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ARE YOU SATISFIED WITH YOUR INCOME? THE ECONOMICS OF HAPPINESS IN INDIA

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Abstract

One of the most enduring debates in the human well-bing research is the relationship between money and happiness. Empirical research both in psychology and in economics show that the correlation between income and happiness is small and this evidence has been used to mean that money does not matter for life satisfaction. This raises an important question that if money does not buy happiness, why most people are after money and material pursuits? This apparent puzzle – known as Easterlin Paradox – has been explained in terms of relative income comparisons. As individuals care greatly about their relative income to others, a rise in the income levels of all people does not raise the happiness level of the individuals. This paper empirically analyses the relation between income and happiness in India using a primary sample data. The estimated ordered probit results show significant positive effects on happiness of both absolute and relative income. This suggests that money does influence happiness and well-being and the individual's life satisfaction is largely influenced by his relative status. When interactions between absolute income and relative income are allowed the relative income effect vanishes suggesting that proportionate shifts in the relative position does not change happiness level. An increase in absolute income may raise happiness, and beyond a certain threshold level people develop aspirations for status positions and hence more money may not bring more happiness.

Keywords: money, happiness, Easterlin paradox, relative income, ordered probit.

JEL Classifications: D6, I3, O1

1. Introduction

Maximising human welfare has been the central aim of the economic approach to human behaviour for many decades. The most often used method for satisfying such an objective has been the the rationality based utility maximisation approach. Economists are quite convinced that income is a sufficient indicator of human welfare and it is quite often demonstrated that increasing the level of income increases human material well-being and thereby the human welfare, variously labelled as utility, satisfaction, life satisfaction, subjective well-being, and in common parlance happiness. However, income alone is not sufficient to satisfy all human wants and

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money cannot buy many things that humans want to satisfy themselves. For instance, many believe that love, care, affection and such psychological aspects of life are outside the ambit of money's purchasing power and they are very much important for well-being. Even if an individual has more income or money at his disposal, he may not be fully satisfied or happy when he has an inclination for empathy, inequality averson, loss averson, and a concern for other regarding behaviour. However, over the last few decades empirical research on subjective well-being has provided many major insights on the determinants of human well-being and there is some economics behind the relation between money and happiness (Dolan et al. 2008; Headey et al. 2008; Stutzer and Frey, 2010). Although the mainstream economic models would predict that higher income leads to greater happiness, empirical research has been unable to find a sufficiently strong correlation between subjective well-being and percapita income in rich countries (Bjornskov et al. 2008). Though in developing countries, the correlation between income and happiness is often small, empirical studies show that the effect sizes are larger (Howell and Howell, 2008; Deaton, 2008). Even small correlations can reflect substantial real differences in happiness between the rich and poor groups within as well as across countries (Diener, 1984; Stevenson and Wolfers, 2008; Lucas and Schimmack, 2009; Powdthavee, in press).

Though psychologists ponder over the determinants of individual happiness and subjective well-being and economists have the standard utility and welfare maximisation hypotheses for many years, the relation between income and happiness has really become a contested issue since the seminal findings by Easterin in 1974. Easterlin (1974) has observed that, on an average, a rise in income raises happiness at a point in time, but over time happiness does not increase with increases in income. Further, happiness level does not vary much between countries though there are wide income gaps between countries. In fact, time series data show that nations do not get happier over time as they get richer. In contrast, happiness is positively correlated with individual income within a given country at any point in time; the rich generally report greater happiness than the poor. This Easterlin Paradox – the happiness-income gap, has received mixed support in the literature on happiness research. While some evidences support the Easterlin view (Clark, Frijters, and Shields, 2008; Layard et al. 2010), others find some evidence for income effects on happiness (Hagerty and and Veenhoven, 2003; Stevenson and Wolfers, 2008). Again, in recent works on developed, developing and transition countries, Easterlin finds no significant relationship between the improvement in happiness and the long term rate of growth of GDP per capita (Easterlin and Angelescu, 2009, 2010; Easterlin and Sawangfa, 2010). This apparent puzzle continues to stay in the happiness research (for details see Lane, 2001; Frey and Stutzer, 2002b; Schyns, 2003; Bruni and Porta, 2005; Layard, 2005; Frey, 2008; Powdthavee, 2010; Stutzer and Frey, 2010; Diener et al. 2010).

The Easterlin Paradox has two components; whether a rise in absolute income increases happiness, and if so, whether relative income comparisons neutralize the influence of income on the level of happiness. There are many empirical studies in developed countries and few on developing and transitional economies, but virtually no study on the economics of happiness in India, though India is also included in the recent waves of World Value Surveys and the World Data Base on Happiness maintained by Ruut Veenhoven for almost two decades. This paper tries to fill this gap by exploring the relationship between income and happiness, and is probably the first attempt in this direction in India. Specifically, this paper empirically estimates the effects

of absolute income and relative income on happiness using a primary data and applying an econometric method. The ordered probit estimates show significant influence of relative income on happiness validating the Easterlin hypothesis.

The paper is organized as follows: in Section 2 the psychology and economics behind happiness is discussed. The causal relationship between money and happiness is discussed in Section 3. Section 4 presents a simple utility based theoretical model. In Section 4, the empirical approach to the causal relationship between happiness and relative income is discussed. Section 6 presents the empirical results. Finally, section 7 presents the summary and conclusions of the paper.

2. The Psychology and Economics of Happiness

Psychologists maintain that happiness is essentially a trait and hence a psychological aspect. However, as the basic determinant of happiness is the material well-being, it is also the forte of economics. Both economists and psychologists expanded the scope of investigations into what makes peoples happy and/or what makes people unhappy. In the early 1960s, Hadley Cantril, a social psychologist, carried out an intensive survey in 14 countries worldwide, to find out what people want out of life – what they would need for their life to be completely satisfied (Cantril, 1965). Despite vast disparities in every respect of the life, the answer was strikingly similar and apparent – material circumstances, especially levels of living was the most often said in every country. The next was family concern, followed by health, work and personal character. In 1967, based on a limited data available at that time, Warner Wilson concluded that the happy person is a 'young, healthy, well-educated, extroverted, optimistic, worry-free, religious, married person with high self-esteem, job morale, modest aspirations, of either sex and of a wide range of intelligence' (Wilson, 1967, p.294, as quoted in Diener, Suh, Lucas and Smith, 1999, p.276). In the following decades the research on subjective well-being (SWB), which is generously and synonymously also used to mean happiness, life satisfaction and quality of life and used as a measure of human welfare, has proliferated ranging from correlates of SWB such as demographic, personal and situational interactions, internal and external circumstances, processes that underlie happiness, processes of underlying adaptation, processes of habituation, coping strategies and changing goals, and differential determinants at the individual, group and national level. Many studies relate with SWB many life events like marriage, unemployment, occupation, job gain or loss, health, neighborhood, and general social environment. For instance, Lyubomirsky and King (2005) find evidence that happy people are successful across multiple life domains and happiness is associated with and precedes numerous successful outcomes, as well as behaviours paralleling success.

A further impetus to this vexed issue of what makes people happy was given by the work of Easterlin (1974) whose startling revelation, and subsequently the much dissected and more disputed finding is known now as the 'Easterlin Paradox': economic growth in advanced economies did not appear to increase happiness or life satisfaction. Despite vast differences in income across countries and rising income levels within countries, Easterlin could not find evidences for significant difference either in happiness across countries or rising happiness levels within countries. Easterlin shows that countries with rather different GNP per capita – Germany and Nigeria – had nearly the same average personal happiness rating. It is now widely understood that

average levels of happiness have failed to grow in the United States and Europe, despite considerable progress in material wellbing (Easterlin, 1995, 2003; Blanchflower and Oswald, 2004; Layard et al. 2010). It seems happiness level fairly remains constant; neither rising prosperity nor severe misfortune permanently affects happiness. For instance, in Japan, despite a five-fold increase in income over a period, happiness scores are no higher than they were at the outset. In fact, happiness has declined for white females in the US (Blanchflower and Oswald, 2004; Stevenson and Wolfers, 2008). In a cross-country setting Layard (2005) also shows that there is no cross-country correlation between subjective well-bing and PPP-adjusted per capita GDP in the group of advanced economies whose per capita GDP exceeds $15000-$20000.

The apparent stability of the aggregate happiness level of nations has been explained differently by psychologists and economists. Psychologits argue that, following either a positive or negative shock in life, plausibly after a period of adjustment or adaptation, individuals return to their baseline level of well-being, a process called as 'hedonic treadmill'(Brickman and Campbell, 1971; Diener et al. 1999; Kahneman et al. 2006; Binswanger, 2006). Another widely accepted view among psychologists is that happiness fluctuates around a fixed set point (Headey and Wearing, 1992; Suh et al. 1996). Insofar as this set point is biologically determined, neither individual efforts nor social policy can bring lasting changes in happiness and life satisfaction is largely determined by an internal set point to which people return after they adapt to environmental changes.

Economists, on the other hand, traditionally rely on objective indicators like GDP or income and the utility maximisation or preference satisfaction approach to evaluate an individual's well-being. More broadly, happiness is used to embrace that which people want. Utility or one of the proxies may refer to the experience of some outcome or to the desire for that outcome. Beyond the egoistic utility maximisation approach, the most accepted economic view on the stability of happiness level across nations is the social comparison theory (Easterlin, 1974, 2003). According to this account, happiness stays the same in the face of rising income because of a shift in reference. If happiness is shaped by one's relative position in a society, then even if a nation's overall economy grows, only those with above-average gains will experience rising happiness, and these increases will be offset by decreases among those with below-average gains. A large body of evidence does indicate that the subjective well-being levels of given countries are stable. The longest data available in the US since 1946 has been widely dissected to support this relative income hypothesis.

Notwithstanding the controversies and refinements over the data, measurements and methodologies, two generalizations seem to be the order. First, despite the vast differences in incomes, people tend to report more or less the same level of happiness; the average level of happiness tends to hover around the average and below the full score (around 6-8) in a 10 point scale. Second, happiness does not seem rise with income beyond a certain threshold level. Table-1 reports the average level of happiness in selected countries around the world along with their income levels. Table-2 reports the inequality in happiness while Table-3 reports the happiness level among low and high status groups within a country. While Table – 1 reflects much wider income differences between nations, Tables – 2 and 3 show that the range of inequality in happiness across nations is rather narrow. It can be observed that there is not much gap in reported happiness either between nations or between income groups within nations. Figure-1 presents the reported levels of happiness for US and India, for comparison purpose.

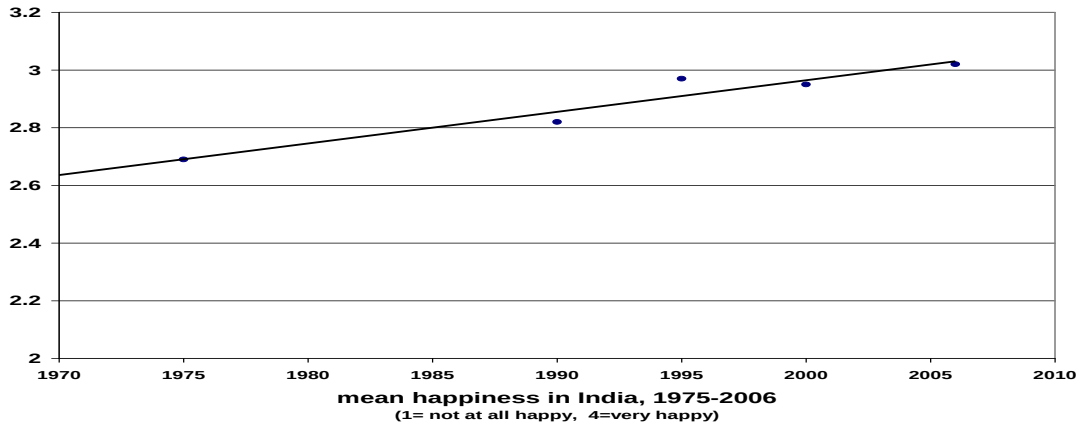
While reported happiness has been increasing fairly in India, in the US, the happiness had been fairly constant till 1980s (in fact declined during 1970-80), but has been increasing in recent years. Moreover, the mean happiness score between these two countries have been more or less close though there have been more income gaps. This result is puzzling, as there are wide income gaps between haves and have-nots, as well as the standards of living are widely dispersed.

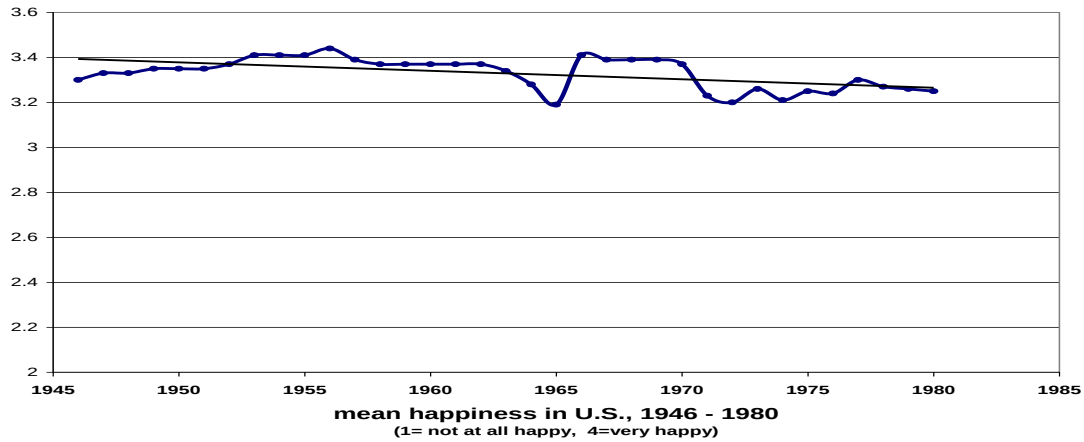
Table 1. Average Happiness in 2008 (How much people enjoy their life-as-a-whole on scale 0 to 10)

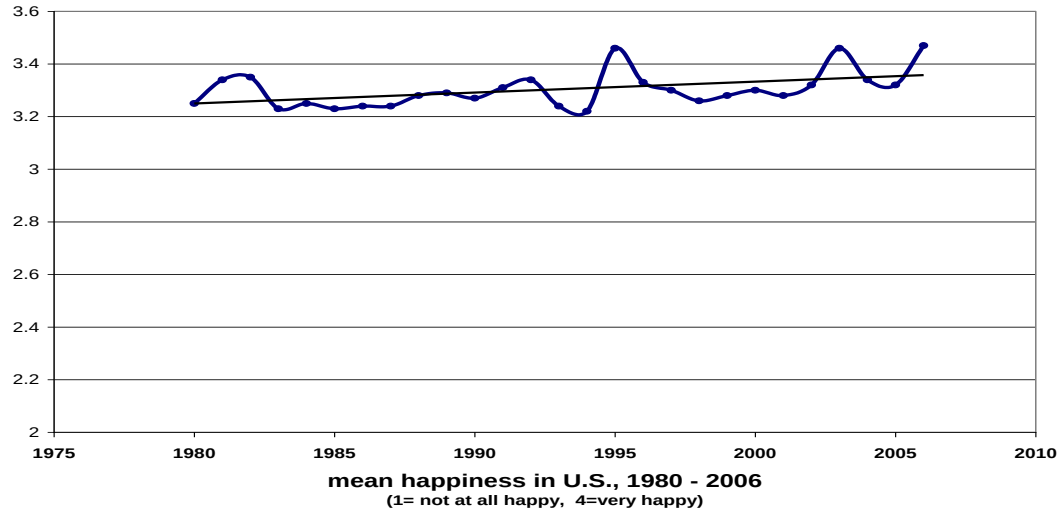
Country	*PPP $ per capita income+ (2006)*	*Happiness* (2008)*	*Country*	*PPP $ per capita income+ (2006)*	*Happiness* (2008)*
Albania	5840	4.6	Equador	4400	5.7
Argentina	15390	7.2	Finland	35150	7.8
Australia	34060	7.7	Germany	31830	7.2
Bangladesh	2320	5.3	Ghana	2640	5.7
Belgium	35090	7.3	Gautemala	4800	7.0
Benin	1160	4.3	**India**	**3800**	**5.9**
Brundi	710	5.0	Singapore	31710	6.8
Macedonia	7610	4.6	Sweden	35070	7.7
Mexico	11410	8.0	Turkey	9060	5.5
Netherlands	37580	7.5	Uganda	1490	5.1
New Zealand	27220	7.3	UK	35580	7.1
Nigeria	1050	6.5	USA	44260	7.0
Norway	43820	7.7	Zimbabwe	1950	3.3
Peru	6080	6.4	Zambia	1000	5.6

Sources: * Happiness: Ruut Veenhoven *Average happiness in 148 nations 2000-2008*,
World Database of Happiness, Rank Report 2009-1a,
Internet: *worlddatabaseofhappiness.eur.nl.* + PPP $ percapita income: World Development Report, 2008, World Bank.

In this context, Diener and Oishi (2000) and Diener and Biswas–Diener (2002) demonstrated that the subjective well-being levels of some people can and do change over time. Hagerty and Veenhoven (2003) argued that growth does increase happiness, demonstrating that income was positively correlated with happiness in 14 of the 21 nations for which data were available from 1972 to 1994. Recently, Stevenson and Wolfers (2008) reexamined the Easterlin Paradox and found some evidence for rising happiness levels with increases in income. Analysis of inequality in happiness and income shows that happiness and life satisfaction rise steeply as one move from subsistence-level poverty to a modest level of economic security and then levels off. However, among the richest societies, further increases in income are only weakly linked with higher levels of subjective well-being. The relationship between subjective well-being and economic development is curvilinear, explaining why it is so widely believed that economic development has no impact on subjective well-being. Analysis of the five waves of surveys from 1981 to 2007 including 88 countries containing almost 90 percent of the world's population indicates that happiness can show significant and enduring changes – not only for given individuals, as recent research has demonstrated, but also across entire societies.







Source: Inglehart, Foa, Peterson and Weizel (2008).

Figure 1. Trends in Happiness in India and US

Table 2. Level and Inequality of Happiness (10-step Life Satisfaction in 1999-2001)

Country	*Level*	*Inequality**	*Country*	*Level*	*Inequality*
Netherlands	7.85	1.34	Albania	5.17	2.25
Denmark	8.24	1.82	Nigeria	6.87	2.32
USA	7.66	1.82	South Korea	6.21	2.32
Canada	7.85	1.88	Hungary	5.80	2.42
Britain	7.40	1.94	Dominican Rep	7.13	2.47
Japan	6.48	1.97	Venezuela	7.52	2.50
Indonesia	6.96	2.06	Ukraine	4.56	2.59
Vietnam	6.52	2.06	Georgia	4.68	2.61
Italy	7.17	2.11	Bulgaria	5.50	2.65
Slovenia	7.23	2.15	Brazil	7.15	2.68
Chile	7.12	2.16	South Africa	6.31	2.69
Bangladesh	5.77	2.18	Romania	5.23	2.77
India	**5.14**	**2.23**	Egypt	5.36	3.35

Source: Jan Ott (2005). * Ineqality measured by the standard deviation.

Table 3. Average Happiness among Low and High Status Groups

Country	*Year*	*GDP per capita (Constant 1995$PPP)*	*Mean happiness (Scale of 1 to 10)*		
			Average happiness	*Low status group*	*High status group*
Argentina	1995	10346.29	6.93	6.69	7.05
Bangladesh	1996	1249.66	6.41	6.21	6.87
China	1995	2508.53	6.83	5.47	7.94
Columbia	1997	5962.79	8.42	8.36	8.60
India	**1996**	**1938.52**	**6.53**	**5.92**	**7.51**
Japan	1995	22596.90	6.61	6.07	7.05
Nigeria	1995	780.57	6.82	6.08	7.39
Norway	1995	27904.94	7.66	7.17	7.95
Russia	1995	5932.60	4.45	3.71	5.25
South Africa	1995	8542.25	6.08	5.53	7.78
Sweden	1996	19855.22	7.77	7.16	8.02
Switzerland	1996	25219.17	8.02	7.56	8.31
USA	1995	27819.88	7.67	7.11	7.95

Source: Ball and Chernova (2005).

As happiness research gained more and more acceptance among economists, the focus has expanded to various other dimensions of income, socio-economic groups and different life events (Clark and Oswald, 2002; Clark et al. 2008; Dolan et al. 2008). Clark and Oswald (2002) calculated the impact of different life events upon human well-being. Getting married is calculated to be worth an extra income of £70,000 per annum; widowhood brings a degree of unhappiness and on average, cost an extra £170,000 per annum to offset. Stevenson and Wolfers (2008) obtain measures of inequality and self-reported happiness for the United States (1972-2006) and their key finding is that happiness inequality has declined since 1970s. The gender happiness

gap disappeared entirely; two-thirds of the black-white happiness gap (racial) has been eroded and differences in happiness by education have widened substantially. Blanchflower and Oswald (2004) estimated the dollar values of unemployment and divorce. A lasting marriage is estimated to be worth $ 100,000 a year and to 'compensate' a man for unemployment would require a rise in income of $60,000 per annum and foe being black would take $30,000 extra per annum. Oswald and Powdthavee (2008) using GHQ mental distress as the measure of well-being found that the hedonic compensation for the death of a child in the first year might be of the order of £100,000 ($200,000) per annum. These are all large sums and in a sense reflect the low (happiness) value of extra income. The mounting evidence suggests that income is a less reliable measure of well-being and after basic human needs are met, happiness is not clearly associated with income or wealth. It has been argued that once an individual rises above a poverty line or subsistence level, the main source of increase in well-being is not income but rather good friends and a good family (Lane 2001). And this "subsistence level" could be as low as US$10,000 per annum (Frey and Stutzer 2002a). In fact, Kahneman et al. (2004) and Di Tella and MacCulloch (2008) argue for national well-being rather than simply maximising measured GDP. It is also to be noted that Bhutan has the objective of maximisation of Gross National Happiness, not the Gross National Income. Further, the neuroscience research has been successful in identifying a specific gene that predicts subjective well-being – the serotonin transporter gene, 5HTT (DeNeve, Fowler and Frey, 2010). Thus, the scope of happiness research is expanding and it throws more light on the value and sources of happiness (Di Tella and MacCulloch, 2006).

3. Money, Relative Income and Happiness

Various explanations in the relative income tradition have been proposed to explain the Easterlin Paradox. In the economics tradition, though Veblen in 1899 emphasised the importance for an individual's well-being in comparison and status, it was Dusenberry in 1949 formalised the approach of relative income hypothesis. In general, peoples' behaviour is guided by relative comparisons. They care about their relative position and it is their relative standing that matters most. The importance of relative position or comparison with others has been stressed in the recent economic approaches to human behaviour. People often seem to be guided by the irrational idea that everybody can be a winner, in a relative comparison world, by only looking upwards when making comparisons and by overestimating their own ability due to overconfidence (Frank, 1999), and overestimate the benefits of additional income or material consumption. Moreover, people's aspirations tend to rise with income. This rising material aspirations then lead to the hedonic treadmill (Brickman and Campbell, 1971), and the gap between aspirations and achievements which is fairly constant in the long run causes happiness to stagnate (Michalos, 1999). This link between rising aspirations and the stagnation of happiness in high income countries is the major cause of the paradox of happiness, in which the unfulfilled and rising aspirations for positional status and relational goods confront the realized income shortfalls in a world of relative income comparisons (Easterlin, 1974; Frey and Stutzer, 2002a, 2002b). Thus, relative things matter a great deal. In many experiments, it has been shown that people care about how they are treated compared to those who are like them, and in the laboratory will even pay to hurt others to restore what they see as fairness. In large statistical studies, reported well-being depends on a person's wage relative to an average or 'comparison' wage (Blanchflower and Oswald, 2004; Ferrer-i-Carbonell, 2005; Luttmer, 2005; Di Tella et al.

2007). Further, wage inequality depresses reported happiness in a region or nation (Alesina et al. 2004).

The crucial role of relative income in explaining subjective well-being is based on the premise that people form aspirations based on comparison of their own situation with an appropriate reference group (Clark and Oswald, 1996; Mcbride, 2001; Helliwell and Huang, 2005; Ferrer-i-Carbonell, 2005; van Praag and Ferrer-i-Carbonell, 2008; Luttmer, 2005; Clark, et al. 2009; Clark and Senik, 2010). As the neighbours become richer the aspiration gap will grow and this reduces happiness by as much as a similar growth in own income relative to the reference group will raise it. Several economic theories have spellt out the mechanisms by which preferences might be interdependent, e.g. Veblen's (1899) "conspicuous consumption", Duesenberry's (1949) "keeping up with the Joneses", and Easterlin's (1974) "social aspiration theory". And the common finding of these ideas is the notion that individuals care about their own economic status and their status relative to a reference group (peers, neighbours, all others, etc) and/or some point in time (yesterday, last year, etc). Thus, in 'keeping up with the Joneses', people constantly search for 'positional goods' or 'status goods' which are incapable of increasing overall happiness as it becomes a zero sum game on aggregate (Frank, 1999; Cooper, et al. 2001) and the short gains in happiness is eroded by the growth in relative income gaps.

Many studies have shown evidences that people are concerned with their relative status on a number of dimensions, including income itself (Alpizar, et al. 2005; Knight et al. 2007; Luttmer, 2005; Clark et al. 2008; McBride, 2001; Ferrer-i-Carbonell, 2005; Levy-Garboua and Montmarquette, 2004; Helliwell and Huang, 2005). Luttmer (2005) provides interesting empirical evidence on the effect of relative position using well-being data of the United States. He matches individual panel data on happiness and income with a measure of neighbour's income (the average earnings in the locality where the individuals live). He observed that after controlling for an individuals own income, "higher earnings of neighbours are associated with lower levels of self-reported happiness", thus suggesting that "the negative effect of increases in neighbours earnings on well-being is most likely caused by interpersonal preferences, that is, people having utility function that depend on relative consumption in addition to absolute consumption". In a similar spirit D'Ambrosio and Frick (2008), using micro panel data from the German Socio-Economic Panel show that "happiness is a relative notion indicating that people derive their perceived well being from being richer and not from being simply rich". Graham and Pettinato (2002) in their studies on developing countries found that relative income differences affect subjective well-being more than the absolute level, and there are "frustrated achievers" who become less happy because their aspirations grow even more quickly than their rapidly increasing income. Their empirical evidence confirms the findings of Easterlin (1974), thus suggesting that the relationship is more between subjective well-being and relative deprivation rather than between well-being and absolute income. According to them an individuals' well-being depends more on their relative position rather than their absolute level of income. In other words, money does buy at least some happiness, but having more than others matters more to happiness than simply having more. Apart from this reference income relationship, there is also a rank income effect – people gain utility from the ranked position of their income within a comparison group (Boyce et al. 2010). Thus it is no wonder, if utility is relative, that "increasing the income of all does not increase the happiness of all" (Easterlin, 1974).

Beginning with the seminal work of Easterlin (1974), more and more economists believe that self reported well-being contain valuable information that can complement our understanding of human behaviour. An increasing number of economists have been doing econometric studies using survey data on happiness or life satisfaction in order to evaluate the importance of 'absolute' versus 'relative' income on individuals well-being (Shields et al. 2009; Clark et al. 2008). However, there is no consensus as to which interpretation is most accurate. Perhaps the most widely accepted viewpoint is that income does matter, but more for those who are at a lower levels of income (Easterlin, 1995; Oswald 1997; Diener and Oishi, 2000; Frey and Stutzer, 2002a, 2002b). In other words, an individual's happiness or utility is not just a function of income, as is traditionally assumed, but that happiness adapts to changes in income over time and that at a point in time, happiness also comes from relative levels of income. Francesco Sarracino (forthcoming) using World Values Survey data showed that income is a significant but not the only important determinant of well-being in both low income and high income countries. However, the coefficient is higher for low income countries as compared to the high income countries. And the main reason behind this is that higher income satisfies basic needs whereas once a country has crossed basic needs level it becomes difficult to see any clear effect of additional income. Various empirical studies provide convincing evidence that, within nations, the relation between income and happiness is positive but significantly small. Although richer people are found to be happier and satisfied with life than poor people, correlations usually lie only between 0.10 and 0.25. Thus the consistent findings of weak relationship between income and happiness contradicted the traditional economic model's assumption that absolute income levels are the primary determinant of individual well-being.

Stevenson and Wolfers (2008) have shown that "wealthier societies have greater subjective well-being than poorer societies and, that to a similar degree, wealthier members of a society are happier than their poorer brethren". They argued that money tends to bring happiness and that absolute income seems to matter more than relative income. In fact, Japan, the most famous evidence of Easterlin paradox is not quite what it first seems to be if we take their findings. According to Stevension and Wolfers "subjective well being in Japan has largely risen with GDP, and it rose most sharply during the period of economic growth". Their explanation has been that of a change in survey questions over the years and re-translation of these questions yields different perspective showing that "subjective well being did in fact grow strongly in Japan – at least through the period in which GDP grew most strongly".

Carol Graham (2005, p.4) summarises the empirical findings: "While most studies find that within countries wealthier people are, on average, happier than poor ones, studies across countries and over time find very little, if any, relationship between increases in per capita income and average happiness levels. On average wealthier countries (as a group) are happier than poor ones (as a group); happiness seems to rise with income up to a point, but not beyond it. Yet even among the less happy, poorer countries, there is not a clear relationship between average income and average happiness levels, suggesting that many other factors – including cultural traits – are at play". In the words of Headey et al. (2008) "the claim that money, and by extension economic growth, have little effect on happiness is almost entirely based on weak relationships between survey measures of happiness and measures of household income". Using household economic panel data from five countries – Australia, Britain, Germany, Hungary and Netherlands, they estimated the combined effects of both disposable income and wealth (net worth) on subjective

well-being. Their main conclusion is that happiness is considerably affected by economic circumstances. And according to them, "objective economic circumstances have a greater impact on subjective outcomes than suggested by most previous empirical studies". Similarly Deaton (2008) using the World Gallup Poll show that "average happiness is strongly related to per capita national income; each doubling of income is associated with a near one point increase in life satisfaction on a scale from 0 to 10". According to him this effect holds true for all countries and in fact "is slightly stronger among rich countries".

Taken together the evidence from both sides of studies, whether the relativists or the absolutists, both sides would agree that, for societies in which basic needs are met, further increase in average income will not increase average happiness. Thus, whether income and happiness are directly or inversely related, what appears from these studies is that the concern in economics of improving the human welfare through greater material wealth is misplaced or exaggerated, at least in economically developed countries.

4. A Utility Based Relative Income Approach to Happiness

The utility function representing happiness or subjective well-being that depends both on absolute income and relative income is cast normally in terms of own consumption and some standard reference consumption levels. Easterlin (1974) suggests a simple model, where utility of individual i depends on own consumption relative to a weighted average of other people's (the reference category) consumption:

$$U_{it} = [C_{it} / \sum_{j \in J} \lambda_{ijt} C_{jt}] \quad \text{... (1)}$$

where is C_i own consumption, λ_{ij} the weight given by him to j's consumption C_j, J the set of individuals that i compares himself with, and t stands for time. If the comparison is the the society as a whole to which he belongs, then i's utility depends on the ratio of his consumption to the consumption per capita (McBride, 2001). This simple model provides an idea of how consumption and/or income norms can affect an individual's utility. Thus, estimating a relative utility function that suggests comparisons, might unravel many empirical puzzles, and might also influence the design of optimal policy. Over the last couple of decades, the formal representation of relative utility function has been dominated by two options. The prominently used version is the 'difference' version that stresses the arithmetic difference between an individual's own consumption and a reference level of consumption. The other is the 'ratio' version which uses the ratio of individual consumption to the reference category consumption. The commonly used ratio version of relative utility is the isoelastic utility function that dominates the modern macro and public economics. Following (Weinzierl, 2006), in line with the income comparisons in the evaluation of happiness and/or life satisfaction, placing income rather than consumption yields a utility function of the type,

$$U_i(y_i, \tilde{y}_i) = \frac{1}{1-\gamma}\left[\frac{y_i}{\tilde{Y}^{\alpha}}\right]^{1-\gamma} \quad \text{... (2)}$$

where y is the income of the individual i, $\tilde{y}_i$ is the reference level income measured in terms of i's neighbourhood/peer group income or some societal average norm, $\tilde{Y}$. The parameter α determines the importance of the reference level. If α=0, only the absolute income matters for

utility, while if α=1, only the ratio of y_i to $\tilde{y}_i$ matters. Specifying a flexible transformation of true utility to reported well-being or happiness, with γ>1,

$$W_i = f\{U_i(y_i, \tilde{y}_i)\} \qquad \text{where } f(x_i) = 10e^{\delta i x_i} \qquad \text{... (3)}$$

where W_i is the reported happiness for person i and δ is an individual-specific positive constant. If γ>1, then as $0 \leq (y_i/\tilde{y}_i^{\alpha}) \leq +\infty$, utility in (2) spans the range[-∞,0] and the transformation in (3) maps the range [-∞,0] to the range [0,10], the range of reported happiness in the surveys. Thus, the specification (3) allows for an important form of flexibility in the relationship between reported happiness and utility by allowing for individual-specific curvatures δ_i. Substituting (2) into (3) and taking natural logarithms, we obtain

$$\ln\left[\frac{W_i}{10}\right] = \delta_i \frac{1}{1-\gamma}\left[\frac{y_i}{\tilde{Y}_i^{\alpha}}\right]^{1-\gamma} \qquad \text{... (4)}$$

Multiplying both sides by -1 and taking logs again, we obtain the equation for estimation

$$-\ln\left[-\ln\left(\frac{W_i}{10}\right)\right] = \left\{\begin{matrix} -\ln\delta + \ln(\gamma-1) - \ln\tilde{\delta}_i \\ +(\gamma-1)[\ln y_i - \alpha \ln \tilde{Y}_i \end{matrix}\right\} \qquad \text{... (5)}$$

where δ a is the average of δ_i across all individuals and $\tilde{\delta}_i$ are individual deviations from that average. The estimating equation with level rather than the double-logarithm of reported happiness will be

$$W_i = \ln\delta_0 + \delta_1 \ln y_i + \delta_2 \ln \tilde{Y}_i + \varepsilon_i \qquad \text{... (6)}$$

where ε_i is the error term. The coefficients in (6) can be written in terms of of the parameters of (5) as

$$\delta_1 = (\gamma - 1) \qquad \text{... (7)}$$

$$\delta_2 = -(\gamma - 1)\alpha \qquad \text{... (8)}$$

Using these we can calculate the parameters of interest from the utility function (2) as

$$\alpha = -[\delta_2 / \delta_1] \qquad \text{... (9)}$$

Thus, the level of happiness depends both on absolute income and on relative income.

5. The Empirical Approach to Study Happiness and Income

Life satisfaction or happiness is generally defined as 'the degree to which a person evaluates the overall quality of his or her life as a whole favorably" (Veenhoven (1993), and frequently, measured on an ordinal scale of response to subjective questions. Most empirical studies use some sort of self-reported values on happiness or subjective well-being measured from some sort of scaling methods. The standard item question comes from the World Value Survey, which asks people, "Taken all together, how happy would you say you are: very happy, quite happy, not very happy, not at all happy?". General Social Survey of the United States asks, "Taken all together, how would you say things are these days – would you say that you are very happy, pretty happy, or not too happy?" The standard life satisfaction question of Euro-barometer

Survey asks individuals, “On the whole are you very satisfied, fairly satisfied, not very satisfied, or not satisfied with the life you lead?”. In these surveys, the formulation ‘about your life as a whole’ stimulates respondents to take into account all relevant domains of their life, like social relations, work, housing, leisure and so on.

Subjective well-being has been investigated in great many ways and many more well-being scales have been constructed. Some measures of happiness have been shown to reflect affective components that involve positive emotional aspects whereas measures of satisfaction reflect more of the cognitive components. According to Frey (2008) “as subjective data are based on individuals’ judgments, they are, of course, prone to a multitude of systematic and non systematic biases. The relevance of reporting errors, however, depends on the intended usage of the data. Often, the main use of happiness measures is not to compare levels in an absolute sense, but rather to seek to identify the determinants of happiness. For that purpose, it is neither necessary to assume that reported subjective well-being is cardinally measurable, nor that it is interpersonally comparable. Higher reports of subjective well-being for one and the same individual have solely to reflect that she or he experiences more true inner positive feelings”.

Microeconometric happiness equations have the standard form:

$$W_i = \ln\beta_0 + \beta_1 \ln y_i + \beta_2 \ln \tilde{Y}_i + \beta_k X_{ik} + \varepsilon_i \quad \text{... (10)}$$

where W_i is the reported well-being of an individual i, X_{ik} is a vector of known variables including socio-demographic and socio-economic characteristics. Unobserved characteristics and measurement errors are captured in the error term. The model allows for the analysis of each factor that is correlated with reported subjective well-being separately. And because the answers to happiness surveys are ordinal rather than cardinal, normally they are best estimated using ordered probit or logit equations. These regressions typically yield lower R-squares reflecting the extent to which emotions and other components of true well-being influence the results.

In this paper we use the measures of happiness and subjective well-being to mean the same, the life satisfaction. Both are measured on a three point integer rating from 1 (not too happy/not satisfied), 2 (pretty happy/somewhat satisfied) and 3 (very happy/ highly satisfied) in response to the questions on two versions of life satisfaction questions. Two measures of absolute income are used: ABSYER represents the monthly earnings and ABSYHH represents the total monthly household income of the sample respondents. The relative income (RELY) measures are constructed on three basics: (i) the RELYNB represents the neighbourhood income in the income distribution at which the individual’s absolute income falls, (ii) the RELYMN represents the difference between the individual’s absolute income and the sample mean of absolute income, and (iii) the RELYMD represents the gap between the individual’s absolute income to the sample median absolute income. This implies that the reference group to which an individual compares himself is the neighbourhood income in the income distribution or the income of the average population in the economy.

Since the sample respondent’s self-ratings for their overall happiness are measured by an ordered categorical variable, econometric estimation is based on the ordered probit model. The assumption underlying the model is that, although respondents to the survey report their happiness levels on the prescribed integer scale, happiness can be measured by an unobserved or latent variable that can take on any real value. This latent happiness measure is assumed to be a linear

function of a set of explanatory variables and a random error. Indexing individuals by the subscript i, the model can be written as

$$H_i^* = \beta(y_i) + \sum_{k=1}^{K} \beta_k X_{ki} + \varepsilon_i \quad \text{... (11)}$$

where H_i^* is individual i's latent happiness level and the β's are the associated linear coefficients; y_i represent either absolute income (y_i) or relative income ($\tilde{y}_i$), X's represent the k individual characteristics, and ε_i's are mutually independent standard normal variables. We do not observe the values of H_i^* for the individuals in the sample; the data on happiness consists only of the categorical ratings reported by survey respondents. Nevertheless, ordered probit regressions yield maximum likelihood estimates of the parameters of the latent happiness function given in equation (11). Using $\hat{H}_i$ to indicate the estimated latent happiness function, we can write

$$\hat{H}_i = \hat{\beta}(y_i) + \sum_{k=1}^{K} \hat{\beta}_k X_{ki} \quad \text{... (12)}$$

Both the absolute income and relative income measures used are as defined above in the estimating equation. In the econometric estimations, we actually estimate two constants because our discrete dependent variable takes on three values (very happy=1, happy=2, not too happy=3). This follows from the latent variable formulation of the ordered probit model. The true value of happiness H_i^* is not observed, but we do observe

$$\begin{aligned} H_i &= 1 \text{ if } H_i^* \le c_1 \\ H_i &= 2 \text{ if } c_1 \le H_i^* \le c_2 \\ H_i &= 3 \text{ if } c_2 \le H_i^* \end{aligned} \quad \text{... (13)}$$

where c_1 and c_2 are the two cutoff values for the latent variable that are to be estimated. The higher the value of H*, the more likely the individual to report a higher category of self-assessed happiness. The threshold values (c's) correspond to the cutoffs where an individual moves from reporting one category of happiness to another. In order to estimate the model, some of the threshold values need to be fixed as it is not possible to identify both the constant term of all of the cutoff points. Conventionally, either the upper bound of the first interval is set equal to zero or the constant term is excluded from the estimation. Given the assumption that the error term is normally distributed, the probability of observing an individual i in a particular H value of j is

$$H_{ij} = P(H=j) = \Phi(c_j - \beta X) - \Phi(c_{j-1} - \beta X) \quad \text{... (14)}$$

where Φ(.) is the standard normal distribution function. To ascertain the marginal effects of absolute income and relative income on happiness, note that the regression coefficient is not the marginal effect of a change in a regressor, the marginal effects of the continuous independent variables are

$$\begin{aligned} \frac{\partial \Pr(H_i = 1)}{\partial \beta} &= -\varphi(\hat{\beta} X_i - c_1)\beta \\ \frac{\partial \Pr(H_i = 2)}{\partial \beta} &= [\varphi(\hat{\beta} X_i - c_1) - \varphi(\hat{\beta} X_i - c_2)]\beta \\ \frac{\partial \Pr(H_i = 3)}{\partial \beta} &= \varphi(\hat{\beta} X_i - c_2)\beta \end{aligned} \quad \text{… (15)}$$

where $\varphi(.)$ is the standard normal density. Note that the coefficient has the opposite sign of $\partial Pr(H_i = 1)/\partial\beta$ and the same sign of $\partial Pr(H_i = 3)/\partial\beta$. However, the sign of $\partial Pr(H_i = 2)/\partial\beta$ may be either positive or negative. This makes interpretations of the coefficients complicated, and hence we follow the technique described in Greene (2003) in calculating $\partial Pr(H_i = j)/\partial\beta$ for j=1,2,3 at the sample mean of X_i. The probabilities should sum to 1, and the marginal effects should sum to 0. For example, the marginal effect $\partial Pr(H_i = 1)/\partial X$, thus tells us the estimated change in the probability of a respondent reporting that he is 'very happy' (H=1) when his income increases one unit, which we expect to be positive. On the other hand, we expect $[\partial Pr(H_i = 2)/\partial X] > 0$, which would mean that the respondent is more likely to report he is 'pretty happy' (H=2) with an increase in income. The sign of $\partial Pr(H_i = 3)/\partial X$ may be either positive or negative and depends on the relative shift in the densities. For dummy variables, we do not look at the marginal effects directly, instead we must look at the predicted probabilities (average effects), again using the sample mean for each realisation of the dummy variable:

$$\frac{\partial Pr(H_i = j)}{\partial \beta} = [Pr(H=j \mid X=1) - Pr(H=j \mid X=0)] \quad \ldots (16)$$

The marginal and average effects show the magnitude of changes in the happiness level for a change in the explanatory variable.

6. The Empirical Results for India

This paper utilises a primary survey of 315 respondents in the two divisions of the Chennai Corporation collected during 2007 for a larger project on household behaviour towards intergenerational transfers. The corporation divisions are the Chepauk and Triplicane, which have a sizable mixture of different communities who are mostly middle and upper middle income households. The data set contains a wealth of information on the personal and family characteristics, employment and earnings of each family member, household income sources, expenditure pattern, savings and transfer behaviour, and life satisfaction. We have two separate questions on happiness and subjective well-being, following the standard practice. The happiness question is: "Taken all together, how would you say things are these days – would you say that you are very happy, pretty happy, or not too happy?" and the well-being question is: "All things considered, are you highly satisfied, somewhat satisfied or not satisfied with your life as a whole these days?". The responses were coded on a three point rating scale from 1 to 3. The responses are reported in Table-4 along with the mean earnings and average household income. It is observed that about one-third of respondents reported high satisfaction or very happy while for majority (57 percent) life satisfaction is somewhat average only. Further, happiness and satisfaction increase with income. The income of happy people is almost 40 percent more than the not so satisfied or not too happy people. As the validity and reliability of these subjective measures are frequently questioned, following the literature, we examined the relation between the two measures. There is a high and significant correlation between the two measures of life satisfaction (.69) suggesting a reasonable measure of well-being. Further, from Table-5 it can be observed that the relationship between happiness and subjective well-being follow the same pattern. The satisfied people are those who are also happy. The not very happy people do not report satisfaction with life.

Table 4. Life Satisfaction: Happiness, Subjective Well-being and Income

Happiness	*Percent*	*Mean earnings*	*Mean household income*	*Subjective well-being*	*Percent*	*Mean earnings*	*Mean household income*
Very happy	85 (27.0)	12929.41 (7562.41)	25755 .29 (17606.43)	Highly satisfied	89 (28.3)	13538.20 (7201.78)	24935.39 (11105.16)
Pretty happy	180 (57.1)	12590.83 (7693.36)	22231.39 (10881.12)	Somewhat Satisfied	180 (57.1)	12099.44 (7740.84)	22015.00 (14410.98)
Not happy	50 (15.9)	9214.00 (4603.90)	16064.00 (6938.54)	Not satisfied	46 (14.1)	9635.87 (5168.74)	17654.35 (8026.54)
Total	315 (100.0)	12057.48 (7189.05)	21732.64 (10488.84)	Total	315 (100.0)	12057.48 (7189.05)	21732.64 (10488.84)
Correlation between happiness and SWB					0.693 (sig. at 1% level)		

Table 5. Subjective Well-being: Happiness vs Life Satisfaction

		Life-satisfaction			*Total*
		Highly satisfied	*Somewhat satisfied*	*Not Satisfied*	
Happiness	Very happy	56 (17.8)	28 (8.9)	1 (0.3)	85 (27.0)
	Pretty happy	33 (10.5)	142 (45.1)	5 (1.6)	180 (57.1)
	Not happy	0	10 (3.2)	40 (12.7)	50 (15.9)
	Total	89 (28.3)	180 (57.1)	46 (14.6)	315 (100.0)

Table-6 presents the mean happiness and satisfaction by absolute earnings and total household income distribution. While the average happiness as well as the subjective well-being level is 2.1, lower income people are less satisfied with either individual income or household income. Both measures of life satisfaction show movement towards happiness as income increases. The income gap between the income groups is substantial. The table also reveals that there are distinct patterns of life satisfaction between the income brackets. This motivates the hypothesis that there may be relative income effects in happiness. The relative income gap is also reported in Table-6. It is sizable at the higher income level, whereas it may not be a significant factor at the lower income level in relation with happiness and subjective well-being. The relation between life satisfaction and relative income reveal the same pattern for that of absolute income and happiness. Though on average the relative income gap is somewhat narrow both in the case of earnings and household income, it is to be noted that these are monthly figures. Either the annual or aggregated over life cycle would give substantial relative income differences.

Table 6. Absolute Income, Relative Income, Happiness and Subjective well-being

	No.	*Mean absolute Income*	*Mean neighbourhood income*	*Mean relative income gap*	*Mean happiness*	*Mean life satisfaction*
			Own earnings			
2500-5000	53 (16.8)	4193.40 (704.79)	4250.00 (686.41)	56.60 (152.24)	2.0566 (0.63)	2.0000 (0.59)
5001-7500	46 (14.6)	6559.78 (645.89)	6611.96 (655.25)	52.17 (121.09)	1.9783 (0.68)	2.0435 (0.73)
7501-10000	83 (26.3)	9133.13 (882.43)	9164.46 (884.26)	31.33 (104.39)	2.0241 (0.73)	2.0361 (0.65)
10001-15000	47 (14.9)	13398.84 (1391.61)	13505.32 (1355.83)	106.38 (259.31)	2.2128 (0.62)	2.3191 (0.63)
15001-20000	51 (16.2)	18632.35 (1408.33)	18740.20 (1373.83)	107.84 (283.87)	2.1961 (0.53)	2.1765 (0.59)
20001-highest	35 (11.1)	27176.47 (3655.39)	27735.29 (4106.97)	588.82 (1078.47)	2.3143 (0.53)	2.4000 (0.55)
Total	315 (100.0)	12057.48 (7189.05)	12176.91 (7339.68)	119.43 (422.63)	2.1111 (0.65)	2.1365 (0.64)
			Household income			
5000-10000	42 (13.3)	7929.76 (1633.64)	8053.57 (1602.95)	123.81 (181.54)	1.8333 (0.66)	1.8333 (0.58)
10001-15000	53 (16.8)	12773.58 (1291.15)	12868.87 (1283.90)	95.28 (133.11)	1.9623 (0.65)	2.0755 (0.65)
15001-20000	59 (18.7)	17694.92 (1474.90)	17778.81 (1474.21)	83.90 (139.10)	2.0508 (0.71)	2.0339 (0.64)
20001-25000	62 (19.7)	22524.19 (1423.82)	22606.45 (1434.63)	82.26 (145.45)	2.2581 (0.60)	2.2581 (0.63)
25001-35000	63 (20.0)	29955.56 (2787.85)	30112.70 (2800.19)	157.14 (203.77)	2.1587 (0.60)	2.2381 (0.67)
35001-highest	36 (11.4)	42465.71 (5273.74)	43174.29 (5897.92)	708.57 (1044.28)	2.4167 (0.50)	2.3611 (0.54)
Total	315 (100.0)	21732.64 (10488.84)	21907.80 (10666.26)	175.16 (422.19)	2.1111 (0.65)	2.1365 (0.64)

Table-7 reports the life satisfaction for various socio-economic and demographic backgrounds. School educated individuals are less satisfied or happy compared to college educated individuals. Similarly, professionals are happier than either clerical workers or self-employed (business) people and public sector workers reported higher well-being than that of private sector workers. The low level of satisfaction among self-employed/business people is surprising. Retired people also reported higher life satisfaction than currently working people. It seems either having no child or having girl child first does not make any difference with having more children or male child first. The descriptive statistics of some variables used in the empirical analyses are reported in Table-8. On average, the respondents are aged 51 years and have 13.5 years of education. Their monthly earnings is also substantial, Rs.12,146, while the total household monthly income is almost double, Rs.22203. The neighbourhood earnings is Rs.12138, implying marginal relative earnings gap. While the mean relative neighbourhood

earnings is about Rs.120, the mean relative neighbourhood household income is Rs.175. Though the average relative income gap is rather small, there is substantial deviation from the mean and the median values, as the variance in these values are sizable for both the measures of income.

Table 7. Life Satisfaction by Socio-economic and Demographic Characteristics

Household characteristics	*No.*	*Own earnings*	*Household income*	*Happiness*	*Life satisfaction*
Joint family	87	10189.669 (6723.89)	21910.92 (9673.18)	2.0920 (0.60)	2.0920 (0.62)
Nuclear family	221	12776.24 (7499.46)	22268.33 (14190.74)	2.1041 (0.66)	2.1357 (0.65)
Spouse absent	9	12944.44 (7384.29)	24761.23 (11568.78)	1.6700 (0.50)	2.0435 (0.50)
BC/MBC	207	12353.86 (7585.84)	23010.87 (14333.04)	2.0435 (0.67)	2.0870 (0.66)
SC/ST	48	12410.42 (6739.82)	20442.71 (9341.45)	2.2500 (0.56)	2.2500 (0.60)
OC	60	11218.33 (7012.97)	20825.83 (9854.51	2.2333 (0.59)	2.2167 (0.61)
School education	129	7744.57 (3744.12)	17878.07 (14145.29)	1.9690 (0.67)	1.9845 (0.66)
College education	123	14243.09 (7535.17)	24652.44 (10925.21)	2.1463 (0.64)	2.1626 (0.61)
Professionals	41	20310.98 (8144.93)	29968.29 (13784.17)	2.3659 (0.54)	2.4878 (0.55)
Clerical	150	11580.33 (5893.62)	19823.33 (10055.13)	2.0333 (0.66)	2.0467 (0.64)
Business	67	13462.69 (7039.72)	22642.54 (18642.21)	1.9701 (0.65)	2.0000 (0.60)
Retired	57	6214.91 (4131.04)	22364.91 (8029.23)	2.2982 (0.60)	2.2807 (0.65)
Public sector work	78	16559.62 (7264.05)	26760.90 (12744.56)	2.1923 (0.58)	2.2308 (0.60)
Private sector work	116	11690.95 (6863.73)	19359.05 (10104.24)	2.0086 (0.67)	2.0603 (0.66)
No child	8	14218.75 (6862.73)	16406.25 (6508.15)	2.6250 (0.52)	2.5000 (0.53)
Two children	227	10957.27 (6236.94)	21448.68 (12454.18)	2.1057 (0.63)	2.1278 (0.64)
Three children	35	9900.00 (5421.69)	19577.14 (8512.56)	2.0000 (0.64)	2.0000 (0.59)
Male first child	158	12056.01 (7235.61)	22548.42 (10589.53)	2.0886 (0.64)	2.0823 (0.65)
Female first child	149	12130.54 (7520.23)	22638.20 (11234.34)	2.1338 (0.65)	1.1911 (0.63)
Non-labour income present	225	11985.33 (6995.43)	21886.67 (10105.59)	2.0711 (0.66)	2.1200 (0.66)

Table 8. Descriptive Statistics of Variables

Variable	*Mean*	*S.D*
Happiness (1-3 scale)	1.89	0.65
Life satisfaction (1-3 scale)	1.86	0.64
Age (years)	51.45	8.54
Education (years)	13.43	2.82
Earnings (Rs./month)	12146.19	7348.23
Household income (Rs./month)	22203.33	12936.44
Ln (Earnings)	9.23	0.60
Ln (Household income)	9.87	0.53
BC/MBC community=1, 0 otherwise	0.66	0.46
SC/ST community=1, 0 otherwise	0.15	0.36
Self-employed=1, 0 otherwise	0.21	0.41
Private=1, 0 otherwise	0.37	0.48
Number of children	1.81	0.66
Parent alive=1, 0 otherwise	0.09	0.29
Neighbourhood earnings (Rs./month)	12138.25	7360.03
Neighbourhood household income (Rs./month)	22187.46	12960.66
Mean relative earnings (Rs./month)	0.0005	0.7348.23
Median relative earnings (Rs./month)	2146.19	7348.23
Mean relative household income (Rs./month)	0.003	12936.44
Median relative household income (Rs./month)	1703.33	12936.44
Mean relative neighbourhood earnings (Rs./month)	119.43	422.63
Median relative neighbourhood household income (Rs./month)	175.16	(422.19)
Sample size	315	

Table-9 presents the ordered probit estimates of happiness. Since the estimated results for subjective well-being are the same, they are not reported here. Both results show similar patterns confirming that happiness and subjective well-being are in fact close measures of life satisfaction. The Table shows that age is positively related with the probability of being happy and satisfaction in life. While nuclear family decreases the probability of happiness, living parent significantly increases the probability of life satisfaction. Both the self-employed persons and individuals working in the private sector have more probability of reporting less happiness. Surprisingly, the SC/ST community influences positively the probability of reporting happiness compared to the BC/MBC community. However, there is no significant impact in both cases. College education seems to have insignificant negative impact on life satisfaction.

Table 9. Ordered Probit Estimates of Happiness

Variable	*Happiness equation specification with*				
	Absolute income	*Household income*	*Relative mean income*	*Relative median income*	*Relative neighbour-hood income*
Age	0.021* (2.32) [.021]	0.007 (0.83) [.407]	0.018* (2.06) [.040]	0.018* (2.06) [.040]	0.012 (1.35) [.178]
BC/MBC	-0.271** (1.58) [.115]	-0.258 (1.51) [.132]	-0.261 (1.53) [.127]	-0.261 (1.53) [.127]	-0.223 (1.31) [.191]
SC/ST	0.018 (.08) [.936]	0.056 (.25) [.803]	0.043 (.19) [.850]	0.043 (.19) [.850]	0.061 (.27) [.787]
Nuclear family	-0.173 (1.06) [.290]	-0.275** (1.71) [.088]	-0.199 (1.23) [.220]	-0.199 (1.23) [.220]	-0.262** (1.64) [.102]
Private sector work	-0.242 (1.48) [.140]	-0.224 (1.36) [.175]	-0.242 (1.47) [.143]	-0.242 (1.47) [.143]	-0.302** (1.86) [.063]
Self-employed	-0.363** (1.92) [.056]	-0.330** (1.74) [.083]	-0.345** (1.82) [.070]	-0.345** (1.82) [.069]	-0.373* (1.98) [.048]
College education	-0.112 (0.79) [.430]	-0.057 (0.41) [.682]	-0.074 (.53) [.597]	-0.074 (.53) [597]	0.018 (0.13) [.897]
No. of Children	-0.084 (0.82) [.413]	-0.111 (1.09) [.277]	-0.074 (.72) [.472]	-0.074 (0.72) [.472]	-0.128 (1.26) [.209]
Parent alive	0.453** (1.81) [.723]	0.469** (1.88) [.061]	0.466** (1.87) [.063]	0.466** (1.87) [.062]	0.475** (1.91) [.057]
Ln(Absolute income)	0.418* (3.37) [.0008]	-	-	-	-
Ln (Household income)	-	0.421* (3.21) [.0015]	-	-	-
Relative mean income	-	-	0.00003* (3.03) [.0026]	-	-
Relative median income	-	-	-	0.00003* (3.03) [.0026]	-
Relative neighbourhood income	-	-	-	-	0.00004 (.24) [.810]
Log likelihood	-286.62	-287.187	-287.758	-287.758	-292.354
Cutpoint 1	3.293	2.847	-0.663	-0.600	-1.063
Cutpoint 2	5.033	4.580	1.068	1.132	0.632

* Significant at 5 percent level. ** Significant at 10 percent level.

Note: Figures in parentheses are absolute t values and in brackets are p values.

Coming to the basic hypotheses about the effects of absolute income and relative income, all the relevant coefficients are positive, and statistically significant, with the lone exemption being relative neighbourhood income. An increase in either absolute earnings or total

household income increases the probability by 0.42 of reporting life satisfaction. While the effect of any measure of relative income is rather small, they are strongly associated with the increased probability of reporting happiness. It can be observed that individuals compare themselves with the average population rather than the neighbourhood income position. This positional status is positively associated with the satisfaction levels. Apart from the coefficient estimates, the interest in ordered probit estimates is on the marginal and average effects. Table-10 presents the calculated marginal effects for the income variables used in the empirical estimation. The signs of the marginal effect of all the income measures show that an increase in income has negative influence for reporting not too happy and pretty happy and positive effect on reporting very happy and satisfaction with life. An increase in both absolute earnings and absolute household income increases happiness by 28 percent. However, an increase in relative income increases happiness only marginally. The predicted probabilities show that around 60 percent will report pretty happy. While the predicted probability using mean relative income shows about 14 percent will report very happy, the same with relative neighbourhood income is about 26 percent. Thus, individual's level of happiness does depend on relative positions.

Table 10. Marginal Effects of Income and Predicted Probabilities

Income	*Not very happy*	*Pretty happy*	*Very happy*
Ln(Absolute income)	-0.1021	-0.2406	0.2795
Ln (Household income)	-0.1029	-0.2423	0.2816
Relative mean income	-7.33E-06	-1.70E-05	2.01E-05
Relative median income	-7.33E-06	-1.70E-05	2.01E-05
Relative neighbourhood income	-9.78E-06	2.30E-05	2.68E-05
Predicted probability using relative mean income	25.46	60.31	14.23
Predicted probability using relative neighbourhood income	14.46	59.15	26.43

Since there are three categories of reported happiness, two threshold parameters (c's) are estimated. The estimated cutoffs presented in Table-9 imply that, for the relative mean income method, a value of the latent variable less than -0.663 corresponds to not too happy, a value between -0.663 and 1.068 corresponds to pretty happy and a value above 1.066 corresponds to very happy. The predicted value of H* for the reference individual lies between -0.663 and 1.068, hence the reference individual would be predicted to report pretty happy.

In Table-11 we report the estimates when both absolute income and relative income along with the interaction between them are included. However, almost all the coefficients of various measures of income become insignificant and few of them change the signs. These results seem to suggest that interactions in absolute and relative incomes vapour out the effect of income on happiness. When the income of all individuals increases the relative position remains unchanged and hence there is no impact of income on happiness.

Table 11. Ordered Probit Estimates of Happiness with Income Interactions

Variable	*Happiness equation specification with*			
	Interaction between absolute income and relative income		*Interaction between household income and relative income*	
Age	0 .022* (2.46) [.014]	0.022* (2.35) [.019]	0.016** (1.72) [.086]	0.016** (1.81) [.071]
BC/MBC	-0.253 (1.47) [.143]	-0.265 (1.54) [.125]	-0.381* (2.22) [.027]	-0.384* (2.23) [.027]
SC/ST	0.022 (0.10) [.920]	0.008 (0.05) [.961]	0.054 (0.24) [.810]	0.046 (0.20) [.810]
Nuclear family	-0.202 (1.23) [.220]	-0.173 (1.07) [.285]	-0.150 (0.92) [.358]	-0.148 (0.92) [.358]
Private sector work	-0.234 (1.42) [.157]	-0.238 (1.45) [.148]	-0.168 (1.02) [.309]	-0.164 (1.00) [.318]
Self-employed	-0.357** (1.87) [.062]	-0.356** (1.86) [.063]	-0.203 (1.06) [.290]	-0.195 (1.02) [.309]
College education	-0.120 (0.84) [.401]	-0.110 (0.78) [.436]	-0.008 (0.06) [952]	-0.015 (0.11) [.912]
No. of Children	-0.099 (0.95) [343]	-0.085 (0.83) [.407]	-0.102 (0.97) [.333]	-0.101 (0.98) [.328]
Parent alive	0.533** (2.09) [.037]	0.466** (1.85) [.065]	0.295 (1.19) [.235]	0.295 (1.19) [.235]
Ln(Earnings)	-0.772 (0.93) [.353]	0.440* (3.43) [.0006]	-	-
Ln (Household income)	-	-	0.205 (0.60) [.545]	0.209 (0.43) [.668]
Relative median income	0.0002** (1.64) [.102]	-	0.00002 (0.80) [.424]	-
Ln(Income)* Relative median income	-4.23E-09** (1.82) [.069]	-	-4.27E-011 (0.11) [.913]	-
Relative neighbourhood income	-	0.0002 (0.36) [.719]	-	0.027 (0.17) [.865]
Ln(Income)* Relative neighbourhood income	-	-9.42E-09 (0.50) [.617]		1.37E-06 (0.79) [.434]
Log likelihood	-284.854	-286.409	-285.000	-.285.074
Cutpoint 1	-7.580	3.535	1.244	1.494
Cutpoint 2	-5.827	5.276	2.996	3.245

* Significant at 5 percent level. ** Significant at 10 percent level.

Note: Figures in parentheses are absolute t values and in brackets are p values.

7. Conclusion

Are we satisfied with income or does money make us happy? An intensive search to this puzzling question has led to a massive literature both in economics and in psychology. While psychologists are preoccupied with the correlates of happiness and subjective well-being, the economics tradition tend to follow the traditional path that happiness is related with material well-being and hence money does influence life satisfaction. However, individual well-being largely depends on what they observe around them and among others. And hence there seems to be a limit to the power of money. While rise in absolute income does raise happiness, increase in neighbour's (relative) income does depress life satisfaction. It also seems beyond certain threshold, happiness doesn't seem to increase with increasing wealth or income. With vast differentials in income across the countries, reported satisfaction in different countries are more or less close to each other. Moreover, in many developed countries raising incomes over the years doesn't seem to raise happiness. This apparent puzzle, termed as Easterlin Paradox in the literature, seeks explanation in terms of relative income effects. As the individuals are more concerned with the relative position rather than with their absolute level, increase in the incomes of all individuals in the economy leaves the individual at the same level of satisfaction.

This paper, using a primary data, has observed that both the absolute income and relative income matter for a person's level of happiness. Thus, money does buy happiness. The finding that individuals do care about their absolute incomes implies that a distribution-neutral increase in average income will make everyone happier. But, at the same time, people's concern about relative income imply that if some people's income grow more slowly than others, the relative losers could end up feeling less life satisfaction despite the increase in their absolute income. Thus, economic growth should increase happiness while growing income disparity could reduce happiness. But it is not the income growth per se that matters but what people do with the opportunity that the material prosperity due to rising income level offers is the most important factor in human happiness.

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