The Economics of Wellbeing and Psychology: An Historical and Methodological Viewpoint

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Abstract

Job satisfaction and life satisfaction research (economics of wellbeing) is an established and booming research field. However, until the late 1970s, the study of the impact of economic variables on subjective wellbeing was considered to be outside the domain of economics. The main reason was the methodological hostility of orthodox economists towards incorporating "subjective" and "psychological" variables. The legacy of economics as a positive social science that dealt with observed or revealed behavior only, was a major obstacle for economists to study subjective wellbeing. The main exception was the pioneering work of Richard Easterlin in 1974, who attempted to account for the discrepancy between income increases and overall life satisfaction. Opening up the communication of economists with psychologists in happiness research, Easterlin relied on references from psychology and especially from social psychology in order to construct his arguments. Influenced by Easterlin, references to theoretical and empirical work in psychology became more apparent when happiness economics attracted more interest by the end of the 20th century. After showing its rich historical past of interaction with psychology, the paper argues that this stance is contrary to the established mainstream tradition and methodology. Further, it demonstrates that leading figures of happiness economics adopt a conscious methodological position towards interacting with psychology, and this puts them at odds with the mainstream economics methodological approach. It is also argued that the economics of happiness attitude towards psychology is linked to other important differences of methodological nature. The paper identifies three major points of diversion: utility cardinality and comparability, empirical methodology, and the specification of agents' utility function and the ensuing policy implications.

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I. Introduction

Psychology is probably the closest neighboring field to economics, and yet, their relationship has a long and a rather turbulent history reverberations of which can be discerned in contemporary debates. In particular, psychological ideas and concepts can be found in the works of major classical economists such as Adam Smith, Nassau Senior, and John Stuart Mill. The emphasis on the study of individual economic behavior which took place with the emergence of the marginalist school, strengthened the ties between the two. Jevons, Walras, and Menger were clearly influenced by psychological ideas and especially by psychological hedonism (Drakopoulos 1991; Wärneryd 1994). The works of early neoclassical economists such as F.Y. Edgeworth and P. Wicksteed were also characterized by a methodological willingness to import psychological findings into economics. In the first decades of the 20th and mainly because of the influence of positivism, there was a disciplinary shift towards severing the ties between the two fields of study. This conceptual change or *Paretian Turn* as it is known in the literature, was initiated mainly by Vilfredo Pareto, and completed by John Hicks, Roy Allen, and Paul Samuelson, who attempted to expel, at least nominally, all psychological notions from economic theory (Lewin 1996; Kahneman 2003; Giocoli 2003; Frey and Benz 2004). The subsequent establishment of axiomatic rational choice theory and its extension as a baseline model to most areas of economics such as public choice theory and labor economics, completed the Paretian turn of mainstream economics (see also Bruni and Sugden 2007; Muramatsu 2009). The rational expectations literature of the post-WWII decades extended the "psychology-free" rational choice theory to macroeconomics.

The dominance of the Paretian turn started to weaken in the last three decades with the increasing influence of two subfields: Behavioral economics and the economics of wellbeing. Both of these subjects challenged the implicit but solid feature of psychology-free orthodox economic theory. It is commonplace that contemporary behavioral economists employ concepts, tools, and empirical findings from psychological research and therefore they view the interaction between the two as completely methodologically admissible and rather necessary (Earl 2022). To a certain extent, this holds true with the economics of well being, but their approach is still less influential compared to behavioral economics. Although there is a rich literature

examining the history and the links to the psychology of behavioral economics, this is not the case with the economics of wellbeing. Its origins can be traced to the pioneering work of Richard Easterlin in 1974, who attempted to account for the empirical discrepancy between income increases and overall life satisfaction for many countries. Opening up the communication of economists with psychologists in happiness research, Easterlin relied on references from psychology and especially from social psychology in order to construct his arguments. References to theoretical and empirical work in psychology became more apparent when happiness economics attracted more interest by the end of the 20th century.

The core idea of the paper is to examine the historical relationship of happiness economics research with psychology. After showing its rich historical past of interaction with psychology, it argues that this trend was contrary to the established mainstream economic methodology. Further, it demonstrates that leading figures of happiness economics adopt a conscious methodological position towards interacting with psychology, and this puts them at odds with the mainstream economics methodological approach. The crucial point here is that most economists engaging in this area of research increasingly find it hard to follow the long-established mainstream economics methodological stance that psychological concepts are not admissible. Finally, there is a discussion concerning the methodological tension between the two fields and of its possible repercussions. A concluding section closes the paper.

II. Origins of the Economics of Subjective Wellbeing

With very few exceptions and until the late 1970s, the investigation of the role of economic variables on subjective wellbeing was not considered to be a subject of economic research. One can identify the following reasons for this situation: First, there was a strong methodological bias against incorporating "subjective" and "psychological" variables. The deep-rooted tradition of mainstream economics to consider observed behaviour only and not subjective outcomes, was the basis of this stand (Machlup 1946; Blinder 1991). The second reason had to do with the core assumption of preference independence and individualism as expressed in the key notion of i.e. consumer sovereignty. This assumption facilitated the relatively easy formal treatment of individual preferences (for a discussion see Davis 2010;

Drakopoulos forthcoming a). In addition, the "superiority" of economics compared to other social sciences did not allow the interdisciplinary exchange of ideas and research findings (Fourcade et al 2015). This was especially true with regard to psychology. As a result, other social scientists and mainly psychologists studied wellbeing.

In the early 1970's there were the first signs that economists were starting to undertake research on wellbeing as it is known nowadays. One can distinguish two significant instances: the pioneering work of Richard Easterlin in 1974 and the Leyden approach (or school) in the early 1970s. Easterlin follows the insights of an earlier paper by Moses Abramovitz in which he distinguishes between social welfare or welfare at large, and economic welfare. Abramovitz expressed serious reservations if there is a close correspondence between the two notions (Abramovitz 1959). Easterlin employed basic data consisting of statements by individuals on their subjective happiness as reported in thirty surveys from 1946 to 1970, covering nineteen countries, including eleven in Asia, Arica, and Latin America. One of the basic empirical results was that there was a positive association between income and happiness within countries. However, he could not find any such positive association among countries at a given time. He also pointed out the unexpected result that for the US higher income was not systematically accompanied by greater happiness.[1] In his attempt to account for the discrepancy between income increases and overall life satisfaction, Easterlin utilized a Duesenberry-type approach involving relative status considerations as an important determinant of happiness (Easterlin 1974). Easterlin also defended the validity of relying on individual ratings of happiness from a scale of 1 to 10, and therefore accepting that individual happiness can be measured.

Similarly, the Leyden approach, which originated at Leyden University in the Netherlands, attempted to operationalize the concept of experienced utility. Its main contributors were Van Praag, Kapteyn, Wansbeek, Hagenaars, Van der Sar, Plug, and Frijters (Van Praag and Frijters 1999). Relying on an early work by Van Praag (1968), a central characteristic of this approach was the rejection of the core mainstream assumption that cardinal experienced utility is unmeasurable and that any measurement

[1] This finding, also known as the Easterlin paradox, has been replicated by some subsequent studies (see for instance, Kenny 2005; Clark, Frijters, and Shields 2008; Clark and Senik 2014; Easterlin 2015).

should be based on observed decision behavior only. The Leyden approach focuses primarily on the evaluation of income, although in later work its focus has been extended. The terms used were utility of income, income satisfaction, or, economic welfare. The other important point was the assumption that individual satisfaction based on subjective valuations can be translated in a meaningful way into a numerical evaluation on a bounded scale (Van Praag and Frijters 1999).

Easterlin's approach was followed a few years later by the extremely influential work of Richard Layard (1980). Layard's starting point was to accept the empirical findings that there is no increase in self-rated happiness in the United States since WWII. A similar observation applies to many Western countries for the same time period. He proceeds to offer theoretical explanations of the discrepancy between economic growth and happiness levels. Layard's central point was that wellbeing depends on income and status relative to expectations. Based on this explanation, Layard suggested economic policy measures by arguing that if people work partly to improve their status, they will work too hard. This can be corrected by taxing the proceeds of work (Layard 1980).

Correspondingly to the case of wellbeing research, economists were reluctant to investigate job satisfaction mainly because of its allegedly highly subjective nature, and also because personal judgements of satisfaction and other subjective opinions, were considered a research field more appropriate to other social scientists. However, in the late 1970's a number of economists started to appreciate the significance of job satisfaction as an economic variable. As Alan Freeman has pointed out:

The answers to questions about how people feel toward their job are not meaningless but rather convey useful information about economic life that should not be ignored. (Freeman 1978: 135).

Thus, in approximately the same period, there were the first papers on the economic aspects of job satisfaction by economists. Job satisfaction is considered an important determinant of overall wellbeing (Argyle 1989; Clark and Oswald 1996; Sousa-Poza and Sousa-Poza 2000). As was the case in wellbeing, psychologists and especially industrial and occupational psychologists, have been researching the nature and impact of job satisfaction for many decades (for a review, see Latham and Budworth 2007).

The impact of this literature on economics started to increase as job satisfaction research by economists began to proliferate. It also marked the emergence of the use of the stated preferences approach largely based on questionnaire surveys analysis (see, for instance, Freeman 1978). Furthermore, the emergence and growth of large-scale labour market surveys that included questions about how much workers are satisfied with their job, was another factor that contributed to the increasing interest in job satisfaction. Job satisfaction research was also deemed to be important for analysing and predicting many key economic variables such as: labour turnover, labour productivity, workers' absenteeism, and the degree of unionism in the labour market (e.g. Hamermesh 1977; Freeman 1978; Clark 1997; Clark 2001; Böckerman and Ilmakunnas 2008; Drakopoulos and Grimani, 2013).

In what is probably the first paper on job satisfaction by an economist, Dan Hamermesh utilized a sample of American employees and estimated job satisfaction equations. Hamermesh's work focused on occupational choice and training, but his regression equations include the residual from a wage equation as an explanatory variable. That residual enters positively and significantly in a job satisfaction regression, which is the same as specifying that individual utility is affected by the difference between actual from expected income (Hamermesh 1977). As was seen above, the same reasoning was followed a few years later by Richard Layard (1980). In a seminal paper, Richard Freeman provided the theoretical basis of the notion of job satisfaction in economics (Freeman 1978). He also argued for the usefulness of self-reported job satisfaction contained in major surveys of workers. His analysis indicated that satisfaction is a major determinant of labor market mobility. A couple of years later, George Borjas conducted a systematic empirical analysis of the effect of union membership on job satisfaction and wages. The paper showed how the interaction between these effects leads to empirically observable relations between unionization and individual quit probabilities. Based on a large dataset (National Longitudinal Survey), Borjas used self-reported levels of job satisfaction (Borjas 1979).

Broadly based on the above-mentioned works, the next stage was the identification and measurement of the determinants of job satisfaction. Economists approached job satisfaction as an individual's utility from working usually specified as:

$$S = S(w, h, i , j) \qquad (1)$$

Where S is utility or satisfaction, w is the level of earnings, h is hours of work, i is a vector of individual characteristics, and j is a vector of job characteristics comprising variables that affect job satisfaction. There is no accepted list of variables affecting job satisfaction, but most authors include age, gender, education, job tenure, union membership, and firm location (see Hamermesh 1977; Freeman 1978; Borjas 1979; Miller 1990; Clark and Oswald 1996; Clark 1997; Card et al 2012). These variables may or may not affect earnings. Additionally, the standard approach to the econometric specification for job satisfaction can be written as:

$$Si = a + bx + zi \qquad (2)$$

where Si represents the ith individual and is usually an ordinal variable that adopts discrete values corresponding to levels of job satisfaction recorded into the questionnaire; x is a vector of all control variables which influence an individual's utility from being in a job, including the level of earnings; z is a random error component with $z \sim N(0,1)$, and a and b are the relevant coefficients.

As expected, the economic literatures on happiness (or life satisfaction) and job satisfaction exhibit important common theoretical and empirical aspects. There is a clear connection between job satisfaction and life satisfaction given that job satisfaction is a central component of life satisfaction. In an influential paper, Clark and Oswald (1996) provided the formal link between the two by considering an individual enjoying *total utility* or *life satisfaction* denoted as v. They write this utility function as:

$$v = v(u(y, h, i, j), \mu) \qquad (3)$$

where u is utility from work and μ is utility from other sources and spheres of life. Therefore u(.) is a set of utility expressed as a function of the level of wellbeing that persons receive from all aspects of their job. Utility from working depends on the income earned from the job, the number of hours worked, and vectors of person-specific and job-specific characteristics. The other component of utility, μ, is a summary vector the components of which reflect factors such as the quality of family life, friendships, the individual's health, and many other personal variables (Clark and Oswald 1996). The usual econometric specification is similar to the one adopted for job satisfaction.

Following the literature, the baseline empirical specification that is currently used for exploring the determinants of happiness is as follows:

$$H_{i,t} = \alpha + \beta y_{i,t} + BX_{i,t} + \varepsilon_{i,t} \qquad (4)$$

In equation (4), $H_{i,t}$ is a measure of happiness, $y_{i,t}$ is a measure of income and $X_{i,t}$ a vector of control variables. The equation may be estimated by different procedures (OLS, Logit, Tobit) and can include individual-specific fixed effects and time dummies. In empirical work, reported subjective wellbeing is taken as a proxy measure for individual welfare and individual happiness (Stutzer and Frey 2010). The explanatory variables that have interested economists the most, relate to the individuals' current situation (for example, family or individual income, health status, and job status or unemployment); to individuals' relative position (for example, own past income, income changes, and income of the reference group); and to the environment where individuals live (for example, inflation and unemployment rate, and income inequality) (Ferrer-i-Carbonell 2013).

III. Influences from Psychological Research

Since economists started to research subjective wellbeing in a systematic manner, the influences from corresponding psychological concepts, ideas, and findings were clear. Contrary to the dominant conceptual framework of mainstream economics, economists researching wellbeing did not have any methodological hesitation to utilize input from psychology. Starting with the seminal work of Easterlin**,** a large number of references from psychology and especially from social psychology were employed in order to construct his arguments. Easterlin quotes extensively the influential work of Princeton psychologist Hadley Cantril who studied the hopes, fears, and happiness of persons in 14 countries (Cantril 1965). He also adopted Cantril's arguments that happiness is an idea that transcends individual cultures in order to overcome the issue of the meaning of the happiness concept in different cultures (Easterlin 1974: 91-94). Similarly, he quotes W. Wilson, another psychologist, in order to defend the methodological validity of self-reports on happiness ((Easterlin 1974: 96-98). Equally, he appeals to James Duesenberry's notion of relative consumption as a possible theoretical basis for the empirical findings (Easterlin 1974: 111-113). Duesenberry's approach contains

significant elements from psychological and sociological research. For instance, the notion of social status plays a crucial role in Duesenberry's relative income hypothesis (Duesenberry 1949; see also Trezzini 2012). The psychological work of economist George Katona is also mentioned as a sign of hope for change of the mainstream stance towards the formation of preferences or tastes (Easterlin 1974: 119). Additionally, the role of social comparisons and preference interdependence are key notions in this work. For instance, he mentions Marx and the psychological theory of social deprivation to reinforce his arguments, (Easterlin 1974: 111, 113). Subsequent subjective wellbeing research has uncovered very interesting aspects of the relation of a number of economic variables to life satisfaction (see, for example, Bruni et al 2021).

As was mentioned, work by the Leyden school was also in the same conceptual framework. From its beginnings, the Leyden school did not adhere to the mainstream rejection of cardinal utility. Following a cardinal approach, they also use evidence from psychological research to support their view that verbal labels provided in questionnaires correspond to individual economic welfare. In the same vein as Easterlin, they refer to "standard module in many psycho-sociological surveys" to justify their subjective outcomes methodological approach (Van Praag and Frijters 1999: 31). Further and in a similar manner found in Easterlin's work, they also appeal to psychologist Hadley Cantril's methods concerning the measurement of life satisfaction (Van Praag and Frijters 1999: 31-36).

Richard Layard's paper on "human satisfactions" in 1980, took a stronger methodological stance regarding the usefulness of psychology. In the opening page of his paper, he states that his approach is based on two psychological facts which are well supported by research on relative deprivation and especially by the work of Runciman (1966) (Layard 1980: 737). In addition, Layard appeals to Keynes's concept of relative wages, Duesenberry's relative income, and the works on status by Hirsch and Scitovsky (Layard 1980: 737-738).

Just as was observed in the pioneers of happiness research, the first economists who investigated the economic aspects of job satisfaction were also open to psychological findings. In his *Economic Aspects of Job Satisfaction*, Hamermesh refers to the psychological theories of job satisfaction, and in particular to equity and expectancy

theories (Hamermesh 1977: xxx). His main references draw from Adams's equity theory (1965) and Vroom's (1964) expectancy theory of motivation. Freeman (1978) refers to the definition of job satisfaction in psychology. He cites the works of Edwin Locke (1976) and Victor Vroom (1964) who are key figures in industrial and organizational psychology.

As the economic literature on job satisfaction started to grow, references to theoretical and empirical work in psychology became more apparent and widespread. One representative example was the paper by Clark and Oswald (1996) which concentrated exclusively on testing the role of relative or comparison income on job satisfaction. The authors adopted a utility from work function that included "a comparison or reference income level against which the individual compares himself or herself" (Clark and Oswald 1996: 361). Clark and Oswald drew from Adams (1963, 1965) equity theory and also from Runciman (1966) and Homans (1961) in social psychology literature. It is also telling that they refer to the psychological ideas of non-mainstream economists such as Veblen, Duesenberry, and Scitovsky as their theoretical foundations (Clark and Oswald 1996: 361). Their next step was to assume that utility from work is declining in the comparison pay level (y*), linking this negative relationship to the concepts of relative deprivation, envy, jealousy, or inequity found in the above literature (Clark and Oswald 1996: 361). Based on the social psychology literature and contrary to the established formulations in mainstream theory, a comparison or reference wage is included in the individual's utility from working (u).

$$u = u(y, y^*, h, i, j) \qquad (5)$$

Where y is the individual's income, y* is a comparison or reference income, h is hours of work, i and j are sets of individual and job parameters respectively. They further assumed that utility is increasing in income and decreasing in hours of work. In essence, the authors challenged one of the core assumptions of mainstream theory, by also appealing to psychological theories. References to other social sciences findings and especially to psychology are common in other important papers investigating the link between job satisfaction and relative pay such as in Clark 1996; Stutzer 2004; and Ferrer-i-Carbonell 2005. In more recent work on job satisfaction, the appeal to psychological theories and the use of their insights is much more prominent and

explicitly stated. For instance, many contemporary works on job satisfaction refer to social comparison theory, reference group theory, relative deprivation theory, adaptation-level theory, dissonance theory, and equity theory (see for instance Di Tella et al 2010; Kiffle 2014; Hauret and Williams 2019). It is also indicative that many of these papers refer to the psychological analysis by dissenting economists as theoretical backing (see for instance the references to Veblen and Duesenberry in Kiffle 2014).

Apart from the openness to psychological concepts and findings observed above, many researchers of the economics of happiness conceive *happiness* as having a clear psychological content. For instance, Richard Layard maintains that "Happiness is feeling good, and misery is feeling bad" (Layard 2005: 4). In essence, Layard follows Bentham's approach that happiness is a hedonic reality that can be measured, and, at the same time, he rejects John Stuart Mill's qualitative dimension of happiness (Crespo 2017:101). This observation seems to apply to much of the literature on subjective wellbeing surveys (SWB) and physiological (objective) happiness studies (Barrotta 2008; Steedman 2011: 36-39). Furthermore, the term *life satisfaction* is often used interchangeably with *happiness*, although it has been argued that the former has an advantage over the latter because it emphasizes the subjective nature of the concept (Easterlin 2001). *Subjective well-being* is also another term perceived as synonymous with the previous two. However, it is not only used for satisfaction with one's entire life as a whole but also specific discomforts and passing moods (Veenhoven 2012). In empirical work, reported subjective wellbeing is taken as a proxy measure for individual welfare and individual happiness (Stutzer and Frey 2010). In general, all of the above terms found in the relevant literature exhibit a strong connection to subjective feelings, moods, or emotions, and this by necessity, implies the use of findings from psychological research. Further, in many high-impact papers in the field, psychological models, concepts, and findings as well as psychological datasets, are frequently employed and connected to economic theory (e.g. Blanchflower and Oswald 2004; Mujcic and Oswald 2018).

In the last two decades, the interest of economists in happiness research has increased dramatically as judged by the number of relevant publications and its place on public debate and public policy (see Clark 2018; Graham, Laffan and Pinto 2018). A basic argument put forward by many specialists is that in the final analysis, the purpose of

economic growth is the presumed overall increase in happiness levels. In relation to the above, government intervention can help increase overall happiness indirectly by reducing unemployment and inequality levels and also by promoting economic development (see also Layard 2005; Pugno 2023).

IV. Mainstream Economics and Psychology: A Brief Sketch

The roots of the concept of utility are to be found in Bentham's utilitarianism. The core of Bentham's system was the maximization of utility or pleasure at the individual level and more importantly, at the aggregate level. Bentham's Greatest Happiness Principle requires two essential characteristics in relation to the concept of utility: (a) its cardinal measurability and (b) that interpersonal comparisons of utility are possible and valid (Bentham 1823: 1-2). John Stuart Mill introduced Bentham's utilitarianism into economics. Bentham's Greatest Happiness Principle is set as a universal moral standard, but Mill also stressed that the principle refers to the maximization of happiness of the society not of the individual (Mill 1979: 262; see also Drakopoulos forthcoming b). Similarly to Bentham, he was convinced of the measurability of pleasure or utility and admits explicitly the possibility of interpersonal comparisons (Mill 1979: 262–264, 319). Utilitarianism became very influential in marginalism and early neoclassical economics. The emergence of marginalism witnessed a conceptual shift toward the marginal utility-based theory of value followed by the gradual formation of a model of individual economic behavior. The concept of marginal utility was central in the theory of value along with the selfish maximization of pleasure or satisfaction. Most leading marginalists explicitly acknowledged the philosophy and psychology of Benthamite hedonism as their main influence. In this respect, they were open to borrowing ideas from other intellectual areas and especially from psychology.[2]

For instance, Jevons explicitly admits the influence of utilitarianism when in the introduction of his book he states: "I have no hesitation in accepting the Utilitarian theory of morals." (Jevons 1871: 27). Furthermore, Jevons' well-known definition of

[2] It has to be mentioned that in spite of their influences from hedonistic psychology, there was no dialogue between marginalists and psychologists.

economics in terms of calculus of pleasure and pain indicates his emphasis on psychological sensations. Thus, in Jevons, the concept of Economic Man is a psychological construction and already equipped with all abstractions necessary for the application of mathematical methods in economics (see also Bensusan-Butt 1978: 128). In a similar vein, Walras conceives all landowners, workers, and capitalists as pleasure maximizers (Walras 1874: 42-43). Finally, Menger thought that the object of economic research was to discover those laws governing market phenomena that can be traced back to their ultimate genetic determinants in man's physiological, psychological, and social nature (Jaffe 1976: 522).

The trend to borrow ideas from psychology continued in the early influential neoclassicals such as F. Y. Edgeworth. Edgeworth's thought was explicitly rooted in Bentham's utilitarianism and in psychological hedonism (Edgeworth 1881: 9). Following Bentham and Mill, utility is conceived as a cardinal measure of the joy that the individual derives from the commodity bundle. In addition, Edgeworth was in favor of incorporating psychological findings and viewed psychological phenomena as a legitimate field for the application of mathematical tools. Thus, his willingness to link 'hedonic calculus' from psychophysics to utilitarian calculus in economics (Edgeworth 1881). In general, the dominant methodological framework of the time was encouraging the incorporation of ideas from psychology. As Bruni and Sugden rightly observe: "Neoclassical theory was based on assumptions about the nature of pleasure and pain. Those assumptions were broadly compatible with what were then recent findings in psychophysics (…) The usual methodology in economics at this time was John Stuart Mill's concrete deductive method, by which theories about economic phenomena are arrived at by deduction from a set of relatively simple empirical regularities or 'laws' in which (it is claimed) the theorist can have great confidence." (Bruni and Sugden 2007: 149).

After the marginalist revolution, Edgeworth's work represents the peak of the interaction between economics and psychology. However, in the closing decades of the nineteenth century when the second marginalist generation of economists emerged, the influence of positivism as the dominant scientific philosophy became much more prevalent (Seligman 1969). For instance, Vilfredo Pareto's methodological ideal for the discipline of economics was that it should be a mathematical science, part of the

natural sciences such as physiology and chemistry (Pareto 1896: 21). This clearly implied that economics should be freed from any philosophical or psychological notions that hamper the application of the positivist methodology (for an extensive discussion, see Seligman 1969; Drakopoulos 1997; Caldwell 2013). Pareto held that the construction of the fictional model of economic man was adequate for the needs of economic theory, thus clearly implying that psychological findings are not necessary for economics (Pareto 1906; see also McLure 2010). The methodological stance of the influential early neoclassical economist Irvin Fisher is in the same framework. At the beginning of his well- known work *Mathematical Investigations in the Theory of Value and Prices*, he declares: "To fix the idea of utility the economist should go no farther than is serviceable in explaining economic facts. It is not his province to build a theory of psychology." (Fisher 1892: 11).

One of the basic tenets of positivism and its successor, logical positivism, was that the enormous success of the physical sciences meant that their scientific methodology should also be followed by the other disciplines (methodological individualism). The application of the methodology of physical sciences to economics called for the rejection of all normative, ethical, or metaphysical elements (for a discussion, see Mirowski 1989). Psychological elements were clearly considered as value-laden and therefore unacceptable for the corpus of economic theory (see also Coats 1976; Lewin 1996). Lionel Robbins's very influential methodological position reinforced the idea that economics should not adopt findings from psychology (Robbins 1932: 83–84). The important consequence of this methodological stance was that many leading economists of the period became indifferent – or even hostile – to the findings of other social sciences, and especially to psychological theories.

Pareto's and Fisher's anti-psychology viewpoint was matched with the reformulation of consumer theory as an allegedly psychology-free theoretical construction. The reformulation was completed in the works of Hicks, Allen, and Samuelson, and mainstream economics expelled (at least nominally) any psychological and sociological notions found in earlier marginalist writings (see also Drakopoulos 1991; 2012; Bruni and Sugden 2007; Hands 2010). As John Hicks states:

In order to get clear-cut results in economic theory, we must work with concepts which are directly dependent on the individual's scale of preferences, not on any vaguer properties of his psychology. (Hicks 1939: 177)

In this new framework, interpersonal utility comparisons which were at the core of Bentham's system, are rejected as value judgements. (i.e. Hicks, 1939: 697). The new concept of psychology-free economic rationality would also form the basis of the general equilibrium model that emerged during the same period (Arrow and Debreu 1954; Arrow and Hahn 1971). Cardinal utility was replaced by ordinal utility which implies that satisfaction derived by consuming a product can be ranked in order of preference but cannot be evaluated numerically. Ordinal utility is most commonly used as a representation of preferences, in the following sense: Ui(x) > Ui(y) means 'Individual i prefers (alternative/situation/bundle of goods) x to y. The extension of economic rationality in the form of axiomatic expected utility theory in the works of John von Neumann, Oscar Morgenstern, and Leonard Savage was also in the spirit of independence of any psychic state (von Neumann and Morgenstern 1944; Savage 1954). In the middle of the twentieth century, Milton Friedman's (1953) essay on economic methodology was an effort to shield the rationality assumption from criticism mainly originating from psychological research (see also Düppe 2011). In Friedman's opinion, psychological assumptions were largely irrelevant to the validation of theories (see also Sent 2004; Muramatsu 2009). These developments completed the Paretian turn of mainstream economics.

The tendency of mainstream economics to ignore concepts and findings from other social sciences and especially from psychology became established in the post-War era. The influential paper by Stigler and Becker (1977), where they claimed that preference theory can free economics of any need to turn to other disciplines such as psychology, is a representative example. In the 1980's George Akerlof identified and strongly condemned this methodological tradition. In his own words:

[…] economic theorists, like French chefs in regard to food, have developed stylized models whose ingredients are limited by some unwritten rules. Just as traditional French cooking does not use seaweed or raw fish, so neoclassical models do not make

assumptions derived from psychology, anthropology, or sociology. I disagree with any rules that limit the nature of the ingredients in economic models. (Akerlof 1984: 2)

The separation of economics from other social sciences, including psychology, also has to do with the perception of economics as the most advanced of the social sciences, and hence the one that is closest to the physical sciences. The dismissal of psychological findings was linked to the effort of establishing the scientific character of economics. The rejection of all "metaphysical and psychological elements" was one of the main requirements for the creation of the 'scientific' status of economics (Seligman 1969; Dow 2002: 170–175). The modern theoretical cornerstones of orthodox economics such as the theory of expected utility maximization, rational expectations theory, and game theory, also claim not to have any psychological or sociological content (see for instance, Muth 1961; Lucas and Prescott 1971; Schoemaker 1982; Machina 1987; Gibbons 1992; see also Manski 2000; Frey and Benz 2004). Concepts rooted in psychology such as social status, positional goods, rank concerns, and consumer conformism, are thought of by most proponents of these theories as not belonging to the realm of proper economic analysis. Therefore, mainstream economists are still extremely reluctant to consider psychological and sociological aspects of human behavior in their economic formulations.[3] This increasing insularity of mainstream economics seems to go in tandem with its conception as the 'superior social science' based on logical positivism and physical science-inspired methodology (see also Fourcade, Ollion, and Algan 2015). The enormous increase of the use of mathematics in economic analysis in the last few decades is an indication of the continuing dominance of this methodological approach (for detailed discussions, see Dow 2012; Romer 2015).

V. Mainstream Economics and the Economics of Wellbeing: Methodological Differences

Given their extensive influence from psychological research that was observed before, many leading wellbeing specialists adopt a conscious methodological stance towards

[3] The increasing influence of new behavioral economics goes against this trend. Still, behavioral economics is not considered part of hard core of the mainstream theory (Kao and Velupillai 2015).

the interdisciplinary exchange between the two fields. To start with, the isolationism of mainstream economics is viewed as very restrictive and problematic. The following statement is indicative of how the Leyden School views the interaction between economics and psychology:

By detaching economics from the psychology of "feelings", economists have found it difficult to have anything relevant to say on a whole range of issues (Van Praag and Frijters 1999: 5).

Richard Easterlin follows a clear methodological position regarding the interdisciplinary exchange when he writes:

We cannot comprehend the world about us without knowledge of the facts and insights provided by the other social sciences (Easterlin 2004:19).

More specifically, Easterlin identifies the methodological roots of mainstream economics' negative stance toward happiness research. For Easterlin, the economists' predisposition against the use of subjective outcomes does not come from "uncertainty as to their robustness" but from the "disciplinary paradigm of behaviourism" (Easterlin 2004: 31). Layard also argues that the intellectual climate of behaviorism which took over economics in the 1930s led to a much narrower concept of happiness (Layard 2005: 133).

In the same vein, Bernard Van Praag and Ada Ferrer-i-Carbonel, two prominent figures in the field, emphasize that:

*(…) it is hard to argue that economics has nothing to do with sociology or psychology or the other way around. [Their historical separation] (…) is unfortunate because those artificial scientific boundaries make it difficult to make a complete study of phenomena that have economic, sociological, and psychological aspects (*Van Praag and Ferrer-i-Carbonel 2004: 1).

In addition, the authors make clear that their work aims at the promotion of interdisciplinary discussion, and also that they are willing to transgress some scientific borderlines (Van Praag and Ferrer-i-Carbonel 2004: 4-5).

Finally, leading researchers in the field view the interaction of economics with psychology and other social sciences as highly desirable and the way forward for economic research. In his assessment of forty years of research on happiness and economics, Andrew Clark concludes:

The past four decades of happiness research have been inventive, and to my mind have brought social sciences closer together. (Clark 2018: 265).

The crucial point here is that most economists engaging in this area of research increasingly find it hard to follow the established mainstream economics approach that psychological concepts are not admissible. The interdisciplinary exchange with psychology has unveiled some other crucial points of methodological differences involving the measurement of utility, the empirical methodology, and the nature of individual utility functions.

Measurement of utility and utility comparisons

In the framework of standard microeconomic theory, the term utility has no psychological meaning but it refers to individual preferences. A utility function is a numerical representation of a preference ordering with no psychological connotation. Furthermore and following Robbins dictum, interpersonal utility comparisons are rejected as unscientific value judgements (Robbins 1938). In contrast, the term utility as it is used in the literature on happiness and economics, is strongly linked to the original Benthamite meaning of utility which refers to pleasure or satisfaction. In this sense, the term total utility is equivalent to the term life satisfaction which is more common in psychology (i.e. Clark and Oswald 1996). This conception facilitates the measurement of utility in the cardinal sense, especially in the context of self-reported measures of utility. It has to be mentioned that self-reported measures of utility or happiness are more familiar within psychology: subjective wellbeing (SWB) is often used by psychologists as an umbrella term for how we think and feel about our lives

(Dolan et al 2008: 95; see also Diener et al 1999). The incorporation -explicitly or implicitly- of a cardinal approach to utility characterizes most wellbeing research (e.g. Weimann et al 2015; Kapteyn 2020; see also MacKerron 2012). As one would expect, the adoption of cardinal utility constitutes a crucial point of methodological difference compared to the mainstream theory. For instance, as Van Praag and Frijters state: "the Leyden approach met with stiff opposition, disbelief and outright hostility" by orthodox theorists (Van Praag and Frijters 1999: 4). In defending their cardinal conception, some authors have argued that the ability to measure utility through subjective measures will increasingly allow researchers to make public policy recommendations based on empirical results (e.g. Ferrer-i-Carbonell 2013; Ng 2022).

The cardinality assumption is directly connected to the notion that interpersonal utility comparisons are possible. As was seen, the utilitarian-psychological conception of utility or satisfaction measurement involves utility comparability of satisfaction among individuals (see also Drakopoulos, forthcoming b). Many contemporary leading happiness scholars accept explicitly utility comparability. For example, Richard Easterlin argues that meaningful comparisons can be made if it is groups or classes of the population in which one is interested (Easterlin, 2002: x). In the same vein, Van Praag and Ferrer-i-Carbonel write: "For some problems we have to be cardinal and then we will assume that cardinal comparison is possible." (Van Praag and Ferrer-i-Carbonel, 2004: 5). Given his much more apparent influence from quantitative utilitarianism, Richard Layard is much more enthusiastic in supporting cardinality and comparability. By specifying happiness in terms of "feeling good and enjoying life", he compares happiness measurement to the measurement of body temperature, and he accepts the plausibility of happiness comparisons among individuals (Layard, 2005: 11-13). It must be noted that although not all happiness studies specialists agree on the issues of cardinality and measurability (e.g. Kalmijn and Veenhoven 2005), the majority seem to admit their necessity for studying wellbeing (see Ng 2022).

Empirical Method: Subjective satisfaction questionnaires

The bulk of the empirical literature on wellbeing research is based on questionnaire surveys analysis. The same holds true for empirical research on job satisfaction. The surveys ask individuals how satisfied they are with their life as a whole or with a

specific domain of it. Their answers are classified in verbal response categories, such as 'dissatisfied', and 'very satisfied. In general, the questionnaire surveys approach as a valid scientific method is almost universally accepted in the relevant literature on subjective wellbeing (Dolan et al 2008; Van Praag, Frijters, and Ferrer-i-Carbonell 2003). On the contrary, mainstream economics has a long tradition against accepting subjective outcomes based on surveys. The historical roots of this negative attitude towards questionnaire surveys and opinion/perception surveys can be traced to the 1940′s debate concerning theoretical and actual business behavior (see Machlup 1946; Boulier and Goldfarb 1998).

Mainstream economists employ the revealed preference approach which originates from Samuelson's (1938) work and assumes people have correct perceptions of reality and make decisions based on correct perceptions. In other words, the standard practice of many economists has been to infer decision processes from data on observed choices. This is the basis for making predictions concerning economic agents' choice behavior. Clearly, this position is also linked to the dominant conception of economics as a science and its scientific foundations (for a discussion, see Manski, 2004). Alan Blinder has long identified the mistrust regarding empirical findings based on subjective wellbeing-related questions by mainstream economists:

Economists are skeptical that you can learn much by asking people. We are trained to study behavior by watching what people do (usually in markets), not by listening to what they say. (Blinder 1991: 90).

Johns and Ormerod (2007) critique against the empirical method of self-reported happiness and their arguments for the superiority of the revealed preference approach, is an indicative example of the current mainstream position. More recently, Benjamin et al. (2014) describe 'the principle of revealed preference' as the cornerstone of economics: 'the ultimate criterion for judging what makes a person better off is what she chooses' (2014, p. 2698).

As was in the case of utility measurement, wellbeing researchers have reacted towards the above mainstream attitude. According to Easterlin (2004), the general hostility of mainstream economists towards subjective empirical evidence has to do with

unfounded preconceptions indoctrinated by graduate economic training and disciplinary structure against survey and questionnaire evidence. Following a similar line of explanation, Bernard Van Praag and Ada Ferrer-i-Carbonel refer to the mainstream position as "a dogmatic stand that it is impossible" (Van Praag and Ferrer-i-Carbonel, 2004: 4; see also Van Praag, 2011).

Furthermore, it is claimed that the use of subjective data as dependent variables is questionable because the measurement error appears to correlate with a large set of characteristics and behaviors (Bertrand and Mullainathan 2001; see also Barrotta 2008 for additional criticism of the use of subjective data). It must be noted though, that it is quite difficult to reconcile this position with the recent growth of the use of similar subjective questions approach that is used in many fields of economics, including the extensive use of contingent valuation in environmental and health economics (e.g. Pearce 2002; Bridges 2003).

Utility Functions and Policy

Finally, there are some theoretical differences between mainstream economics and happiness economics concerning the relationship between income, consumption, and individual utility. The standard approach is to assume that utility is a function of absolute income only. Or in terms of the standard consumer theory, individual utility is a function of the absolute amounts of goods consumed. Social influences on individual decisions (e.g. in terms of relative income or relative consumption) are excluded from most orthodox formulations (Clark and Oswald 1996; Postlewaite 2011; Heffetz and Frank 2011). However, in wellbeing research this core assumption is dropped: numerous studies on the happiness–income relation have shown that individual wellbeing depends on one's current level of earnings but also on (a) past earnings (e.g. Di Tella et al. 2010), (b) the aspiration level of earnings (e.g. McBride 2010), (c) expectations about future earnings (e.g. Tsui 2014) and (d) the earnings of others (e.g. Clark et al. 2008). Additionally, the incorporation of comparison income in the utility or wellbeing function in many theoretical formulations also reflects the diversion from the standard approach (see equation 5).

Apart from the differences at the theoretical level, the modification of utility functions to incorporate the notion that the behaviour of others influences individual preferences has important policy implications. Backed by similar empirical results from life satisfaction and job satisfaction research, preference interdependence formulations undermine standard policy results and provide interesting new policy implications. As an example, if pay level comparisons can theoretically be conceived as negative externalities and as a quest for status, the standard optimal tax conclusions need to be altered (for the basic paper, see Layard 2006). Their presence implies that income tax policies should be geared towards a more equitable distribution and consumption taxes should be more progressive (Frank 2005; Senik, 2009; for a summary of policy implications, see also Drakopoulos, 2020). In more general terms, research on subjective wellbeing has been suggested as a possible alternative to measuring and comparing national and international social welfare (e.g. Van den Bergh, 2009). The same holds true for the assessment of public policies, such as income transfers and poverty reduction measures. This very important dimension is summarized by Van Praag: "However, if we are interested in inequality, the concept of ordinal utility becomes useless, for the cornerstone of the inequality concept is the assumption that the situation of individuals can be compared, not only in terms of better and worse, but also in terms of how much better or worse. If we want to compare individual well-being between individuals, it requires a cardinal well-being concept." (Van Praag 2011: 112). Thus, the wellbeing method for policy evaluation requires cardinality and comparability of utility or wellbeing, but this is still unacceptable for orthodox welfare economics (Frey and Stutzer 2002; Ng 2022).

VI. Conclusions

Until the late 1970s, the study of the impact of economic variables on subjective wellbeing was considered to be outside the domain of economics. The main reason was the methodological hostility of orthodox economists towards incorporating "subjective" and "psychological" variables. The main exception was the pioneering work of Richard Easterlin in 1974, who attempted to account for the discrepancy between income increases and overall life satisfaction. Opening up the communication of economists with psychologists in happiness research, Easterlin relied on references from

psychology and especially from social psychology in order to construct his arguments. Influenced by Easterlin, references to theoretical and empirical work in psychology became more apparent when happiness economics, including job satisfaction analysis, attracted more interest by the end of the 20th century. In more recent works, the appeal to psychological theories and the use of their insights is much more prominent and explicitly stated. In fact, several papers on life and job satisfaction, refer to social comparison theory, reference group theory, relative deprivation theory, adaptation-level theory, dissonance theory, and equity theory.

The paper also discussed briefly the historical phases of the relationship between economics and psychology. It was seen that major classical and early marginalist economists had no methodological hesitations to incorporate psychological concepts and findings. This trend came to an end with the emergence of the Paretian turn of early neoclassical economics. Since the beginning of the 20th century mainstream economics took a clear methodological stand against the disciplinary exchange with psychology. Given that leading figures of happiness economics adopt a conscious methodological position towards interacting with psychology, this puts them at odds with the mainstream economics methodological approach. As a result, most economists engaging in this area of research increasingly find it hard to follow the established mainstream economics methodological stance that psychological concepts are not admissible. It was also argued that the economics of happiness attitude towards psychology is linked to other important differences of methodological nature. The paper identified three major points of diversion: A. Contrary to orthodox economics, most wellbeing economists tend to accept utility cardinality and the possibility of interpersonal utility comparisons. B. Against the established mainstream practice, the main empirical method of happiness research relies on subjective satisfaction questionnaires. C. Wellbeing researchers employ as their theoretical basis utility functions that attempt to incorporate social interactions and psychological aspects of agents. As a result, many important standard policy results such as tax policy, are undermined. Further, by accepting cardinality, wellbeing researchers are able to suggest a more concrete approach to policy recommendations and policy evaluation.

Our discussion of the relationship of happiness economics research with psychology indicated the increasing tension with the methodological stance of mainstream economics towards psychology. Facets of this tension can be discerned at the theoretical

as well as at the empirical level, thus providing an additional reason for the need for re-examination of at least some of the methodological foundations of mainstream economics.

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