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Consumer Capital as the Source of Happiness: The Missing Economic Theory Underlying the Income-Happiness Paradox

André van Hoorn and Esther-Mirjam Sent

Abstract: Self-reported happiness does not generally increase with rising income, as established by Richard Easterlin. We argue that the current debate in economics about the income-happiness paradox has paid too little attention to the theoretical foundation of the expected positive relation between income and happiness, seeking an empirical resolution through better data and more elaborate estimating equations instead. We return to the history of economics and revisit the contributions of Irving Fisher and Kenneth Boulding for the missing economic theory that underlies the income-happiness paradox. According to both Fisher and Boulding, “consumer capital” is the ultimate source of welfare, whereby consumer capital is defined as an accumulated stock of tangible and intangible instruments that yield a stream of services over their useful life. In the view of Fisher and Boulding, it is the utilization of this capital stock that renders happiness to individuals. Moreover, income that pays for the goods of consumption can be a “bad,” reflecting the cost of maintaining the consumer capital stock. Therefore, Fisher and Boulding’s insights bring a new perspective to the Easterlin paradox, showing that the empirical finding that rising income contributes only little, if anything, to levels of happiness has been overemphasized at the expense of the theoretically more relevant relation between consumer capital and happiness, and the exact role of income therein.

Keywords: capital, economic theory, experienced utility, happiness, income

JEL Classification Codes: B00, D60, I31

Revisiting insights from Irving Fisher and Kenneth Boulding, we propose a new perspective on the paradox – most strongly associated with Richard Easterlin’s (1974) seminal work – that, despite sustained increases in income, levels of self-reported happiness have not consistently risen in advanced nations. In particular, Fisher and Boulding suggested that “consumer capital” is the ultimate source of prosperity as opposed to income, which – jointly with consumption – can be a “bad” as it can

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reflect depletion and subsequent restoration of an individual's capital stock. Importantly, capital is not defined in the way we are inclined to think about the capital of a firm or the wealth of an individual (e.g., his/her financial and other assets). Rather, consumer capital is an accumulated stock of tangible and intangible instruments that yield a stream of services over their useful life (which may be financial assets that can be traded, but also may include health).¹ The insight of Fisher and Boulding challenges the idea that income should lead to happiness, meaning that the ongoing and fierce debate on Easterlin's paradox is largely off the mark. The income-happiness relation has considerably less relevance for economics than does the relationship between consumer capital and happiness, which is much more congruent with the conceptualization of welfare as a preference satisfaction. One problem, of course, is that income data are more readily available than data on consumer capital. Therefore, we set out a new research agenda, starting from a theoretical perspective.

Measures of happiness are increasingly used by economists (Di Tella and MacCulloch 2006; Kahneman and Krueger 2006; van Hoorn, Mabsout and Sent 2010).² They can be employed to analyze economic policy issues, such as to analyze the effect of cigarette taxes on the wellbeing of smokers (Gruber and Mullainathan 2005), to measure the costs of environmental externalities (Luechinger 2009), and to test and add insight to existing economic theories (Di Tella and MacCulloch 2006; Frey and Stutzer 2002b). Substantial attention has also been paid to the economic factors underlying observed differences in happiness ratings, both at the individual and country levels (for overviews, see Frey and Stutzer 2002a; Layard 2005).

In a sample of western countries, Easterlin (1974) found that higher income was associated with higher happiness scores within nations, but that across nations and over time happiness did not rise with income. This finding has come to be known as the Easterlin paradox. Following this finding, income has become the most widely studied determinant of happiness by far (Blanchflower and Oswald 2004; Clark and Oswald 1996; Di Tella and MacCulloch 2006, 2008; Di Tella, MacCulloch and Oswald 2003; Dynan and Ravina 2007; Easterlin 2001; Frijters, Haisken-DeNew and Shields 2004; Layard 2005; Luttmer 2005; McBride 2001; Senik 2004; van de Stadt, Kapteyn and van de Geer 1985).³ The debate on the income-happiness paradox has grown rather intense (Easterly 2011). Several studies have pointed to a positive relationship between wellbeing and income, especially across countries (Deaton 2008; Stevenson and Wolfers 2008). Other research counters such findings, attributing them to the selective use of data and inappropriate empirical methods, among others

¹ Closely related is the concept of intangible capital, which John Tomer (2008, 4), building on Veblen (1919), defines as "the many things that are in humans or in their relationships, things that enable people to perform well in their work situations, and thus be productive and successful [and] things that enable people to be rational and experience wellbeing."

² Happiness or subjective wellbeing – we follow tradition and use the terms synonymously – is "a broad category of phenomena that includes people's emotional responses, domain satisfactions, and global judgments of life satisfaction" (Diener et al. 1999, 277).

³ See Ed Diener and Robert Biswas-Diener (2002), as well as Clark, Frijters, and Shields (2008b), for a review of this work. Ryan Howell and Colleen Howell (2008) provide a meta-analysis of results for developing countries.

(Easterlin and Sawangfa 2010; Krueger 2008; Layard, Mayraz and Nickell 2009). These opposing conclusions further appear associated with either a focus on the short term, when an income increase tends to have a small positive happiness effect, or on the longer run, when the positive effect has typically waned completely (Di Tella and MacCulloch 2010). More generally, studies that consider the same individuals over time, using advanced longitudinal panels, find reasonably strong cross-sectional correlations, but no lasting happiness uptakes with sustained income increases (Clark et al. 2008a; Oswald and Powdthavee 2006). Overall, and as further contributions show (Easterlin and Angelescu 2012; Easterlin et al. 2010; Sacks, Stevenson and Wolfers 2012; Stevenson and Wolfers 2013), the controversy is unlikely to be settled any time soon (cf. Clark, Frijters and Shields 2008b; Easterlin 2010).

Conspicuously absent in the literature on the income-happiness paradox is any discussion of the premise that income *should* lead to happiness. Instead of reflecting on this deep-seated idea, economists have focused on the empirics of the income-happiness paradox. This is illustrated by the claim of prominent economist Robert Barro (commenting on Stevenson and Wolfers 2008) that, if income and happiness are found to be uncorrelated, he would conclude that the happiness data are flawed (Stevenson and Wolfers 2008, 101). Focusing on the economic theory behind the Easterlin paradox instead, we return to the question that Tibor Scitovsky (1976, 140) asked in 1976: “Whatever made us believe that income yields happiness?” We find relevant answers by further going back in history and revisiting the contributions of Irving Fisher and Kenneth Boulding. These authors’ contributions pose a fundamental challenge to the common premise that income should lead to happiness. As such, learning from Fisher and Boulding’s work may do much to push forward the income-happiness debate, simply by infusing it with more economic theory.

In the next section of this article, we review the dominant, empirical perspective on the income-happiness paradox, which is inspired by the legacy of Jeremy Bentham and involves estimating different specifications of the happiness or utility function. In the third section, we elaborate on the nature of Bentham’s legacy by offering a historical perspective on the economics of happiness and income, while also seeking to uncover the historical roots of contemporary empirical work on the relationship between income and happiness. This historical perspective sets the stage for our revisiting of the insights of Fisher and Boulding in the fourth section. We end with concluding comments in the fifth section.

The Empirical Perspective Inspired by Bentham’s Legacy

The empirical perspective that reigns in the income-happiness literature has strong roots in the contributions of Jeremy Bentham, as we elaborate in the next section. However, we will first discuss how this perspective has been applied in practice through the estimation of happiness functions of the sort pioneered by Easterlin (1974). Easterlin (1974, 112) originally proposed the following adaptation to make the specification of the utility function consistent with the actual patterns in the income-happiness data:

$$U_i = f\left(\frac{C_i}{\sum a_{ij} C_j}\right) \quad (1)$$

In this equation, U_i and C_i are the utility index and consumption expenditures of individual i , C_j is consumption of individual j , and a_{ij} is the weight individual i attaches to consumption expenditure by individual j .⁴ Easterlin thus takes the utility (i.e., happiness) to a person of a certain amount of consumption to be a function not of absolute consumption levels, but the consumption level relative to others. Empirically, this model accounts for a larger part of the variation in happiness scores than the model which includes only absolute income.

The most important extension to the utility function in Easterlin's analysis is the incorporation of time-series features of the relation between income and (individual) happiness. The survey of the income-happiness literature by Andrew Clark, Paul Frijters, and Michael Shields (2008b) provides the following generalized happiness function:

$$U_t = \beta_1 \ln(y_t) + \beta_2 \ln(y_t/y_t^*) + \gamma X_t \quad (2)$$

Equation (2) depicts utility at time t , U_t , as a function of absolute income y_t , income relative to some reference level of income y_t^* , and other factors X_t . Compared to Easterlin (1974), the twist is that the reference level of income y_t^* need not derive from the income of others (external to the individual), but can also be an individual-specific reference level of income (internal to the individual). When longitudinal data are available, we can have the relative income term y_t^* refer to one's past income or to the income level of some reference group, the latter defined in any way a researcher deems fit.

Contributions to the income-happiness literature since Easterlin's analysis come in the form of changes to the operationalization of the relative income or reference level term in the empirical happiness function that is estimated, in turn, made possible by increased data availability. Andrew Clark, Niels Westergård-Nielsen, and Nicolai Kristensen (2009a) and Erzo Luttmer (2005), for example, use y_t^* to capture income relative to one's neighbors or other people who are physically close. The consideration of people with whom one is in frequent contact likely renders a more relevant reference group than the population of a country as a whole (Easterlin 1974). David Blanchflower and Andrew Oswald (2004) do the same, but draw the line at the (U.S.) state level. Other research uses coworkers as the relevant reference group, including wage relative to one's colleagues in the happiness function (Brown et al. 2008; Clark, Kristensen and Westergård-Nielsen 2009b). Individual characteristics most commonly used to identify a reference group for relative income calculations

⁴ For the sake of completeness, we should note that equation (1) (and the other equations that follow) depicts conceptual relationships, not the exact empirical models that have been estimated in the relevant literature.

include age, sex, and education (Clark and Oswald 1996; McBride 2001; Senik 2004; van de Stadt, Kapteyn and van de Geer 1985). Different relative income terms can even be included simultaneously (Boes, Staub and Winkelmann 2010; Fafchamps and Shilpi 2008; Kingdon and Knight 2007), allowing researchers to identify the most relevant reference group. Relative income can further be operationalized using one or more lags of the individual's own income ($t-1$, $t-2$, etc.), although this requires a panel that tracks individuals over time. Calculating relative income in this way, we can gauge how the happiness of an individual corresponds not only to income levels, but also to the rate at which his/her income increases or decreases.

The number of different ways for operationalizing the reference level of income and specifying the empirical happiness function is potentially limitless. Practically, the only constraint is the aforementioned availability of data. Large-scale longitudinal happiness data of the type needed to incorporate internal reference levels of income are readily available, however. For example, the German Socio-Economic Panel (SOEP) has been measuring the happiness of (West) Germans since 1984, and includes replacements for respondents that have dropped out, and extensions to expand coverage to include former East Germans, among others (Wagner, Frick and Schupp 2007). For cross-country analyses, a most famous data set is the World Values Survey (e.g., Inglehart 1997). Started in 1981, it now contains representative data for up to 98 countries and more than 350,000 individuals. As many countries have been surveyed more than once, it also has a limited time-series component, although this series consists of repeated cross-sections. The European Social Survey offers repeated cross-sections for a limited set of European countries, at regular biannual intervals since 2002 (Jowell 2007). These datasets are either publicly available, or accessible at the payment of a small administrative fee (in case of the SOEP).

The conceptual foundations for the empirical perspective on the income-happiness paradox are often sought in psychology. For instance, studies of the income-happiness nexus regularly refer to the phenomenon of adaptation – the gradual habituation to a stimulus (e.g., Frederick and Loewenstein 1999) – to provide underpinnings for empirical happiness functions.⁵ Most famous is the study of Philip Brickman, Dan Coates, and Ronnie Janoff-Bulman (1978), which finds that paraplegics, for instance, adapt to their situation and their happiness level is not as low as one might expect. Other psychological work on which the income-happiness literature draws is social comparison theory (e.g., Festinger 1954), which takes income as one of the main dimensions on which people compare themselves to others. Interestingly, the social comparison theory, in turn, fits economic thinking that traces back to the works of James Duesenberry, John Maynard Keynes, and Thorstein Veblen, among others. Duesenberry (1949), for example, emphasizes how individuals use consumption to gain and maintain social prestige, while Keynes ([1931] 1972, 326) distinguishes between (i) “absolute” needs, which we feel regardless of “the situation of our fellow human beings” and which can be satisfied, and (ii) “relative”

⁵ The ability of the eye to adjust to various degrees of light and dark is the best known manifestation of adaptation.

needs, which we feel “only if their satisfaction lifts us above, makes us feel superior to, our fellows” and which are essentially insatiable. In fact, there is a long history in institutional economics emphasizing the importance of social context for consumption and people’s wellbeing (see Alcott 2004; Dolfsma 2002; Fullbrook 1998; Hamilton 1987; Mason 1995, 2000; Trigg 2001; Todorova 2014). More generally, revealing linkages exist between present-day empirical income-happiness research and the history of economics. We discuss these linkages next.

The Historical Perspective Underlying the Empirical Perspective

The empirical perspective we outlined in the previous section has conceptual foundations in economics’ early thoughts on welfare, notably those of Jeremy Bentham. At the same time, research on the income-happiness paradox may have engaged in a costly neglect of other relevant ideas in the history of economics.

Bentham’s Legacy

In the history of economics, happiness has had different associations and conceptualizations. Initially, and strongly influenced by the rise of utilitarianism, happiness came to be tied to Bentham’s (1776, S. 3) so-called fundamental axiom: “[I]t is the greatest happiness of the greatest number that is the measure of right and wrong.” While Bentham (1789) initially referred to this as “the principle of utility,” he later called it “the greatest happiness principle” (Mill 1863, 5). As Bentham used it then, utility referred to hedonic experience: namely, that of pleasure and pain. Today, we call it “experienced utility,” or the strength of the disposition to continue or interrupt the current experience, i.e., the hedonic quality of an outcome (Kahneman 1999, 4, 17; Kahneman, Wakker and Sarin 1997, 375). Bentham’s greatest happiness principle is echoed in many of the contributions of economists working on happiness, most prominently those of Richard Layard (e.g., Layard 2005, 2010).

In John Stuart Mill’s interpretation, everyone counts equally in the calculus of welfare. Moreover, in making their calculations, individuals are able to recognize (and count equally) others affected by their actions (Peart and Levy 2005). In other words, people are connected by the mechanism of sympathy. Francis Edgeworth (1881) countered that people do not count equally with others, but rather that there is a difference in the capacity for happiness. Disregarding Edgeworth’s nuances, economists generally assumed cardinal utility, exogenously given and stable preferences, diminishing marginal utility, and interpersonally comparable utility functions. Under these conditions, it is possible to construct a social welfare function simply by summing up individual utility functions. Contemporary happiness researchers do the same when considering the relationship between per capita GDP and GDP growth and country levels of happiness, calculated as average happiness scores for representative population samples (e.g., Easterlin 1974; Stevenson and Wolfers 2008).

With his *Essay on the Nature and Significance of Economic Science*, Lionel Robbins (1932) questioned the scientific status of interpersonal utility comparisons, whether people are counted equally with others or not, and called for a switch from cardinal to ordinal utility. In response, efficiency and distribution came to be disconnected. Questions of efficiency were answered by means of criteria, such as Pareto efficiency and the Kaldor-Hicks compensation test. This requires only ordinal utility that merely ranks commodity bundles. According to the Pareto efficiency measure of social welfare, for instance, a situation is optimal only if no individual can be made better off without making someone else worse off. Questions of distribution were finally answered in the specification of the social welfare function. In the process, experienced utility was abandoned in favor of “decision utility” – the weight that is assigned to the desirability of an outcome in the context of a decision (Kahneman 1999, 4, 17; Kahneman, Wakker and Sarin 1997, 375).

In the subsequent move toward revealed-preference theory (Samuelson 1938, 1948), which seeks to analyze consumer behavior on the basis of variable prices and budget constraints (Stigler and Becker 1977), Bentham’s understanding of utility as experienced utility was further transformed into what we may call the modern interpretation of decision utility. In this view, preferences are revealed by choice, and choices are supported by reasons. In addition, since a researcher can observe individuals using their wage income to buy products, and since choices reveal people’s preferences, income remains an important construct in the revealed-preference theory. In fact, reasoning from the idea that having more income means the ability to make choices unavailable with less income, revealed-preference theory can be drawn upon to argue a positive link between income and happiness, thus providing theoretical foundations to the empirical income-happiness research discussed above.

This notwithstanding, the label decision utility appears somewhat misleading as it suggests that the revealed-preference theory is, in fact, concerned with utility in the same way that Bentham was. However, the revealed-preference theory deliberately ignores measures of utility and indifference through its focus on choice. That is, in the revealed-preference theory, utility does not refer to something that is intrinsically good, but rather is used as a way of ranking alternative choices or actions (e.g., Hausman and McPherson 2006). Correspondingly, welfare came to be seen as the satisfaction of preferences or desire fulfillment. The more an individual’s preferences are satisfied, the higher he/she scores on the ordinal utility index. Meanwhile, the link with utility, as it is intuitively understood to mean experienced utility or happiness, remains largely implicit and based on rational, utility-maximizing-choice behavior.

What is more, in this process, income and welfare came to be closely linked – if not at the theoretical level, at least at the practical and empirical level. Thus, in line with the above outline of an argument linking wage income and choice, in textbook microeconomics, we regularly encounter statements such as the one that a higher income allows an individual to move to a higher indifference curve, whereas a higher indifference curve implies ordinally higher welfare. Similarly, microeconomics often formulates the Pareto criterion in intermediate terms, notably in terms of individuals’

income, rather than in the more direct term of preference satisfaction. Pareto efficiency then implies a distribution of income in which nobody's income can be increased without lowering the income of at least one other person. Even more plainly, in macroeconomics, welfare has come to be associated with real per capita GDP – undoubtedly the dominant empirical operationalization of welfare in economics. The large and rapidly growing literature on the income-happiness nexus in economics is grounded in the idea of income as an empirical operationalization of welfare.

To be sure, many criticisms have been raised against using GDP as an indicator of the standard of living. These are mentioned in nearly every macroeconomics textbook and include concerns, such as the ones (i) that GDP does not take income distribution into account, (ii) that it ignores unpaid work (a concern, raised especially by feminist economists who are worried about the value of household work), (iii) that it does not take the black market into account, and (iv) that GDP does not consider what is being produced (i.e., playgrounds for children or nuclear missiles). Moreover, GDP does count work that results from repairing harm and ignores externalities like damage to the environment. Of special interest in light of recent discussions is the argument that GDP does not measure the sustainability of growth (Dasgupta and Duraippah 2012; Greenwood and Holt 2014). Indeed, one of the fathers of the GDP argument, Simon Kuznets (1934, 7), famously said in his very first report to the U.S. Congress: “The welfare of a nation can ... scarcely be inferred from a measure of national income.” We may say that research on the relationship between income and happiness takes the problematic nature of national income as a measure of welfare into account by adding several control variables to its empirical models (variable X_t in equation (2)). However, adding determinants of happiness above and beyond income does not actually get to the heart of the issue, and something seems amiss when, in addition to the incorporation of social influences and the role of context (e.g., Duesenberry 1949; Veblen 1899), insights like those of Kuznets (1934) are not explicitly dealt with when studying the income-happiness paradox.

Further Historical Perspectives on the Income-Happiness Debate

The recent advent of measures of happiness in economics with a focus on experienced utility constitutes a return to the historical insights of Bentham, while, at the same time, this development mostly ignores any moves toward decision utility on the part of Lionel Robbins and Paul Samuelson (as elaborated in the previous subsection). More importantly, revisiting the history of economics offers an alternative perspective on the empirically dominated literature on the income-happiness paradox, as we explain in the section that follows. Before going back to the more distant history, however, we will first revisit the more recent developments.

Indeed, Easterlin's paradoxical findings could have inspired an extended appreciation of the history of economics, with insights that do not stop with Bentham (or even Veblen), but resonate with the important developments and debates in economics after Bentham. Tibor Scitovsky's discussion of the income-happiness

relation in his *The Joyless Economy* (Scitovsky 1976, 133-145) is a nice illustration of this. Scitovsky first notes that social influences or a mechanism, such as adaptation, may play a role in Easterlin's (1974) findings (Scitovsky 1976, 135-140). He then goes on to evaluate the assumption that income should lead to happiness (Scitovsky 1976, 140-145). He formulates his main concern as follows: "A \$1,000 income in the national accounts shows that someone performed work whose discomfort, if any, he valued less than \$1,000, and that the services he rendered were worth more than \$1,000 to someone else. But the sum of the worker's and the consumer's net gains could equally well be a small fraction or a large multiple of the \$1,000 that changed hands, and there is no way to tell which it is" (Scitovsky 1976, 141). Scitovsky thus argues that the rationale for a positive relationship between income and happiness is less obvious than it seems. He thereby relies on both classic revealed-preference theory and insights concerning consumer surplus, and on insights of the pioneers of national accounts like Simon Kuznets, finding that income statistics only record the value of a market exchange and exclude the disutility of the work done by a seller (e.g., Kuznets 1934, 6-7). Most of all, however, Scitovsky relies on Irving Fisher and Kenneth Boulding, whose work subsumes his cost argument (Scitovsky 1976, 140-145) in wider treatises of income and welfare as some of the most fundamental concepts in economics.

Clearly then, there is more to be learned from the history of economics that is relevant for the income-happiness debate than just Bentham's insights concerning pleasure and pain. Inspired by Scitovsky, it is to Fisher and Boulding's theoretical insights on the relationship between income and welfare and the idea that higher income should lead to more happiness that we turn next.

Another Historical Perspective Gives Rise to a More Sound Theoretical One

Before evaluating the insights of Fisher and Boulding concerning the relationship between income and happiness, it is useful to briefly touch on the general contributions of each.

Fisher's Contributions

Irving Fisher, one of the earliest American neoclassical economists, is mostly known for his work on capital, investment, and interest rates, which were first elaborated in his *The Nature of Capital and Income* ([1906] 1930) and later developed in his *The Rate of Interest* (1907). *The Theory of Interest* (1930), in particular, sums up his lifetime work on capital, investment, and interest rates.

Fisher emphasized the time dimension of economic transactions. He found that value has a time and a quantity dimension since a good in the present has a different value than the same good at a later date. In other words, value is not only a function of the amount of goods and services that are owned or exchanged, but also of the moment in time at which they are purchased. The interest rate respectively measures the relative price of goods at a future date in terms of goods sacrificed in the present.

Fisher on Income and Happiness

The time dimension that figures so prominently in Fisher's writings also plays a significant role in his views on capital and income. Fisher ([1906] 1930, 52) defined capital as "a stock of wealth existing at an instant in time," and income as "the services of wealth" (i.e., "a flow of services through a period of time"). More precisely, he viewed the income of a community (or of an individual) as the flow of services rendered by all its instruments (Fisher [1906] 1930, 101). Fisher ([1906] 1930, 117) even used an etymological argument to back his view on the relationship between capital and income: "Income from any source is what comes in from that source."

In his discussion of the nature of income (and capital), Fisher ([1906] 1930, 165-169) discerned two types of final income: (i) subjective (psychic or psychical) income; and (ii) objective (physical) income. His definition of subjective income subsequently came remarkably close to the subjective wellbeing construct: "We define subjective income, then, as the stream of consciousness of any human being. All his conscious life, from his birth to his death, constitutes his subjective income. Sensations, thoughts, feelings, volitions, and all psychical events, in fact, are a part of this income stream. All these conscious experiences which are desirable are positive items of income, or services; all which are undesirable are negative items or disservices" (Fisher [1906] 1930, 168). Fisher ([1906] 1930, 169-172) went on to put forward a variety of reasons why physical and psychic income need not coincide. Most notably, he found that two individuals with the same objective income (e.g., \$500 a year) need not enjoy the same subjective income because the "irksomeness" that earning the income involves may differ between the two. This argument preceded Scitovsky's very similar argument stipulating that the monetary size of one's income or an economic transaction in general does not say anything about the net benefit involved (Scitovsky 1976, 140-145).

Next to the psychical-physical income dichotomy, Fisher also explicitly discussed the presumed connection between utility and pleasure (or happiness). On this point, Fisher ([1906] 1930, 43) argued that "the desirability or utility of goods must not be confused with the pleasure which may be ultimately obtained from those goods ... [F] or pleasure is not the desire, but the satisfaction of the desire." This thinking of Fisher preceded Daniel Kahneman's distinction between decision and experienced utility by almost a century – as the latter readily acknowledges (e.g., Dolan and Kahneman 2008, 215). The grounds for drawing the distinction differ, however. For Fisher ([1906] 1930, 43), distinguishing between utility/desirability, on one hand, and pleasure, on the other, was very much about time (yet again): "[W]e have two concepts: utility or desirability – a state of mind at a point in time; and pleasure or satisfaction – an experience of mind through a period of time." Kahneman and collaborators (e.g., Dolan and Kahneman 2008; Kahneman, Wakker and Sarin 1997; Kahneman 1999), by contrast, emphasize people's inability to predict what will make them happy.

While Fisher's analysis provides some economic theory underlying the link between (money) income and happiness, even more can be learned from Kenneth

Boulding, the second historical scholar whose work we consider here. Boulding built on Fisher's insights, extending them and offering a more detailed analysis of the intricacies of the income-happiness relation, thereby casting a new theoretical light on the current empirical assessments.

Boulding's Contributions

Boulding read Fisher's *The Nature of Capital and Income* and was "tremendously influenced" by it (Geoff Harcourt in Sardoni 2003, 375). Boulding's early work on opportunity cost, capital theory, and international trade earned him the prestigious J.B. Clark Medal of the American Economic Association in 1949, for which he succeeded Paul Samuelson and preceded Milton Friedman. In 1968, Boulding was president of the American Economic Association (this time succeeding Milton Friedman). His subsequent work reconstructed a balance-sheet approach to economics inspired by Fisher, founded the evolutionary economics movement, and defended normative economics and the integration of the social sciences.

Boulding on Income and Happiness

In his article "Income or Welfare," Boulding launched an explicit attack on the presumed link between income and welfare, calling it a "serious error" and lamenting how "the assumption passes almost unquestioned" (Boulding 1949–1950, 77). He found that "almost the reverse is the case" (Boulding 1949–1950, 79). The starting point for this analysis was that expenditure on a good does not signal consumption, but only an asset transfer with accumulated goods increasing and the money stock diminishing in an individual's balance sheet (Boulding 1949–1950, 77). In this process, relatively liquid assets are transformed into relatively illiquid ones, but this transformation is not yet consumption. Rather, actual consumption of a good takes place after it is bought, and when it wears down (Boulding 1949–1950, 80). An important conclusion, therefore, is that for most commodities it is not their consumption, but their utilization that satisfies preferences. There is a clear value, for instance, in the use of a house, but not in its actual consumption, which constitutes depreciation of capital. Depletion of the housing stock implies the need for repairs, such as fixing a roof that leaks or replacing a window that is broken.

The above distinction between consumption and utilization applies most forcefully to durable goods where there is an obvious time dimension (cf. Fisher): The purchase of a good takes place at a moment in time, while the good is used up (i.e., "consumed") over time. Boulding argued, however, that the difference between utilization and consumption also holds in case of "one-use goods" (Boulding 1949–1950, 80). The consumption of heating fuel, for example, arises from a given depreciation of warmth. It is only the depletion of the stock of warmth (due to poor insulation, for example) that calls for the purchase and subsequent burning of heating fuel in order to restore the stock of warmth. In summary, Boulding (1949–1950, 79) found – very much in line with Fisher's view of capital – that "it is the capital stock

from which we derive satisfactions, not from the additions to it (production) [i.e., income] or the subtractions from it (consumption) [i.e., “out-go”]: that consumption, far from being a desideratum, is a deplorable property of the capital stock which necessitates the equally deplorable activities of production.”

For Boulding (1949–1950, 83), it was obvious then that the concepts of “income, output, or gross national product” need to be separated more clearly “from the concept of economic welfare.” “There may be, and usually is, a correlation between the level of income and of welfare. But this connection is by no means invariable, and it would be most rash to suppose that an increase in income always means an increase in welfare” (Boulding 1949–1950, 83). Boulding (1949–1950, 83) subsequently endorsed Fisher’s psychic income concept, calling it “the significant welfare concept.” He (Boulding 1950, 140) was actually inspired by this concept in introducing the idea of “psychic capital.”⁶ Whereas capital is an accumulation of instruments rendering services, psychic capital is an accumulation of desirable mental states, and it is most closely related to welfare. Moreover, in the same way as a pair of socks can wear out, prompting the individual to use money assets to buy a new pair, in this way restoring his/her “wardrobe capital,” psychic capital can also deplete. “We go to the movies in order to produce the mental state of just having gone to the movies ... which depreciates like every other commodity” (Boulding 1950, 140–141).⁷

Fisher, Boulding, and the Income-Happiness Paradox

There is much to be learned from Fisher and Boulding that is relevant to the current literature on the income-happiness paradox and the surrounding debate. Whereas economists have implicitly made the assumption that higher income entails a higher level of preference satisfaction, Fisher and Boulding’s insights take issue with this deeply ingrained idea. Fisher and Boulding found that neither consumption nor income (in their ordinary interpretation) satisfy preferences. Capital, however, does, and it is ultimately the utilization of one’s capital stock that satisfies one’s preferences. The higher an individual’s consumer capital stock, the larger the flow of services the individual may derive from it, the more the individual is able to satisfy his/her preferences, and the higher his/her happiness (or psychic income) is.⁸ The role that income and consumption play in this relationship is more subtle than generally

⁶ Boulding’s (1949–1950, 83) exact words on psychic income are: “[P]sychic income is that which is derived from the possession or use of capital, and is the significant welfare concept. ‘Real’ income or ‘output,’ on the other hand, is significant only because of the power which it gives us to increase our capital stock, and hence our psychic income.”

⁷ Thomas Schelling (1984, 344) similarly argues that “we consume past events that we can bring up from memory.”

⁸ Fisher’s concept of psychic income has never caught on, not even on the waves of the recent popularity of happiness measures in economics. The history of economics, however, contains some traces of the ideas embodied in the concept of psychic income. Arthur Cecil Pigou (1932, 10), for instance, found that “the elements of welfare are states of consciousness.”

appreciated (as Boulding discussed in detail). Both income and consumption can be a “bad,” making a positive association between income and happiness much less reasonable than typically assumed (cf. Robert Barro in Stevenson and Wolfers 2008, 101). This conclusion holds when goods purchased do not add to an individual’s consumer capital stock, but are meant to restore this stock. In this case, income and consumption signal a worsening of welfare. In other words, people would be better off if their capital stock did not depreciate and if they did not need to buy new clothes to replace worn-out items in their wardrobe.

Interestingly, Fisher and Boulding’s emphasis on capital stocks versus income flows has made an inroad in recent economic thinking, particularly in the efforts to expand traditional economic indicators to consider the issue of sustainability. The World Bank, for instance, issued a report in 2006 on the *Wealth of Nations*, which focuses on stocks rather than flows and considers issues like the depletion of forests and other natural resources (World Bank 2006; see also Dasgupta and Duraïappah 2012; Greenwood and Holt 2014). Still, there are several arguments to be made that a higher income flow is always a good thing, unequivocally leading to more consumer capital and thus bringing more happiness. First, the cost argument, made prominent by Scitovsky (1976), can be addressed by assuming that higher incomes do, in fact, imply a higher surplus for an employee than lower incomes do, at least, on average. Similarly, we may find that a higher income allows people to add more and better quality products to their capital stock, thus bringing more happiness on average (cf. Boulding 1949–1950, 83). The problem here is that both arguments take a strong leap of faith by assuming that taking averages creates the kind of *ceteris paribus* condition that one can find in the textbook depiction of the relationship between an individual’s income and his/her welfare. Whether this *ceteris paribus* condition is met in practice is questionable. Subsequently, it is conceptually worrisome that the absence of a positive relationship between income and happiness can be taken to mean two things: namely, that the *ceteris paribus* assumption is not met, or that preference satisfaction is not associated with self-reported happiness. Where the income-happiness literature may favor the latter interpretation, it is not obvious that we can validly distinguish between the two. Moreover, it seems unlikely that the addition of observable control variables to the empirical happiness equation fully solves this problem.

Notably, control variables are unable to address the issue that an individual’s income is partly endogenous to the state of one’s capital stock and its rate of depletion. That is, we may observe someone working a stressful and risky, but high-paying-job merely to be able to afford, say, treatment for his/her chronic illness or the illness of a relative, and we have no way of telling whether this is the case or not. Moreover, imagine that we are able to control for job stress, safety risks, and working time (as well as for health status, social relationships, etc.). Are we then still estimating the effect of income on happiness? It seems to us that in such an extended happiness equation any effect of income is really an effect of productivity, an individual’s ability to deliver something of value to someone else. Such “productive ability,” in turn, would appear to be part of the consumer capital stock, an intangible instrument that

the individual can use to derive services.⁹ Thus, we find that the main lesson for the research on the economics of happiness we can learn from Fisher and Boulding is that the current debate on the income-happiness paradox is partly misguided. The actual theoretical rationale for expecting income to lead to happiness is much less strong than many economists working on Easterlin's paradox seem to assume.

Fisher and Boulding's theoretical insights suggest that empirical research on the economics of happiness, specifically the income-happiness nexus, needs to address two essential issues. The first is how exactly consumer capital and happiness are related. The second concerns the exact role of income and consumption therein. Obvious follow-up questions are whether consumers' capital stock has grown during years in which happiness has remained more or less constant or, put differently, whether sustained income increases have led to a corresponding rise in consumer capital. In the view of Fisher and Boulding, a steady, non-increasing stock of consumer capital would certainly account for the relatively stable levels of happiness or psychic income that can be observed across developed countries. By taking up these questions, we can put the debate about the income-happiness paradox on a more solid theoretical footing.

Importantly, the need to get the economics of the income-happiness paradox right remains when considering the role of established mechanisms – specifically, adaptation and social comparison – in this paradox. When happiness economists incorporate these mechanisms in their happiness equations, they typically assume that insights on adaptation and the importance of social context automatically transfer to the domain of income or consumption. The insights of Fisher and Boulding, however, imply that the adaptation- and social-comparison theory, if anything, are most insightfully applied to consumer capital and not to consumption expenditures or traditional wage income (should the latter be observable in the first place). “Keeping up with the Joneses” does not involve the act of buying goods, but requires commanding a certain stock of consumer capital, as when a larger house signals that one's neighbor has accumulated more instruments than oneself. Similarly, people do not adapt to the act of buying a car (which, in Boulding's terminology, is merely exchanging one type of instrument for another type, cf. Boulding 1949–1950, 77), but to the owning and using of this car. Social comparison or adaptation can affect the level of happiness that the utilization of any given stock of instruments is able to render to their owners, either because people care about the relative amount of services their capital renders them, or because people adapt to the flow of services – including income – they derive from their accumulated instruments. Overall, we see great value in using insights and theories, such as the adaptation- and social-comparison theory, to get a better understanding of the relationship between income and happiness. It is only when we have the economic theory straight that we can

⁹ Tomer's (2008, 4) work is insightful here by finding that individuals' intangible capital includes “things like standard education and training which [not only] provide knowledge and know-how,” but also “noncognitive qualities of people.”

expect to make an adequate analysis of social comparison, adaptation, or other such mechanisms, and how they matter for the income-happiness paradox.¹⁰

Concluding Comments

The research on Easterlin's (1974) paradoxical findings that sustained increases in income do not lead to higher happiness has much need for theoretical reflection. Indeed, the premise underlying the so-called Easterlin paradox – namely, that higher income should lead to more happiness – has not yet received much scrutiny. As a result, something important is missing in the mostly empirical assessments of the income-happiness paradox: the economic theory underlying this apparent paradox. A return to the history of economics revealed that much of the present research resonates with the historical insights of Jeremy Bentham (as well as with institutionalists like Thorstein Veblen), but fails to include those of Irving Fisher and Kenneth Boulding, thus creating a paradox where there is none.

Drawing further on the history of economics, we revisited the work of Fisher and Boulding to bring a new, theoretical perspective to Easterlin's findings. We argued that the distinction Fisher and Boulding drew between income and welfare adds an important and insightful perspective to the current income-happiness debate. Fisher and Boulding forcefully argued that welfare and happiness derive from the utilization of one's capital stock and not from income or consumption. Moreover, consumption is partially driven by the need to maintain one's capital stock, so that it is actually a "bad." *A priori* then, there is no reason to assume that income adds to individuals' capital stock – and higher income more so. More consumption and higher income, therefore, do not necessarily imply increased satisfaction of preferences.

The implication of Fisher and Boulding's insights is that, from an economic point of view, the rationale for a positive relationship between income and happiness is not as strong as generally assumed. A complete discussion of happiness and how it is affected by income cannot get around the inclusion of (consumer) capital as an important factor. Happiness likely increases with the satisfaction of preferences, and preferences, in turn, are satisfied through the utilization of capital. The exact role of income is unknown, but it poses an important question for economists.

The intensifying controversy surrounding Easterlin's paradox suggests that the time is ripe for a reappraisal of the insights of Fisher and Boulding, and for further analysis of the issues these authors raised. "Income or welfare?" the question remains as relevant today as sixty-five years ago when Boulding (1949–1950) first set out to answer it. The next step is to offer empirical evidence for the "new" theoretical perspective that a return to the history of economics suggests.

¹⁰ Coming full circle, adaptation (Frederick and Loewenstein 1999) can provide the psychological underpinning for Boulding's idea (mentioned above) that psychic capital can deplete in the same way that desirable mental states "depreciate" (Boulding 1950, 140–141). In fact, adaptation could explain why happiness does not rise over time, even when consumer capital does exhibit steady increases. Alternatively, adaptation can be seen as a form of depreciation that reduces a capital's stock ability to render services which satisfy preferences.

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