic mobility however the returns adjustments based on different factors such as gender, geographical place, and the training.

primarily based on (Patrinos) study, we can expect relatively high returns to schooling in India. however, because of the significant boom in educational attainment over the past decade, we would anticipate a mild decrease in returns in comparison to the early 2010s, reflecting adjustments within the monetary structure. This expectation is based on the idea that private returns to education are usually fine, better in low- or center-profits economies, and highest at the primary education level.

Education plays principal function in shaping people' monetary potentialities and social mobility, specifically in India. Returns to education, defined as the financial and social benefits derived from academic investment. There are 3 main broad employment categories in India; classified as self-

employed, regular salary/ wage workers, and casual labour. Educational attainment performs an essential position in improving productiveness, increasing market opportunities, and increasing income tiers. people engaged in small groups, artisanal crafts, and carrier-oriented enterprises regularly revel in tangible profits from making an investment in training, because it equips them with the essential competencies and understanding to evolve to changing market demands and leverage rising opportunities.

furthermore, training empowers self-hired everyday salary people to innovate, diversify their livelihoods, and access formal economic offerings, thereby strengthening their resilience to economic shocks and improving their standard of living. higher levels of education are associated with more entrepreneurial achievement, process pleasure, and upward mobility in the self-hired region, underscoring the effective correlation between educational attainment and financial consequences in this context. Conversely, the situation of returns to education amongst informal labourers, who constitute a tremendous share of India's informal group of workers, gives distinct demanding situations and complexities. casual labourers frequently have interaction in low-professional employment category, characterized by low earnings, lack of safety, and vulnerability to exploitation. For this marginalized phase of the staff, educational barriers which include restrictions in getting admission to schooling, negative quality of schooling, and early dropout rates exacerbate present socioeconomic inequalities and increases poverty. By way of acquiring primary literacy and vocational capabilities, informal workers can enhance their employability, negotiate better wages, and get entry to alternative livelihood opportunities in more formalized sectors of the financial system. furthermore, education fosters greater attention of labour rights, collective bargaining mechanisms, and avenues for social mobilization, enabling informal labourers to propose for better safety conditions and extra social inclusion.

1,2 Objectives

- To study the trends in broad employment categories and unemployment rate in Goa from 2016-17 to 2022-23.
- To study the impact of educational attainment and private sector employment on expenditure of an individual.
- To examine the major determinants of expenditure of the employees.

1.3 Hypothesis

- H0- There is no significant impact of educational attainment and private sector employment on expenditure of an individual.

  H1- There is a significant impact of educational attainment and private sector employment on expenditure of an individual.
- H0- There is no significant relationship between expenditure and other determinants of expenditure of the employees.

  H1- There is a significant relationship between expenditure and determinants of expenditure of the employees.

1.4 Research Questions

- What is the relationship of educational attainment and private sector employment on expenditure of an individual?
- Are there some other variables other than education that have impact on expenditure of an individual?
- Are there any gender disparities that affect the expenditure of an individual?

1.5 Scope of the study

- This study will help the individual to understand determinants of expenditure and take wise decisions, which will in turn increase the ability and productivity of an individual. This will create better job opportunities and career advancement. It also analyses the economic benefit individual gain from investing in education. The study also highlights the returns from private sector employees providing insight of whether sector of work plays major role in economic returns.

1.6 Limitations of the study

- The study is limited to the state of Goa.
- The sample size of the respondents is very low due to lack of time.
- Time constraint was one of the major limitation of this study.

CHAPTER 2

Literature Review

(Li, 2002) on Economic transition and returns to education in China examines how shift from a centrally planned to a marketplace-oriented economy has motivated the returns to education. It investigates how educational attainment impacts individual's income ability. By means of analyzing records and trends, the results shows that educational attainment became more valuable within the context of China's evolving economy. The research likely shows a shift in skill for industries or sectors that require higher level of schooling. This may imply that the knowledgeable employees grew as China's financial system modernized and varied. The findings provides insights into the effectiveness of education guidelines in China throughout the transition duration. It may advocate areas for policy intervention to similarly enhance the returns to schooling and promote equitable enrollment in academic possibilities. Ordinary, the research contributes to knowledge, economic transition, training, and labour market effects in China, providing insights for policymakers, educators, and people seeking to enhance their socioeconomic reputation.

(Hussain, 2007) examine the returns to education and gender differentials in wages in Pakistan. The research examines how educational attainment affects wage levels and whether or not there are disparities among women and men in phrases of the returns on schooling. The study also explore elements such as gender discrimination, school enrollment and societal norms impacting wage differentials. By analyzing data, Awan and Hussain probably provide insights into the connection among education, gender, and wages in Pakistan, contributing to the understanding of labour market dynamics and capability coverage implications. The findings states difference in gender wage gap in Pakistan, indicating that women earn much less on average compared to men,

even if controlling for factors such as education. The studies possibly offers insights into capability policy interventions aimed at addressing gender wage disparities and promoting equitable enrollment to schooling and employment opportunities in Pakistan. It also consist of measures to lessen gender-primarily based discrimination, enhance educational enrollment for girls, and promote gender equality in the personnel.

(Afzal, 2011) econometric analysis likely specializes in the private returns to education and the determinants of earnings. It examines using statistical methods and discovers elements that have an impact on individual income, with a particular emphasis on the position of education. By way of using econometric techniques, the study provides empirical evidence on the connection between schooling, profits, and different socioeconomic factors, presenting insights into the labour market dynamics and potential policy implications for training and workforce improvement. The findings demonstrates that higher level of schooling is related to higher profits. It underscores the financial benefits of making an investment in education for people in Pakistan. It also reveals that primary schooling affects income effects, suggesting that individuals with higher level of education have a tendency to earn greater. Overall, the study contributes to the complicated counter between schooling, competencies, and income in Pakistan's personal region, imparting treasured insights for policymakers, educators, and people seeking to enhance their financial possibilities.

(Fulford, 2012) research on returns to education in India examines the connection among educational attainment and individuals' earning capacity in the Indian context. The study has used econometric strategies to analyze information and estimate the returns on investment in schooling, considering factors such as stage of education, discipline of observe, and local disparities.

Fulford's research also explore how returns to education vary throughout one of a kind demographic agency, which include gender, caste, and socioeconomic status.

(Leigh, 2007) studies on returns to education in Australia probably investigates the economic benefits of educational attainment for people inside the Australian labour market. He utilizes econometric analysis to estimate the effect of education on wages and employment results, thinking about factors consisting of level of education and area of study. Leigh additionally discovers how returns to schooling have evolved over the years and vary across special demographic groups, inclusive of gender, ethnicity, and socioeconomic status. By providing insights into the relationship between education and returns in Australia, the studies probably inform policy discussions around education and group of workers improvement techniques geared toward improving individual opportunities and national productivity. The findings states that better levels of training are related to better income in Australia. These locating underscores the economic benefits of investing in education for people inside the Australian labour market. The evaluation examines gender differences in returns to schooling, indicating whether or not men and women revel in similar advantages from better education or if disparities exist. The study additionally discovers how returns to education vary throughout special occupations and industries in Australia, imparting insights into the demand for educated workers in numerous sectors of the financial system.

(Chamarbagwala, 2004)contributes to examine the role of education in poverty reduction, social mobility, and economic development in India. The findings of a studies article on returns to education, child labour and schooling in India states that better ranges of parental education are associated with decreased probability of child labour participation. The findings underscore the

role of education in reducing child labour practices by improving household financial situations and growing awareness of the significance of schooling. The study also exhibit that individuals who acquire formal education have higher earning capability as compared to those engaged in child labour or with restrained enrollment to schooling. The study highlights the economic benefits of making an investment in schooling for both individual and society as a whole. The research gives insights into ability coverage interventions aimed at addressing child labour and promoting schooling in India. These also include measures to enhance enrollment in excellent schooling, reduce poverty, implement child labour legal guidelines, and raise awareness about the importance of schooling.

(Duraisamy, 2001) study examines changes in returns to education in India with a focus on gender, age-cohort, and region. The study utilizes econometric analysis to analyze statistics and estimate of how educational attainment influences people's earning potential. It provides insights of how returns to education range throughout special demographic organizations, inclusive of men and women, different age cohorts, and rural as opposed to urban areas. With the aid of figuring out tendencies and patterns within the returns to schooling over time and throughout numerous demographic classes, the study possibly affords insights into the evolving dynamics of the Indian hard work marketplace and the role of education in shaping financial outcomes for distinctive organizations. The result suggests that educational attainment became more valuable in the Indian labour marketplace in the course of this time. The study identify disparities in returns to education between women and men. It states that males earn higher returns to schooling as compared to females, indicating gender-based totally inequalities within the labor market. The have also found variations in returns to education across age-cohorts. For example, younger cohorts can also experience higher returns to schooling in comparison to older cohorts, reflecting modifications in

skill demand and labour market dynamics over time. Duraisamy's evaluation possibly explores how returns to schooling fluctuate across diverse areas of India. It display disparities in financial opportunities and labour market conditions between urban and rural regions or amongst extraordinary states. The research offers insights into ability policy interventions aimed at addressing gender disparities, promoting training, and enhancing labour marketplace results in India.

(Agarwal, 2011) research on returns to schooling in India provided that the wonderful correlation among education and economic returns in India. Individuals with better levels of schooling tended to have higher employment prospects and better earning as compared to those with decrease educational attainment. The research highlighted disparities in returns to education between city and rural regions. City areas generally offered higher returns to education due to better enrollment to monetary possibilities and better infrastructure. The findings additionally state gender disparities in returns to schooling. Women commonly faced lower returns in comparison to males, reflecting broader gender inequalities in enrollment to education and employment opportunities. He diagnosed challenges related to skill mismatch inside the labour marketplace. Some individuals confronted problems in securing employment matching their competencies, leading to underemployment or unemployment. The studies emphasized the significance of centered policy interventions to cope with disparities in returns to schooling. Guidelines protected measures to enhance educational enrollment, lessen gender disparities, and enhance talent development packages to higher align with market needs.

(Chiswick, 1966) "Schooling and the Distribution of income" provided groundbreaking insights into the relationship among education and profits distribution. The key findings states that

education is investments in human capital that enhance productiveness and profits capability. Becker and Chiswick located that individuals with better levels of education earn greater than people with lower degrees of schooling. They highlighted the considerable position of education in shaping the distribution of profits in society. The study explores the returns to education, demonstrating that each additional year of schooling normally led to a proportionate growth in income. This finding underscored the economic advantages of making an investment in training. They showed that disparities in educational attainment contributed to disparities in income, highlighting schooling as a key determinant of socioeconomic fame. The findings states that there is a need for policies aimed toward improving enrollment in schooling and making sure its quality and relevance.

(Dutta, 2006) explores the monetary advantages of education in India. It examines relationship between degrees of education attained and possibilities with increasing profits. It gives insights into the changes in returns to education over a time period. The findings states that higher degree of education incurs better wages which indicates that investing in schooling lead explores the financial advantages individual's advantage from making an investment in training within Pakistan's private zone. The paper utilizes statistical strategies to analyze factors along with income differentials based totally on education ranges, employment possibilities, and standard monetary increase. It offers precious insights into the significance of education for character development and countrywide development in Pakistan. The findings reveal that people with higher levels of education in Pakistan's rural area have a tendency to earn better earning compared to those with decrease degrees of schooling. It highlights education as a worthwhile investment, displaying that individuals who spend money on education receive better returns in terms of earnings and profession opportunities and people with specialized abilities or better education

stages earn extensively greater than people with simple qualifications. It also advises that making an investment in schooling, specifically inside the private sector, contributes positively to financial increase through growing human capital and productiveness.

(Tilak, 1961) provides an overview of the economic benefits and outcomes associated with education in India. Analysis of how education impacts individual's income levels and employment opportunities in India, including the potential for higher wages and better job prospects for educated individuals and exploration of how education influences social mobility and economic inequality in India, including the role of education in reducing poverty and promoting upward mobility. The findings suggest the lack of the quality of education in India and its implications for returns on investment in education, including the importance of skills development and vocational training. It also highlights the need of government policies and initiatives aimed at improving access to education, enhancing educational quality, and maximizing the returns on investment in education in India. The study also highlights the challenges and opportunities related to education in India, including issues such as access to education, gender disparities, and the relevance of education to the labour market.

(Playforth, 2013) compares the individual private and social returns of investing in education and human capital in India. They examine how schooling contributes to individual earnings tiers, employment opportunities, and career advancement in India. It spotlights the financial advantages that individuals accrue from making an investment in their personal schooling, such as higher wages and progressed task possibilities. The paper analyzes the connection among education degrees, human capital formation, and economic growth in India. The research can also explore how investments in education can power long-time period financial development with the aid of

improving productivity and fostering innovation. The findings states that individuals who spend money into education tend to experience better personal earnings levels, better process opportunities, and expanded social mobility. This suggests that education has sizable private returns for people in terms of economic consequences. It additionally well-known shows that training contributes to broader societal advantages which include extended productiveness, innovation, and monetary increase. A more educated population can lead to enhancements in typical living standards, reduced poverty rates, and improved social cohesion. Schooling plays a crucial position in growing human capital by equipping people with skills, know-how, and abilities that are valuable inside the labour marketplace and for ordinary societal development. It also states that policy interventions geared toward improving enrollment to schooling, enhancing academic primary-rate, and promoting lifelong mastering will have enormous wonderful effects on both non-public and social returns to schooling and human capital in India. Average, these findings provide valuable insights into the significance of training for men or women advancement and national improvement in India.

(Pastore, 2017) investigates the relationship among educational attainment and women staff participation in India. The study explores how education levels have an impact on the participation of women inside the labour force in India. It examines whether or not higher stages of schooling amongst women result in increased participation inside the team of workers. The study considers of how social norms, cultural attitudes, and circle of relative dynamics impact the relationship between education and women group of workers participation in India. The findings states that better ranges of schooling among women are related to improved participation in the labour force. Education equips women with the skills and qualifications needed to enter various sectors of the economic system. It states that education plays an important role in empowering women

economically, leading to extra economic independence, higher earnings. Regardless of enhancements in educational attainment amongst women, gender disparities persist in labour force participation costs. Social and cultural barriers, along with discriminatory practices, regularly preclude women from absolutely utilising their schooling in the body of workers. The policy interventions aimed toward promoting gender equality in schooling and the team of workers may have advantageous consequences on female labour pressure participation. These may additionally include projects to enhance enrollment to schooling for women, address gender stereotypes, and offer guide for women to stability work and family duties. Improving women staff participation through education contributes to basic socioeconomic improvement by way of expanding the skills pool, increasing productivity, and fostering inclusive boom.

(Mitra, 2018) examines the numerous economic consequences associated with schooling in India, thinking about factors along with gender, place, socioeconomic history, and form of education. It explores how the returns on investment in schooling vary throughout one-of-a-kind groups in India. It analyses how factors like gender, caste, area, and degree of schooling influence people's financial consequences. The findings states that women enjoy decrease returns to schooling as compared men because of elements along with gender discrimination within the labour marketplace, restrained access to higher-paying jobs, and societal expectations concerning women roles. Returns to education range throughout one-of-a-kind areas of India, with people in urban areas often experiencing better returns in comparison to the ones in rural areas. This will be due to differences in economic improvement, infrastructure, and job opportunities. People from better socioeconomic backgrounds enjoy better returns to training as compared to those from disadvantaged backgrounds. Factors such as enrollment to satisfactory schooling, social networks, and own family help can influence instructional results and next monetary returns. Understanding

the heterogeneity of returns to education can inform policy interventions aimed at promoting equitable access to schooling and enhancing financial results for all people in India. This could include focused investments in education, efforts to lessen gender and socioeconomic disparities, and initiatives to glorify the relevance of education to labour marketplace needs.

(Mohd. Imran Khan, 2023) investigates the disparities in monetary returns between male and female self-hired individuals in India. The study explores how gender impacts the financial outcomes of self-employment in India. It examines differences in earnings, business achievement, and enrollment to assets among male and female entrepreneurs. The findings states that females self-employed individuals earn less than their male opposite numbers in comparable businesses. This will be due to various factors along with constrained get entry to sources, discrimination within the marketplace, and societal norms regarding gender roles. The study discovered variations inside the success fees of male and female-owned organizations, with male-owned companies much more likely to thrive and increase as compared to female-owned organizations. Female self-hired come across limitations together with limited mobility, circle of relative obligations, and cultural expectations that avoid their capacity to succeed in entrepreneurship and acquire identical returns to self-employment. The research findings have implications for coverage interventions aimed toward addressing gender disparities in self-employment. This may include initiatives to increase get admission to finance and business support services for lady marketers, as well as efforts to assignment gender stereotypes and promote gender equality inside the entrepreneurial surroundings.

(George Psacharopoulos, 1992) research on earnings and education among self-employed men in Colombia well-known shows vital insights into the relationship among educational attainment and

income tiers on this demographic organization. The key findings show that higher ranges of schooling are related to higher profits among self-employed men in Colombia. People with advanced degrees or specialised schooling generally tend to earn more than those with decrease stages of training. Education plays a crucial role in skill acquisition, which in turn affects earnings capacity among self-hired individuals. The relationship between education and income varies across exceptional sectors of self-employment in Colombia. Education tends to have a high-quality impact on profits in sectors inclusive of services and expert occupations, its effect can be much less reported in informal or low-skilled sectors. Higher stages of education are often related to more entrepreneurial success amongst self-hired adult males in Colombia. Schooling can offer people with the important managerial, technical, and monetary competencies to start and develop a success agency, leading to better income tiers and economic prosperity. The findings additionally underscore the significance of regulations geared toward promoting get admission to education and skill development packages for self-hired people in Colombia. Investments in training and vocational schooling can assist enhance the competitiveness and productiveness of the self-employed body of workers, in the end leading to better profits stages and socioeconomic improvement. Common, studies on profits and training among self-hired males in Colombia highlights the significance of schooling as a motive force of monetary achievement and earnings inequality discount on this demographic group. Through information the elements influencing income disparities and the position of training in shaping economic outcomes, policymakers can design focused interventions to sell inclusive growth and prosperity amongst self-employed people in Colombia.

(by Mohd Imran Khan, 2023) investigates the disparities in income and economic outcomes between male and female self-employed individuals. The study found evidence of a gender wage

gap among self-employed individuals in India, wherein female entrepreneurs earn less on average compared to their male counterparts. This wage gap could stem from various factors such as discrimination, unequal access to resources, and societal norms affecting women's participation in the labour market. It also reveals that educational attainment plays a significant role in mitigating the gender wage gap among self-employed individuals. Female entrepreneurs with higher levels of education might experience narrower wage differentials compared to those with lower levels of education. Research findings highlight the existence of barriers to entry for female entrepreneurs in India, including limited access to financial capital, lack of social support networks, and cultural barriers. These barriers could constrain women's ability to start and grow successful businesses, thereby impacting their income levels. Overall, the study on gender differences in returns to self-employment in India is likely to provide valuable insights into the complex interactions between gender, entrepreneurship, and economic outcomes in the country. By identifying the factors contributing to income disparities and evaluating the effectiveness of policy interventions, the study can inform strategies aimed at promoting gender equality and inclusive economic growth in India's self-employment sector.

(Segundo, 1995) explores the relationship between schooling and income in Spain. The paper investigates how education levels impact people' profits in Spain. It examines elements which include the level of education (e.g., primary, secondary, tertiary), area of observe, and place. The writer analysed the monetary returns on investment in education, comparing the costs of schooling to the potential earnings won over someone's lifetime. This analysis includes assessing the salary charges associated with better tiers of education. The paper inspects those regional disparities and their implications for educational coverage and monetary improvement. The writer used econometric techniques to examine survey statistics from the Spanish exertions force survey and

have used regression analysis to estimate the relationship between education and income while controlling for different applicable factors like age, gender and career. The look at involves recommendations for educational reform, staff development initiatives, or focused interventions to cope with disparities.

(l.bhandari, 2006) research paper on the distribution of human capital and income in Indian states likely focuses into the relationship between education, skill development and income levels across different regions of India. The study investigates the correlation between human capital distribution, measured by education levels and skill acquisition, and income distribution across various Indian states. Using empirical data and statistical analysis, the paper aims to provide insights into the extent to which investments in education and skill development contribute to income disparities among different states in India. The study likely finds a significant correlation between levels of education and income levels across Indian states. States with higher literacy rates and better educational infrastructure tend to have higher per capita income levels, indicating the importance of human capital in driving economic prosperity. There is evidence suggesting that investments in skill development programs lead to higher income levels in states where such initiatives are prioritized. Vocational training and technical education programs could be identified as key drivers of economic growth and income redistribution within and across states. The research highlights the existence of significant regional disparities in both human capital distribution and income levels. Certain states or regions lag behind others in terms of educational attainment and income generation, leading to widening income gaps and perpetuating economic inequality. The paper likely discusses the policy implications of its findings, emphasizing the importance of targeted interventions to improve education and skill development outcomes in economically disadvantaged regions. Policy recommendations include increasing investment in education

infrastructure, expanding access to vocational training programs, and implementing targeted income support schemes to bridge the gap between high- and low-income states.

(Keith, 2020) research paper investigates the relationship between private education and academic fulfillment in both rural and concrete areas of India. He examines debts for the contextual disparities between rural and urban regions, acknowledging that the high-quality and accessibility of schooling may additionally range extensively. The researcher analyse statistics from the yearly status of schooling record (ASER) for evidence of the impact of private schooling on pupil fulfillment. They located that a big proportion of college students in each rural and concrete areas attend non-public colleges, reflecting the recognition and prevalence of private schooling in India. The study reveals nearby differences within the effect of private education on academic success, highlighting variations among rural and concrete settings.

(Gounden, 1967) paper outlines the diverse kinds of funding in schooling in India, which includes authorities spending, private sector funding, overseas aid, and philanthropic contributions. It analyse ancient trends in schooling spending on the countrywide and kingdom degrees, inspecting modifications over the years and comparing allocations to specific stages of schooling (number one, secondary, higher education). The research found out the correlation among funding in education and key educational results together with literacy rates, enrollment rates, retention prices, and academic achievement. It explores how investment in education influences equity and get enrollment, especially for marginalized and underserved populations consisting of women, rural communities, and occasional-income families. The paper also delves into the high-quality of schooling supplied, assessing whether or not increased funding interprets into stepped forward teaching standards, infrastructure, curriculum development, and academic technology. The studies

provide policy tips for optimizing training investment to reap preferred instructional outcomes and sell inclusive and sustainable development.

(Glenda Kruss, 2014) research paper explores the relationship between higher education and financial development, focusing mainly at the significance of constructing technological skills. The paper highlights the function of higher education in driving economic improvement, specifically inside the context of rising economies like South Africa, wherein technological improvements are crucial for sustainable growth. The writer illustrates how better education establishments make a contribution to building technological capabilities. This can encompass examples of successful university-enterprise partnerships, generation transfer initiatives, and innovation ecosystems. The research highlights the particular role that universities play in generating and disseminating know-how, training professional professionals, and offering studies and improvement (R&D) help to industries and emphasize the importance of better training in growing skilled personnel prepared with the technical knowledge and problem-solving skills needed to force technological innovation and entrepreneurship. The paper also addresses the demanding situations and possibilities associated with building technological talents through better schooling, inclusive of problems related to investment constraints, abilities mismatches, mind drain, and the need for inclusive and sustainable development strategies.

(Oosterbeek, 1988) paper investigates the relationship among training, employment allocation, and earnings within the Netherlands, with a selected attention at the phenomenon of overschooling. The study examines the educational attainment tiers of the Dutch population, together with developments in educational enrollment, of completion charges, and attainment degrees across distinct demographic companies. Hartog and Oosterbeek examine how academic credentials

influence employment allocation in the Dutch labour marketplace. They attempted to analyze whether or not people are hired in occupations that in shape their level of education or if they are overqualified (over schooled) or underqualified (under schooled) for his or her jobs. The researcher explores the connection among educational attainment and income in the Netherlands, examining whether or not individuals with higher ranges of education earn drastically better wages compared to those with decrease stages of training. In addition, they investigate whether or not overschooled people enjoy salary consequences due to being overqualified for his or her job. The researchers likely talk the policy implications in their findings, suggesting techniques for policymakers to deal with the issue of over schooling and enhance the suit between education and employment in the Netherlands. This includes guidelines for instructional reform, labor marketplace rules, profession steering offerings, and talents improvement projects.

(FULFORD, 2014) research paper "Returns to Education in India" likely explores the relationship between education and earnings in the Indian context. The paper examines the distribution of educational attainment levels among the Indian population, including trends in enrollment rates, completion rates, and attainment levels across different socio-economic groups and regions. Fulford investigates the relationship between educational attainment and earnings in India, analyzing whether individuals with higher levels of education earn higher wages compared to those with lower levels of education. This analysis also considers differences in earnings by gender, caste, and geographic location. Fulford might also examine how the returns to education vary across different fields of study and occupations. The research explore heterogeneity in the returns to education, considering factors such as gender, caste, ethnicity, and socio-economic background. The paper also analyse regional disparities in the returns to education, examining whether individuals in urban areas earn higher returns compared to those in rural areas. Fulford explore

how factors such as infrastructure, access to quality education, and labour market conditions influence regional variations in returns to education. The research discusses the policy implications of its findings, suggesting strategies for policymakers to enhance the returns to education in India. This includes recommendations for improving the quality and accessibility of education, reducing barriers to educational attainment, and promoting skills development and lifelong learning initiatives.

(Wei chi, 2016) research paper investigates the determinants and patterns of family funding in children's education in China. The paper examines developments in family spending on children's schooling in China among 2007 and 2011, examining modifications in expenditure degrees, composition, and distribution throughout distinct regions and socio-economic corporations. Chi and Qian explore the factors that impact family choices to spend money on kid education, together with parental income, training level, occupation, household length, city-rural house, and authorities regulations which include the abolition of faculty prices or advent of subsidies. The studies discover patterns in household education expenditure, which includes the allocation of price range to distinct stages of education. The paper may additionally examine the impact of family schooling expenditure on youngsters educational results, such as faculty enrollment rates, instructional fulfillment, instructional attainment, and labour market results in later lifestyles. Researchers have additionally stated the coverage implications in their findings, suggesting strategies for policymakers to promote human capital funding in kids and reduce disparities in education spending.

(Strulik, 2018) research paper likely delves into the relationship between education and both wealth and fitness results. The findings suggest a correlation between better levels of education

and greater wealth accumulation over people' lifetimes. This will be supported by means of proof showing that schooling ends in better earning, better task possibilities, and improved economic literacy, all of which contribute to better savings and investments. The paper additionally explores how schooling influences fitness outcomes. Strulik discover that people with better ranges of education tend to have better health behaviours, which includes workout and food regimen, as well as more access to healthcare services and preventive measures. This may bring about decrease costs of continual sicknesses, better normal fitness, and multiplied existence expectancy. Higher wealth causes more access to healthcare and more healthy life, which in flip contribute to higher fitness outcomes and improved productivity, growing a virtuous cycle of wealth and fitness. He stated that training serves as a basis for lifelong getting to know, skill development, and adaptive behaviours that make contributions to sustained wealth and fitness over the existence path. The paper also discusses the coverage Implications of its findings, suggesting that investments in training have multifaceted blessings for people, societies, and economies. Standard, Strulik's studies paper offers precious insights into the complex dating among education, wealth, and health, highlighting the significance of training as a key determinant of socioeconomic properly-being and fitness results across the lifestyles direction.

(Shobhit Goel, 2018) specializes in analyzing the factors influencing dropout rates in Indian faculties, mainly regarding gender and caste. It focuses on gender disparities in schooling, with a particular recognition on dropout fees. It finds out whether boys or girls are much more likely to drop out of faculty at special levels of their education. Another widespread issue explored within the observe is the function of caste in training and dropout rates. It looks at whether certain caste corporations face higher barriers to schooling and are more likely to drop out in comparison to others. The findings have implications for training policy in India. Through identifying the factors

contributing to dropout rates, policymakers can layout interventions to deal with those problems and enhance educational results for all college students.

(LEIGH, 2008) investigates the monetary advantages related to higher levels of schooling in Australia. It focuses on the financial returns individuals can anticipate to obtain from making an investment in higher education. This will consist of better wages, better task possibilities, and expanded earning capacity over the route of a person's career. It examines how the returns to schooling range relying on the level of education attained, along with completing secondary faculty, acquiring a bachelor's degree, or pursuing postgraduate studies. It also discovers the variations in returns throughout various fields of observe. The findings states that there are disparities within the returns to education based totally on gender or ethnicity. This may shed mild on any current inequalities inside the Australian labour market and perceive areas wherein coverage interventions that are needed to promote equal opportunity. The findings have implications for training coverage and personnel improvement in Australia. Through expertise the monetary blessings of schooling, policymakers can make greater knowledgeable choices about investment priorities, capabilities schooling applications, and projects to improve access to education for disadvantaged businesses. Universal, Leigh's observe presents treasured insights into the economic price of education in Australia and gives vital issues for individuals, policymakers, and academic establishments aiming to decorate human capital and promote financial boom.

(Mwangi S. Kimenyi, 2006) discover the concept of human capital externalities and private returns to education in Kenya in. The study investigates how investments in schooling make contributions no longer simplest to man or woman earnings however additionally to broader societal benefits, known as human capital externalities. These externalities might also encompass increased

productiveness, innovation, and monetary boom on the national stage. The researchers analyze the personal returns that individuals get hold of from making an investment in education in Kenya. This includes quantifying the financial benefits, which includes higher wages and higher process possibilities, that individuals accrue as a result of their academic attainment. The findings probably have essential implications for schooling policy in Kenya. Through understanding the private returns to education and the broader societal blessings associated with human capital accumulation, policymakers can layout interventions to sell multiplied access to education, improve academic nice, and deal with skills gaps within the labour marketplace. It also provides valuable insights into the connection among schooling, human capital formation, and monetary development in Kenya, presenting vital concerns for policymakers aiming to enhance training results and promote sustainable boom.

(Gille, 2014) exploration of the disparities in human capital and income across various regions of India. In a country as diverse as India, such research offers valuable insights into economic development and social welfare. Human capital, comprising education, skills, and health, significantly influences income and productivity. Gille's study likely delves into analyzing the educational landscape, healthcare accessibility, income inequality, employment dynamics, and the impact of public policies on these factors. By employing empirical methods, the research aims to understand how human capital distribution affects income distribution within Indian states. This study holds significance for policymakers, economists, and social scientists striving to address regional disparities and foster inclusive growth.

(Amini, 2015) investigates the disparities in educational achievements between urban and rural areas in Russia using empirical analysis. A review of existing literature on urban-rural educational

disparities sets the stage for the study to offer fresh insights into the specific context of Russia. The findings likely reveal a substantial gap in educational achievement between urban and rural regions in Russia, with urban areas generally exhibiting higher rates of school enrollment and educational attainment. Differences in the quality of education, including teacher qualifications and school resources, likely contribute to the observed variations in academic outcomes between urban and rural schools. The study probably underscores the role of socio-economic factors, such as access to resources and parental involvement, in shaping educational disparities between urban and rural students in Russia. The urban-rural educational divide identified in the study likely exacerbates existing socio-economic inequalities, perpetuating cycles of disadvantage for rural communities. Amini and Nivorozhkin may propose policy interventions aimed at addressing the urban-rural educational gap, such as improving rural school infrastructure and incentivizing teacher placement in rural areas.

(Kochar, 2004)'s study, "Urban Influences on Rural Schooling in India," investigates how urbanization affects rural education in India, likely using empirical analysis to explore this relationship. The paper likely begins by reviewing existing literature on urban-rural educational dynamics, providing a foundation for understanding the unique context of India. Kochar's findings may reveal the impact of urbanization on educational resources, infrastructure, and accessibility in rural areas. The study uncovers disparities in educational outcomes between rural schools influenced by nearby urban areas and those in more remote rural locations. Kochar might examine the effects of rural-urban migration on educational opportunities for rural students, considering factors like parental involvement and student aspirations. The paper likely discusses policy implications, offering recommendations to address the negative effects of urban influences on rural

schooling and promote equal access to quality education for all students, regardless of where they live.

(Robst, 2006)explores how individuals' college majors correlate with the occupations they ultimately pursue. Utilizing empirical analysis, Robst investigates the degree to which college majors align with the skill and qualification requirements of various jobs. Robst's research suggests that individuals typically enter fields that are related to their college majors to some extent. However, the level of alignment may vary based on factors such as the specificity of the major and the flexibility of job markets. The study indicates that individuals are not rigidly confined to occupations directly linked to their college majors. Instead, they often exhibit adaptability in their career trajectories, transitioning between different fields over time. Robst's findings imply that the choices individuals make in their education can significantly impact their prospects in the job market. College majors closely aligned with job requirements may lead to better employment opportunities and higher earnings. The study underscores the importance of career guidance and educational initiatives that assist students in making informed decisions regarding their college majors. It also emphasizes the value of developing a diverse skill set to meet evolving job market demands. Robst's investigation also explore whether disparities exist in the alignment of college majors and occupations across gender and minority groups, shedding light on potential obstacles to achieving equitable employment outcomes. In summary, "Education and Job Match: The Relatedness of College Major and Work" provides valuable insights into the relationship between education and employment. The findings contribute to discussions surrounding educational policies, workforce development strategies, and career planning initiatives.

(Rouse, 1998) titled "Further Estimates of the Economic Return to Schooling from a New Sample of Twins," focuses on gauging the financial advantages linked with education, using a distinctive dataset of twins for analysis. Rouse conducts empirical research to shed light on the monetary gain individuals accrue from investing in education. Rouse's study likely uncovers a positive association between educational attainment and economic outcomes. Individuals with higher levels of education typically experience greater earning potential and economic success compared to those with lower educational attainment. The research quantify the economic returns from education, demonstrating how each additional year of schooling translates into increased lifetime earnings. This analysis offers policymakers and individuals valuable insights into the advantages of educational investment. Rouse's findings underscore differences in economic returns to education among various demographic groups, such as gender, race, and socioeconomic status. Recognizing these variations can inform initiatives aimed at promoting educational equality and enhancing economic prospects for marginalized communities. The paper likely emphasizes the importance of utilizing twin studies to estimate the economic benefits of education. By comparing outcomes between identical and fraternal twins, researchers can better isolate the impact of education on economic success, while accounting for genetic and familial influences. Rouse's research may inform education policies by suggesting that investments in education yield substantial economic advantages for individuals and society as a whole. Policies focused on improving access to education and enhancing its quality can contribute to economic development and alleviate income disparities. In summary, "Further Estimates of the Economic Return to Schooling from a New Sample of Twins" provides valuable insights into the economic benefits of education, offering evidence-based guidance for policymakers and individuals regarding educational investments and policy decisions.

(Levin, 2007)'s research on "Public Educational Investments in African-American Males" focuses into the effects of public funding specifically targeted at improving education outcomes for this demographic group. Levin's study uncovers significant gaps in educational achievements among African-American males compared to other groups, including lower graduation rates and limited access to higher education opportunities. The research evaluates the effectiveness of various public investments, such as funding for educational programs and initiatives aimed at improving school infrastructure and addressing socio-economic barriers. It assesses how these investments have influenced the educational outcomes of African-American males. Levin's findings emphasize the lasting effects of public educational investments on the economic and social well-being of African-American males, including their employment prospects and civic engagement. Based on the analysis, the study proposes policy measures to tackle the educational challenges faced by African-American males, such as targeted interventions, reforms in education funding, and strategies to promote inclusivity in the education system. Levin's research may stress the importance of community engagement in supporting the educational success of African-American males, highlighting the need for collaboration between schools, families, and other stakeholders.

(Sianesi, 2003)'s research on "The Returns to Education: Macroeconomics" examines into how education impacts individuals and society at a macroeconomic level. The study investigates the effects of education on labor market outcomes, productivity, and economic growth. Sianesi explores various approaches to estimating the returns to education, such as human capital theory and empirical research methods. The findings include insights into the correlation between education levels and wages, unemployment rates, and overall economic advancement. Additionally, the study may discuss the policy implications of investing in education for long-term economic prosperity.

(Hansen, 2006) investigates the economic and professional advantages of pursuing tertiary education, exploring how these benefits differ across academic disciplines, employment sectors, and job roles. The research analyzes elements like income potential, job contentment, and opportunities for career progression linked to diverse educational trajectories.

(Harmon, 2001) paper focuses into several key insights regarding the returns to education: The paper likely discusses how education contributes to individual economic outcomes such as higher wages, better job opportunities, and increased productivity. It explores the magnitude of these returns and how they vary across different levels of education and fields of study. The paper examines the broader societal impacts of education, including reduced unemployment rates, lower crime rates, and improved public health outcomes associated with higher levels of education. Harmon's paper might discuss the theoretical frameworks, such as human capital theory, that underpin our understanding of the relationship between education and economic outcomes. This could involve exploring how investments in education lead to the accumulation of skills and knowledge that enhance individuals' productivity and earning potential. The paper may highlight methodological challenges and limitations in existing studies on the returns to education, such as selection bias, measurement issues, and the difficulty of isolating the causal effect of education on outcomes. It also offers insights into the implications of the findings for education policy and practice. This involve discussing strategies to improve access to education, enhance educational quality, and align educational programs with labour market demands.

(Bhutoria, 2016) the paper investigates the relationship between levels of educational attainment (such as secondary education, vocational training, undergraduate degrees, and postgraduate degrees) and individuals' earnings in the UK. It explores how higher levels of education correlate

with higher wages and better career prospects. Bhutoria's paper analyze how education influences various labour market outcomes beyond just earnings, such as employment rates, job stability, and job satisfaction. This involve examining how different fields of study or types of qualifications affect individuals' experiences in the job market. Bhutoria's research also address regional disparities in the economic returns to education within the UK, considering factors such as geographical location, urban-rural divides, and disparities in educational opportunities across different regions. It also offers insights into the policy implications of its findings, including recommendations for education policies aimed at improving access to education, reducing inequalities in educational outcomes, and enhancing the overall economic benefits of education for individuals and society as a whole.

CHAPTER 3

Methodology

3.1 Data source:

Secondary data was collected from the "CMIE- sates of India" data source and primary data was collected by survey using Questionnaire method. Questionnaire was framed by taking reference from previous research papers, PLFS and NSSO questionnaires. The sample size of survey is 194 respondents by random sampling method.

3.2 Methodology:

The study contains quantitative method of analysation. The secondary data was analyzed by descriptive study using bar graph and primary data was analyzed by econometrics model using regression of mincerian wage model.

Mincerian wage model

The Mincerian wage model, named after the economist Jacob Mincer, is a widely used framework in labor economics to analyze the relationship between individual earnings and factors such as education, work experience, and other human capital variables.

$$In\ Y = \alpha_0 + \sum \alpha_i X_i + \varepsilon_i$$

Where,

ln= Natural logarithm

Y = Earnings of employees

Xi =A set of traditional and non-traditional determinants of earnings. Xi includes variables like education, experience and different control variables. The estimated parameter attached to education variable measures the private returns to education.

α_0= A random error term

Expenditure is used as a proxy variable for income:

Expenditure is used as a proxy variable for income because it better indicates the financial condition of an individual and also reveals other sources of income of an individual.

To check the impact of education and private sector employment on expenditure of an individual, the following equation is used:

ln(Expenditure)=Education+Private sector employment+ ε_i

To check the determinants of earnings of the employees, the following equation is used:

ln(Expenditure)=Age+Male+Education+Privateeducation+Regular+Self+Experience+Rural+Privatesectoremployment+Vocationaltraining+workduration+Fathereduc+Mothereduc+Male*Rural + ε_i

3.3 Bptest

Bptest refers to Breusch-Pagan test. It is used to diagnose the heteroskedasticity in the regression model. The null hypothesis states that there is no heteroskedasticity and alternative hypothesis

states that there is a heteroskedasticity in the model. If p value is less than 0.05 than we reject the null hypothesis which means there is heteroskedasticity in the model and if p value is more than 0.05 than we fail to reject the null hypothesis which means there is no heteroskedasticity in the regression model.

3.4 Bgtest

Bgtest refers to Breusch-Godfrey test. It is used to check autocorrelation in the regression model. The null hypothesis states that there is no autocorrelation in the model and alternative hypothesis states that there is a autocorrelation in the model. If p value is less than 0.05 than we reject the null hypothesis and there is autocorrelation in the model and if p value is more than 0.05 than we fail to reject null hypothesis which means there is no autocorrelation in the regression model.

3.5 Cochrane Orcutt

Cochrane orcutt is the method use to adjust the problem of autocorrelation in the model. By using Cochrane orcutt method the problem of autocorrelation is reduced. Autocorrelation occurs when the error terms in the regression model are correlated to each other. Therefore, by using Cochrane orcutt we get a better model.

3.6 Vif Test

VIF stands for Variance Inflation Factor. In econometrics, the VIF test is used to detect multicollinearity among explanatory variables in a regression analysis. Multicollinearity occurs when two or more independent variables in a regression model are highly correlated with each

other. The vif test improves the coefficients of the variables and adjusts the multicollinearity in the model.

CHAPTER 4

Data Analysis

Introduction:

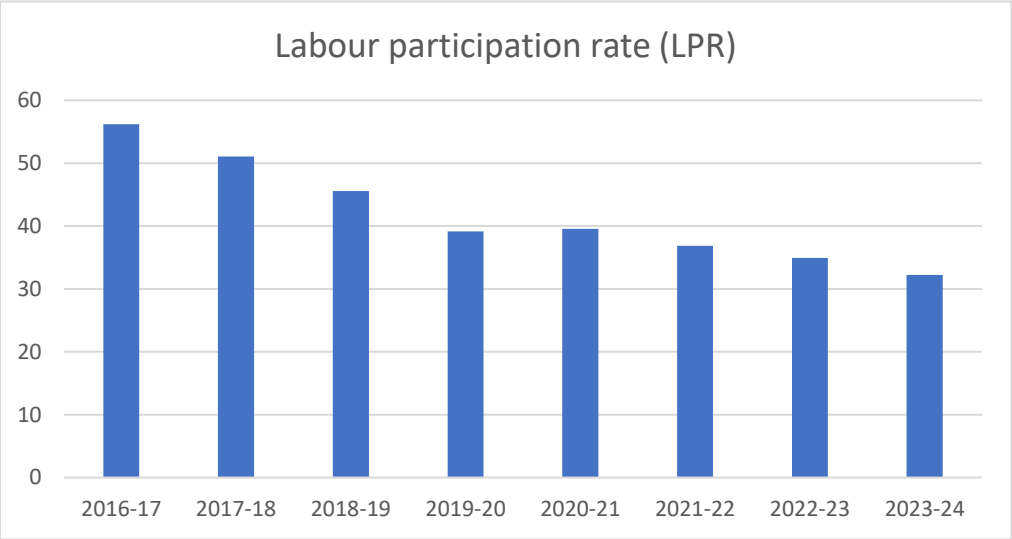
Labour participation rate, employment rate and unemployment rate plays a major role in the economy. Labour participation rate is an estimate of workforce of an economy; it includes employed as well as unemployed individuals. Employment rate is the number of individuals who are currently working and unemployment rate is the number of individuals in the labour force who are currently unemployed.

The employment rate is further divided into 3 broad employment categories i.e; self employed, regular wage/salary worker and casual labour. Self employed workers are the ones who are employed by themselves or the one's who have their own business. Regular wage/salary workers are the ones who are employed on a contract basis and have a fixed monthly salary. Where as, casual labour are the daily wage labourers who don't have a fixed job and earn on a daily basis.

These indicators play a crucial role in the economy and for the wellbeing of the society. They provide insights into the workforce dynamics, economic stability and policy effectiveness. By looking at the trends over the years one can formulate strategies for sustainable economic development and social welfare.

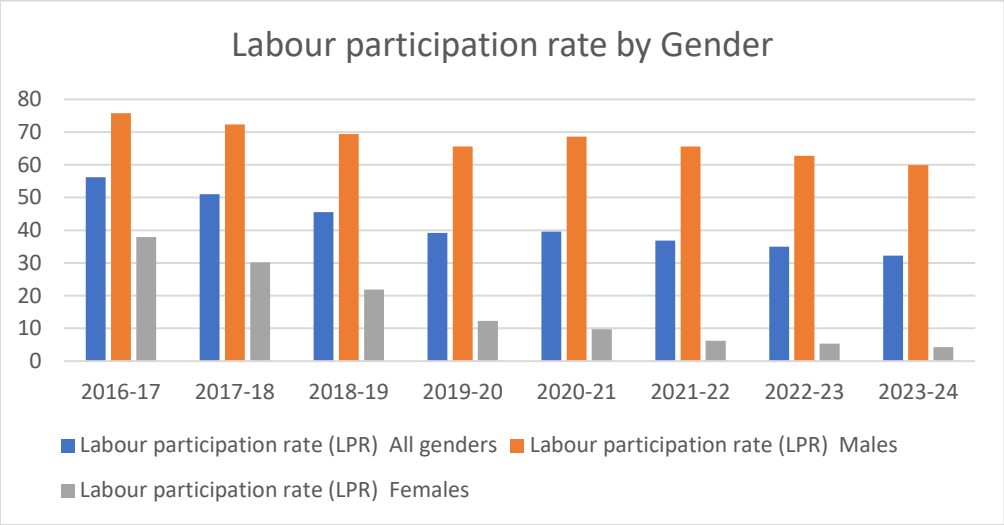
4.1 Labour participation rate:

Figure 1.1



The above bar graph shows the labour participation rate from 2016-17 to 2023-24. The bar graph shows a decreasing trend which indicates that the labour participation rate has decreased over the years. This could be due to changes in demographics such as ageing population or migration of working-age individuals.

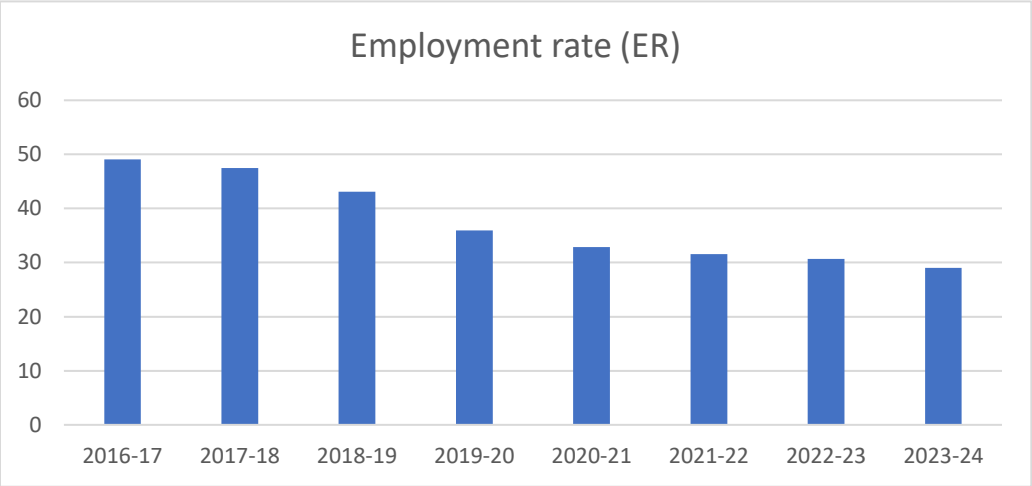
Figure 1.1.1



The above graph shows the labour participation rate by gender. The orange colour in the graph indicates gender male, grey colour indicates gender female and blue colour indicates both the genders. As can be seen in the graph male contributes higher in the labour participation rates than female. The overall graph shows that there is decrease in labour participation rate over the years in both the genders.

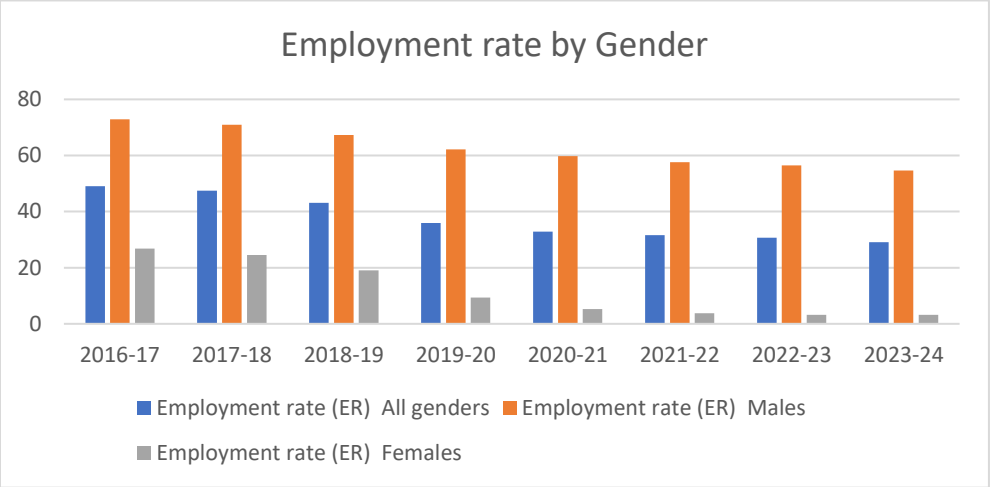
4.2 Employment rate:

Figure 1.2



The above graph shows employment rate from 2016-16 to 2023-24. As can be seen in the above graph the employment rate has decreased over the years so it shows a decreasing trend in employment rate. This could be due to decline in economic activities such as decline in tourism or changes in industrial activities. Also if there are changes in government policies that affect the job opportunities in the state.

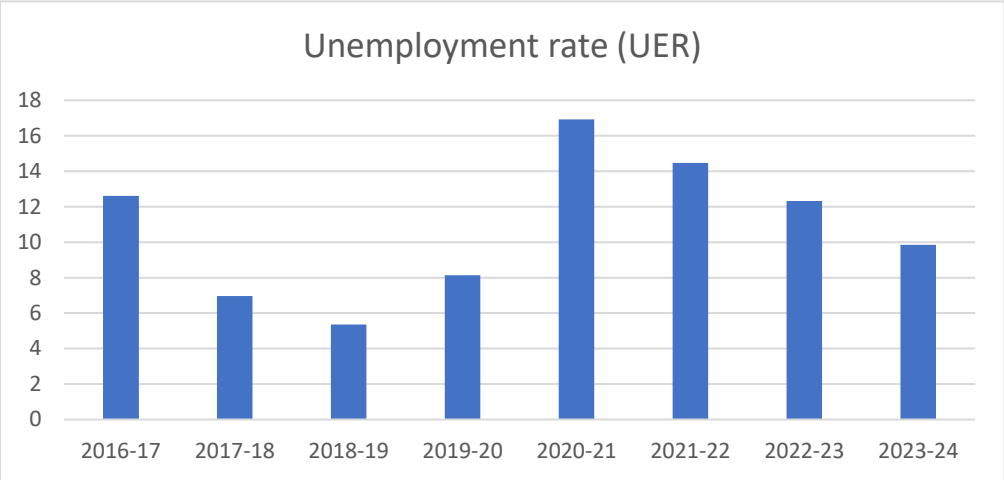
Figure 1.2.1



The above graph shows trend in employment rate by gender from 2016-17 to 2023-24. The blue colour indicates employment rate by both genders, orange colour indicates male employment rate and grey colour indicates female employment rate. Over the years the employment rate had decreased between both the genders. The above graph indicates that males contributes higher in the employment category than females.

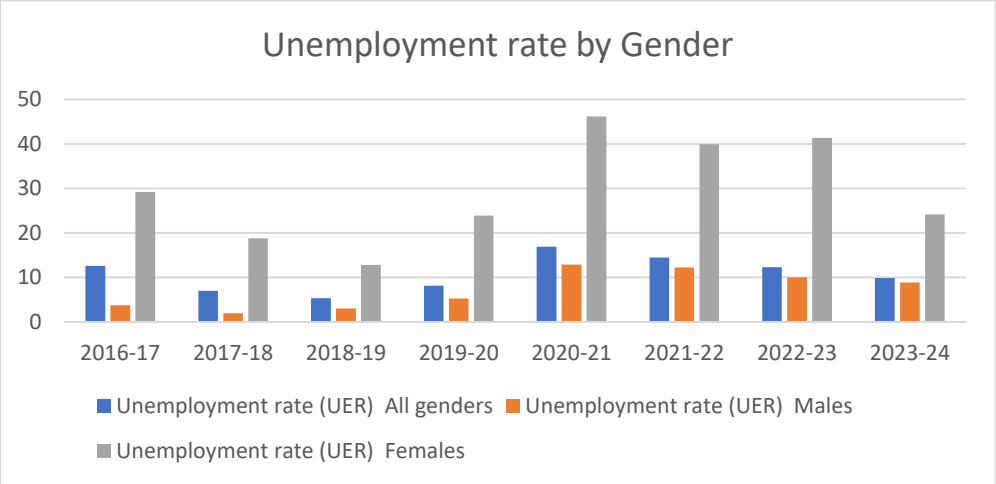
4.3 Unemployment rate:

Figure 1.3



The above bar graph shows the change in unemployment rate from 2016-17 to 2023-24. As can be seen in the above graph there is volatile change in the unemployment rate over the years. From 2016-17 to 2018-19 the unemployment rate decreased than in 2019-20 it started increasing and than again in 2021-23 it started decreasing. The above hike in unemployment rate during 2019-21 might be due to the pandemic period of COVID-19 and the reason for decreasing unemployment rate in recent years could be due to the improved government policies and technologies which affect the unemployment rate.

Figure 1.3.1



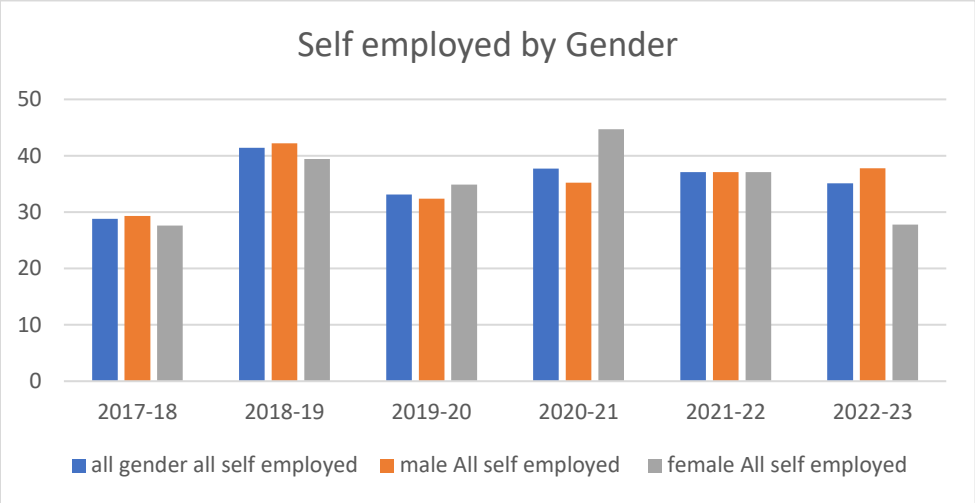
The above graph shows unemployment rate by gender from 2016-17 to 2023-24. The blue colour indicates overall unemployment, orange colour indicates male unemployment and grey colour indicates female unemployment. Overall, the unemployment rate has the volatile change between both the genders. As can be seen in the above graph females contributes higher to the unemployment category than males.

4.4 Self employed:

Figure 1.4

The above bar graph shows trends in self employed workers from 2017-18 to 2022-23. As can be seen in the above graph the trend shows fluctuations over the years. This could be because the government of India have implemented many schemes for the new startups but it is not effective in the state of Goa. So individual hesitate to start new business specially in Goa.

Figure 1.4.1



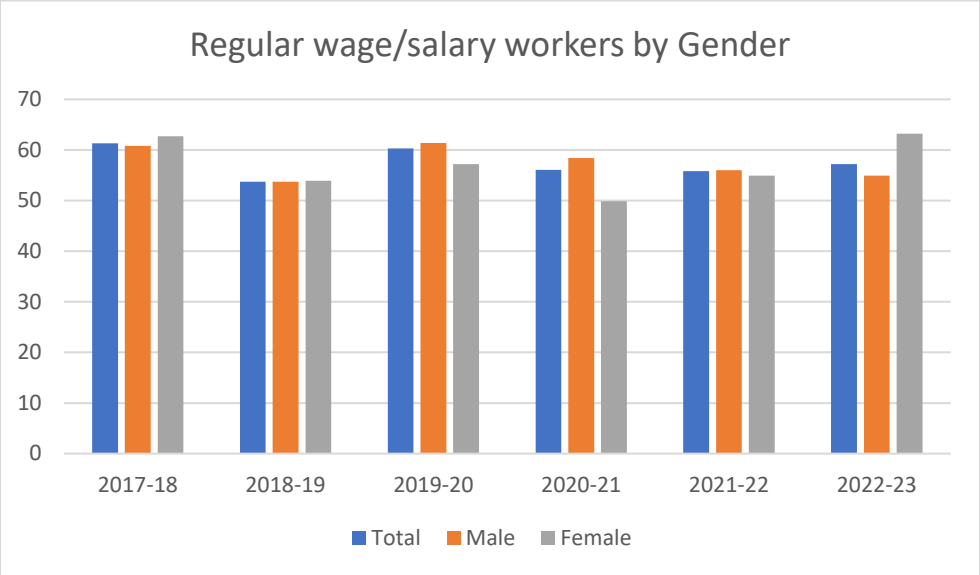
The above bar graph shows the trends in self employed workers by gender from 2017-18 to 2022-23. In the graph blue colour indicates both the genders, orange colour indicates male self employed workers and grey colour indicates female self employed workers. As can be seen in the graph both genders have fluctuating trend over the years. For some years male self employed workers are more and for some years female self employed workers are more.

4.5 Regular wage/salary worker:

Figure 1.5

The above bar graph shows trends in regular wage/salary workers from 2017-18 to 2022-23. In 2017-18 regular wage/salary workers were the highest but in 2018-19 it went down, again in 2019-20 the number increased and then again it went down. So the graph shows fluctuating trend over the years. The graph shows increase in regular wage/salary worker rate in recent years, this could be because of the improved government policies over the years in the state.

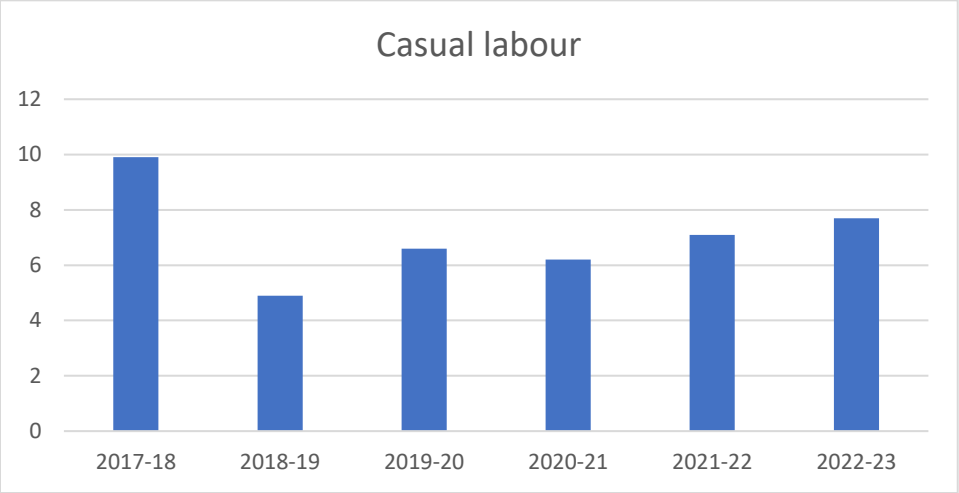
Figure 1.5.1



The above bar graph shows the trend in regular wage/salary workers by gender from 2017-18 to 2022-23. In the graph blue colour indicates both the genders, orange colour indicates male workers and grey colour indicates female workers. The graph shows fluctuating trend between both the genders over the years.

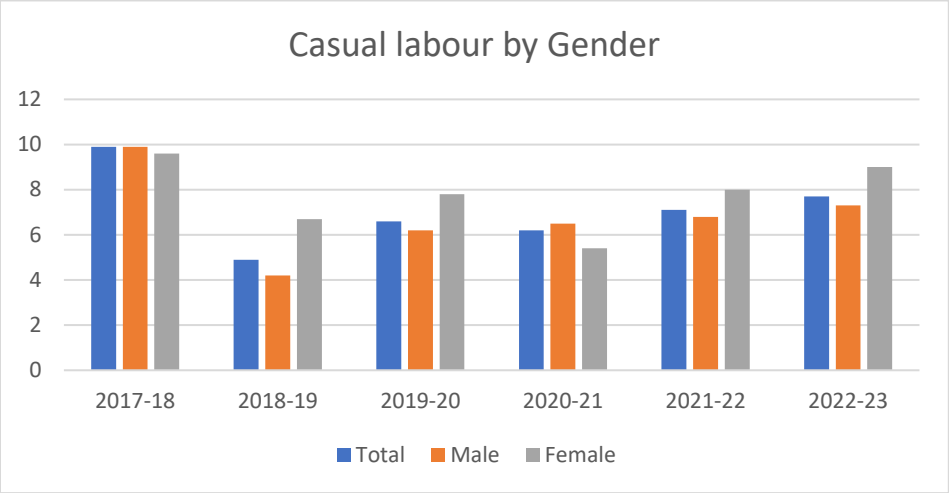
4.6 Casual labour:

Figure 1.6



The above bar graph shows the trend in casual labour from 2017-18 to 2022-23. The bar indicates fluctuating trend over the years. It was highest in 2017-18 than it went down and again went up in 2022-23. The increase in casual labour force in recent years in goa could be because there is a lot of construction taking place in Goa so the labour force from other states of India might have migrated in goa in search of job and might be working in the state.

Figure 1.6.1



The above bar graph shows trends in casual labour by gender. The blue colour in the graph indicates casual labour by both the genders, orange colour indicates male labourers and grey colour indicates female labourers. As can be seen in the above graph the share of female casual labour is more than the male casual labour. Over the years there was decrease in the casual labour during 2019-20 to 2020-21 but then it started increasing from 2021-22. There are some fluctuations in the trend but it has increased over the years.

Conclusion:

The above graphs shows the change in labour participation rate, employment rate, unemployment rate and 3 broad employment categories of Goa. The above trends shows that there is decreasing trend in labour participation rate and employment rate whereas unemployment rate shows a fluctuating trend over the years. In recent years decreasing unemployment trend indicates a positive result but decreasing employment rate and labour participation rate indicates a negative result which indicates that there is a need for policy interventions inorder to increase the

employment rate in the economy. The three main broad employment categories i.e; self employed, regular wage/salary worker and casual labour shows fluctuating trend over the years which indicates that there is no stability in the different employment categories.

CHAPTER 5

Education plays a major role in the development of the human capital. According to the most of the research papers education and expenditure are closely related to each other. It states that higher level of education incurs better employment opportunities and increases the expenditure of an individual. Studies have shown that individuals with higher levels of education tend to have higher income and higher expenditure. According to the various research papers the sector of work also plays a major role in the increasing the income of an individual. According to the previous studies government sector employees earn more than private sector employees. So, in order to find out the relationship between expenditure, education and the sector of work of the employees, multiple regression model has been used. In the model. Expenditure is used as the dependent variable whereas educational attainment and private sector employment of an individual are taken as the independent variables.

Table 1.1

Variables	Estimate	Std. Error	t value	p value
Intercept	10.38426	0.33568	30.935	<2e-16***
Education	-0.01816	0.02303	-0.789	0.43130
Private employment	-0.42212	0.14913	-2.830	0.00515 **

Residual standard error: 0.881 on 191 degrees of freedom

Multiple R-squared: 0.041

Adjusted R-squared: 0.03095

F-statistic: 4.082 on 2 and 191 DF

p-value: 0.01836

Interpretation

The coefficients of expenditure, education and Private sector employment are 10.38426, -0.01816 and -0.42212 respectively. The dependent variable ie; expenditure is highly significant at 99% where as independent variable; education is not significant which shows that there is no relationship between expenditure and educational attainment of an individual and it does not impact the expenditure of an individual. This could be because the sample size of the survey is very low. Other independent variable, i.e; private sector employment is significant at 95% confidence level which means that there is a relationship between expenditure and Private sector employment which means sector of work of the employee affect the expenditure of an individual.

To test heteroskedasticity

To test heteroskedasticity bptest has been used:

studentized Breusch-Pagan test

BP = 2.338, df = 2, p-value = 0.3107

Bptest is used to check the presence of heteroskedasticity in the model. If p value is less than 0.05 that means we reject the null hypothesis. In this model p value is greater than 0.05 so that means we failed to reject the null hypothesis and there is no heteroskedasticity in the model.

To test autocorrelation

To test autocorrelation bgtest has been used:

Breusch-Godfrey test for serial correlation of order up to 1

LM test = 8.2423, df = 1, p-value = 0.004092

Bgtest is used to check the presence of autocorrelation in the model. If p value is less than 0.05 that means we reject the null hypothesis. In this model p value is less than 0.05 so that means we reject the null hypothesis and there is autocorrelation in the model.

To adjust autocorrelation

To adjust autocorrelation Cochrane Orcutt has been used:

Table 1.2

Variables	Estimate	Std. error	t value	P value
Intercept	10.470666	0.341472	30.663	< 2.2e-16 ***
Education	-0.027376	0.022975	-1.192	0.234907
Private employment	-0.380089	0.144728	-2.626	0.009338 **

Residual standard error: 0.8638 on 190 degrees of freedom

Multiple R-squared: 0.0375

Adjusted R-squared: 0.0274

F-statistic: 3.7 on 2 and 190 DF

p-value: < 2.647e-02

Durbin-Watson statistic

(original): 1.58905 , p-value: 1.911e-03

(transformed): 2.02744 , p-value: 5.822e-01

Interpretation

By adjusting autocorrelation in the model, the model provides better results with improves coefficients and increases the reliability of the model.

To correct Multicollinearity:

To adjust multicollinearity Vif test has been used:

Education	Private employment
1.020457	1.020457

Interpretation:

Vif test adjusts the multicollinearity and improves the coefficients of the variables in the model.

Conclusion:

The above tests are done to study the impact of education and sector of work of an individual on expenditure. Multiple regression model is used indicating expenditure as dependent variable whereas, education and private sector employment as independent variables. After that heteroskedasticity and autocorrelation tests are done using bptest and bgtest. There was a presence of autocorrelation in the model so Cochrane Orcutt has been used to adjust autocorrelation and improved the reliability of the model. The results showed that dependent variable is highly significant where as independent variable, education is not significant. So according to the results there is no relationship between expenditure and educational attainment of an individual. The other independent variable; Private sector employment is 95% significant. So according to the results the sector of work of an employee does affect the expenditure of an individual.

CHAPTER 6

Introduction:

Understanding the factors influencing individual expenditure can inform policymakers about where to focus resources for improving economic outcomes such as education, training and labour market policies. It can also help individuals to make more informed decisions about their education, career choices and skill development when they understand the factors that contribute to expenditure potential.

Table 1.3

Variables	Estimate	Std. error	t value	P value
Intercept	7.8112912	0.6889546	11.338	< 2e-16 ***
Age	0.0247894	0.0078542	3.156	0.00188 **
Male	0.3393382	0.1354274	2.506	0.01311 *
Education	0.0242401	0.0243084	0.997	0.32002
Private education	0.0749927	0.1216372	0.617	0.53833
Regular worker	0.5344862	0.4647232	1.150	0.25163
Self employed	0.9502169	0.4719302	2.013	0.04556 *
Experience	-0.0004760	0.0008517	-0.559	0.57689
Rural	-0.0219977	0.2009120	-0.109	0.91294
Private employment	-0.4043782	0.1405158	-2.878	0.00449 **
Vocational training	0.2569965	0.1183357	2.172	0.03119 *
DurationWork	0.0171558	0.0329303	0.521	0.60303
Fathereduc	0.0204624	0.0182734	1.120	0.26430
Mothereduc	-0.0093643	0.0167645	-0.559	0.57715
Male:Rural	-0.0258297	0.2678103	-0.096	0.92327

Residual standard error: 0.7677 on 179 degrees of freedom

Multiple R-squared: 0.3176

Adjusted R-squared: 0.2642

F-statistic: 5.95 on 14 and 179 DF

p-value: 1.503e-09

Interpretation:

The estimated value of the dependent variable when all independent variables are zero is 7.8112912. For each one-unit increase in age, the dependent variable is expected to increase by approximately 0.0248 units, holding all other variables constant. The independent variable age is significant at 95% with a coefficient of 0.0247894 which indicates that individual with higher age group spends more than the individual with lower age group. Being male is associated with an increase of approximately 0.3393 units in the dependent variable compared to being female, which states that males spend more than females. There is a positive relationship between education and the dependent variable, but it's not statistically significant at the 0.05 significance level. Therefore, education does not have a significant impact on the dependent variable in this model. Individuals who are self-employed are expected to have a higher value of the dependent variable by approximately 0.9502 units compared to those who are not self-employed, holding all other variables constant and is at 90% significance level. The coefficient of private sector employment is -0.4043782 and is significant at 95% which states that private sector employment has negative impact which means that government sector employees spend more than private sector employees. About 31.76% of the variance in the dependent variable is explained by the independent variables included in the model. Adjusted R-squared slightly lower than the Multiple R-squared. The coefficient of vocational training is 0.2569965 and is significant at 90% confidence level which states that vocational training does have positive impact on expenditure of an individual. The overall model is statistically significant with a very low p-value, indicating that at least one independent variable has a non-zero coefficient. In summary, some variables like age, gender, self-

employment, private sector employment, and vocational training appear to be statistically significant predictors of the dependent variable and these variables affects the expenditure of an individual.

To test heteroskedasticity

To test heteroskedasticity bptest has been used:

studentized Breusch-Pagan test

BP = 21.811, df = 14, p-value = 0.08259

Bptest is used to check the presence of heteroskedasticity in the model. If p value is less than 0.05 that means we reject the null hypothesis. In this model p value is greater than 0.05 so that means we failed to reject the null hypothesis and there is no heteroskedasticity in the model.

To test autocorrelation

To test autocorrelation bgtest has been used:

Breusch-Godfrey test for serial correlation of order up to 1

LM test = 4.7113, df = 1, p-value = 0.02996

Bgtest is used to check the presence of autocorrelation in the model. If p value is less than 0.05 that means we reject the null hypothesis. In this model p value is less than 0.05 so that means we reject the null hypothesis and there is autocorrelation in the model.

To adjust autocorrelation

To adjust autocorrelation Cochrane Orcutt has been used:

Table 1.4

Variables	Estimate	Std. Error	t value	P value
Intercept	7.79322150	0.68184070	11.430	< 2.2e-16 ***
Age	0.02329357	0.00782186	2.978	0.003306 **
Male	0.32229436	0.13445913	2.397	0.017567 *
Education	0.02171356	0.02469494	0.879	0.380440
Private education	0.05762719	0.12120597	0.475	0.635050
Regular worker	0.65321864	0.45476956	1.436	0.152651
Self employed	1.07554969	0.46108812	2.333	0.020786 *
Experience	-0.00019420	0.00083634	-0.232	0.816651
Rural	0.07043330	0.19822471	0.355	0.722770
Private employment	-0.40835845	0.13869401	-2.944	0.003669 **
Vocational training	0.21770816	0.11698336	1.861	0.064391.
DurationWork	0.01611059	0.03180657	0.507	0.613120
Fathereduc	0.01556795	0.01794370	0.868	0.386782
Mothereduc	-0.00537066	0.01664417	-0.323	0.747320
Male:Rural	-0.12622442	0.26156820	-0.483	0.629995

Residual standard error: 0.7566 on 179 degrees of freedom

Multiple R-squared: 0.3056

Adjusted R-squared: 0.2551

F-statistic: 5.6 on 13 and 179 DF

p-value: < 6.665e-09

Durbin-Watson statistic

(original): 1.69401 , p-value: 1.353e-02

(transformed): 1.99785 , p-value: 5.382e-01

Interpretation

Cochrane Orcutt is used to adjust the presence of autocorrelation in the model. It improves the reliability of the model and incurs a better model. It can be seen that after using Cochrane Orcutt in the model the coefficients have slightly improved and also p value has changed.

To correct Multicollinearity

To adjust multicollinearity Vif test has been used:

Age	Male	Education	Private	Regular	Self	Experience
3.058095	1.505263	1.497903	1.154920	13.947342	13.839830	2.557873

Rural	PrivateEmployment	Voc	DurationWork	Fathereduc	Mothereduc	Male:Rural
2.403491	1.193100	1.108141	1.150066	2.758240	2.724773	2.828434

Interpretation:

Vif test adjusts multicollinearity and improves the coefficients of the variables in the model.

CHAPTER 7

Conclusion

In summary, the dissertation has explored private returns to education in Goa, uncovering the economic advantages individuals gain through educational investment. By analyzing empirical data, it shows that there is no relationship between education and expenditure of an individual. Primarily, the research underscored a negative relationship between educational attainment and expenditure in Goa. Additionally, various factors were found to influence the private returns to education. Determinants such as age, male, private sector employment and vocational training significantly impacted individuals' economic prospects. Moreover, further research focused on the determinants of educational attainment and its broader impact on human development Dimensions with sample size. In summary, this dissertation enriches the discourse on Private returns to education in Goa by furnishing empirical evidence and actionable insights.

7.1 Findings

The results show thhat there is decreasing trend in labour participation rate and employment rate whereas unemployment rate shows a fluctuating trend over the years. In recent years decreasing unemployment trend indicates a positive result but decreasing employment rate and labour participation rate indicates a negative result which indicates that there is a need for policy interventions inorder to increase the employment rate in the economy. The three main broad employment categories i.e; self employed, regular wage/salary worker and casual labour shows fluctuating trend over the years which indicates that there is no stability in the different employment categories. The regression results show negative between educational attainment and expenditure in Goa.

Certain fields are associated with higher returns on education compared to others, highlighting the importance of aligning education with labor market demand. Gender disparities were evident in the returns to education, with male individuals generally experiencing higher expenditure compared to their female counterpart. This finding underscores the need for policies aimed at promoting gender equality in education and the workforce. Beyond formal education, the acquisition of specific skills and training was found to significantly impact individual expenditure. Vocational training was associated with higher returns on investment in education, emphasizing the importance of lifelong learning and skill development. The findings have important implications for policymakers, educators, and employers in Goa. Policies aimed at improving educational access, quality, and relevance are crucial for enhancing individual economic prospects and promoting inclusive growth. Additionally, investments in lifelong learning programs and skill development initiatives can help bridge the gap between education and employment opportunities.

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APPENDIX

QUESTIONNAIRE

1. Name: _____
2. Age: _____
3. Gender:
    a. Male
    b. Female
4. District:
    a. North
    b. South
5. Years of schooling: _____
6. What type of educational institution have you attended?
    a. Private institution
    b. Government institution
7. What is your employment category?
    a. Self employed
    b. Regular wage/salary earning (monthly earnings)
    c. Casual labour (daily wage labour)
8. What is your experience of work (in months)? _____
9. What is your sector wise occupation category?
    a. Primary sector (agriculture, fishing, mining, forestry, animal husbandry)

b. Secondary sector (manufacturing, industry, construction)

c. Tertiary sector (banking, healthcare, hospitality, media, services)

10. What is your current employment status?

a. Usual status (employed for more than 6 months)

b. Principal or Subsidiary status (employed for less than 6 months)

11. What is your region of workplace?

a. Rural

b. Urban

12. In which sector do you work?

a. Private sector

b. Government sector

13. Have you received any technical/ vocational training?

a. Yes

b. No

14. For how much hours do you work? _____

15. What is your Father's years of schooling? _____

16. What is your mother's years of schooling? _____

17. What is your average monthly expenditure? ___