

Human Capital and Higher Education: Rate of Returns across Disciplines

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Human capital has long been accepted as crucial for economic growth (Schultz, 1961; Becker 1993) by way of increasing real earnings per worker (Schultz, 1961) thereby reducing poverty (Bloom, Canning & Chan, 2006) and increasing economic output in both developed and developing economies (Barro and Lee, 2013). Education is one of the major components of human capital and the rate of returns to education informs about the opportunity cost (deferred earnings) involved and thereby determines the level of investment in furthering human capital (Becker, 1993). Rate of return to education significantly determines the amount spent on education by the household both for boys and girls (Kambhampati, 2008). In the case of higher education, the analysis of rate of returns also sheds light on the inequality increasing effect of higher education accounting for increasing inequality in wage distribution (Lemieux, 2006; Kijima, 2006). Nevertheless, this has not dissuaded an average Indian household from investing in higher education. Presently, the average share of expenditure on higher education out of total household expenditure is 15.3 per cent and 18.4 per cent for rural and urban households respectively (Chandrasekhar, Geetha Rani, and Sahoo, 2016). Conventional rate of returns analysis show higher education in a less favourable light with lower returns than primary and secondary schooling. Returns to higher education was estimated to be 10.8 percent whereas it was 18.9 percent for primary and secondary education as revealed from the country level studies from 1960 to 1997 of 98 countries (Psacharopoulos and Patrinos, 2004). In India the returns to education was found to increase up to secondary level and decline thereafter (Duraismy, 2002). Nevertheless, the trend in returns from 1983 to 1993 varied across gender with the returns to women's primary and middle levels of education declining while those to secondary and college levels increasing during the decade 1983–94 (Duraismy, P. 2002). More recent studies show that returns to education increase with the level of education and is heterogeneous across location, caste-religion (Subbaraman and Von Witzke, 2006; Agrawal, 2012; Geetha Rani, 2014), income quantiles (Azam, 2012), English language ability (Geetha Rani, 2014; Azam, Chin and Prakash, 2013) and cognitive and non-cognitive skills (Heckman, Humphries, & Veramendi 2016). Refuting the results of Duraismy (2002), Geetha Rani (2014) finds that returns to higher education vary at a great deal ranging between 4.9% among the rural workers and 38.2% among fluent English ability group. Conversely, returns to English language skills increases with higher education and experience (Azam, Chin and Prakash 2013). The returns to higher education when disaggregated across quantiles reveal heterogeneity favouring the top quantiles the most (Azam, 2012; Agrawal, 2012). The trend in returns to education measured by the price paid to workers from 1983 to 1993, is positive and uniform across all levels of education whereas from 1993 to 2004 the increase in prices paid is not only much higher for tertiary and secondary education but also heterogeneous across quantiles, lower at the bottom quantiles and higher at the upper quantiles.

Moreover, in the segmented labour market of India, casual and regular workers have varied

returns to education and experience, wherein casual workers face flat returns and regular workers have positive and rising returns with education levels (Dutta, P. V., 2006). Besides, casual workers from the lower caste are discriminated with lower wages, but as regular workers they earn better wages than individuals from other castes (Subbaraman and Von Witzke, 2006). Furthermore, apart from having lower returns to education, casual labourers face negative returns for higher levels of education (Subbaraman and Von Witzke, 2006). This is more so for female casual workers who find no additional advantage for secondary or graduate level of education in terms of better wage earnings (Vatta and Sato, 2012). On the one hand, the returns to all education levels seem to converge at lower levels of employment particularly due to the declining returns for secondary and graduate levels for urban casual male workers and on the other hand, the returns to secondary and graduate level of education seem to be biased against rural male regular workers and almost stagnant returns for urban male regular workers (Vatta and Sato, 2012).

The varying returns to higher education points to the inequality increasing effect of higher education on wages (Lemieux, 2006) mainly attributed to skill premium resulting from rising demand for skilled labour as a consequence of skilled biased technological change (Kijima, 2006). Interestingly, this wage inequality is concentrated in the top end of the wage distribution (Lemieux, 2006; Azam, 2012).

The overview of existing literature on returns to higher education reveals a serious lapse in that it fails to assess the probable heterogeneity of returns to higher education across various streams of discipline. These studies treat higher education as a homogeneous entity and the resulting returns are generally averages across education levels, income quantiles and labour market sectors. Higher education is a heterogeneous sector with varying subjects or discipline broadly divided into technical and non technical education and may have varying returns for each. Moreover, these disciplines have varying demand in the labour market owing to skill biased technological changes (Kijima, 2006). In this light an analysis of the returns to various disciplines in higher education would give a clearer picture of the concentration of skill premium owing to skill biased technological change and better explain the inequality in wage distribution. Therefore, this study attempts to assess the distribution of returns across various disciplines in higher education using nationally representative India Human Development Survey data 2011-12. The present analysis draws on extended Mincerian earnings function to estimate the returns to different streams of discipline in higher education. The results show highest returns for medical science followed by engineering, law, business administration and chartered accountancy. It is observed that the returns to law, business administration and chartered accountancy and other non technical education are biased towards females.