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Scitovsky, Behavioural Economics, and Beyond

Maurizio Pugno

Abstract
Scitovsky is known as a forerunner of behavioural economics simply because he drew heavily on psychology and claimed that people's choices may be 'joyless' (Scitovsky, The joyless economy, 1976). However, a careful reformulation of his analysis shows that he anticipated a number of insights (also with respect to Kahneman's 'two-systems of thought') which suggest new lines of inquiry from an original and different perspective. These insights of Scitovsky regard the following aspects: Uncertainty as a condition where the outcomes of choosing a particular option (novelty) is partially unknown; the case of individual 'consumption skill' (inclusive of emotions) that finds this uncertainty desirable when it is challenging; the case of increasing such skill so as to change preferences and make choices more efficient; the case of failing to increase such skill so as to make addictive harmful products an alternative and more tempting option.

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> "For the past fifteen years, I have been one of a handful of people who have tried to introduce psychology into economics. In one sense, we have been quite successful. Economists and psychologists are both now aware of the affinity between their two disciplines; and economic psychology as well as psychological or behavioral economics have become new fields" (Scitovsky 1988: p. *vii*).

1 1. Introduction

Tibor Scitovsky's book *The Joyless Economy: the Psychology of Human Satisfaction* (1992, and 1976 in its first edition)[1] shares two basic aims with recent behavioural economics: first, to "increase[…] the explanatory power of economics by providing it with more realistic psychological foundations" (Camerer and Loewenstein 2004: 3); second, to show that consumer choices may be systematically biased, i.e. consumers may tend to choose the options whose consequences are not the best for them. Both aims challenge the rational choice theory, as commonly understood by economists. However, the research perspectives of Scitovsky and behavioural economics are quite different. Behavioural economics has developed around the study of a variety of deviations, sometimes called "anomalies" (Camerer and Loewenstein 2004; Fudenberg 2006), from rational choice, which is thus maintained as the welfare benchmark. By contrast, Scitovsky intended "to open a new field of enquiry" (Scitovsky 1992: 288) in welfare economics. In fact, he introduced 'novelty' in people's choices as a source both of enjoyment and of a very strong form of uncertainty. The less ambitious aim of behavioural economics may be the reason for its success among economists, while Scitovsky has instead been relegated to being an isolated pioneer of behavioural economics (Angner and Loewenstein 2012). However, Kahneman (2003; 2011) has recently proposed a framework, called 'two-systems of thought and judgment', which suggests going beyond current research in behavioural economics, where also Scitovsky's perspective may make a substantial contribution.

[1] For a detailed and historical account of Scitovsky's thought see Earl (1992), Bianchi (2003), and Pugno (2014).

This paper, by reformulating Scitovsky's analysis in the familiar terms of choice theory, will show how the research perspectives of Scitovsky and behavioural economics come close to each other, remain different, and may jointly suggest more advanced lines of inquiry. Specifically, the paper will not only demonstrate that Scitovsky anticipated a number of issues subsequently investigated by behavioural economics; it will also show how Scitovsky's insights can be useful for research in behavioural economics and possibly in other economic subfields.

The paper will focus on the following insights of Scitovsky and behavioural issues. First, Scitovsky argued that skill is important in choices when conditions are uncertain by emphasising the case of 'novelty', where uncertainty is very strong because its consequences are partially. Some studies in behavioural economics acknowledge that skill is important (Heath and Tversky 1991), and even that the uncertainty component due to challenging the skill is preferred to the chance component (Klein et al. 2010). However, still to be explored is the case of very strong uncertainty, rather than other weaker cases.

Second, Scitovsky argued that people can enjoy the options that challenge their skill, thus developing the latter in a similar way to that of Becker and Murphy's (1988) 'capital consumption'. Kahneman acknowledges in his 2011 book that people can learn and gain efficiency in their decisions through experience. However, it is necessary to clarify the relevant type of skill, its emotional content, and the long-run consequences on individual welfare.

Third, Scitovsky argued that preferences change through challenge and learning, but these changes are hard to predict because they depend on how 'novelty' is resolved. Behavioural economics is in a good position to study changes of preferences because Kahneman and Tversky's Prospect Theory is based on reference-dependent preferences. The aspect that both relates most closely to Scitovsky and has been investigated in behavioural economics concerns the difficulty of predicting changes of preferences, which introduces a bias in rational choice (Loewenstein et al. 2003). However, the focus has been restricted to the case of preferences changes due to variability of people's states of mind, which are assumed to be predictable.

Fourth, Scitovsky argued that a lack of skill to appreciate challenge and learning make people prone to the temptation of risky behaviours and addictive harmful products as alternative options because they offer an immediate and

certain reward. Behavioural economics tackles the problem of addiction through the approaches centred on 'visceral factors' (Loewenstein 1999), 'hyperbolic discounting' (O'Donoghue and Rabin 2001), and 'melioration' (Herrnstein and Prelec 1992), thus giving account of why addicted people may want to quit. However, these approaches offer poor and exogenous explanations of why people fall into harmful addiction, while Scitovsky's suggestion has some strength in this regard. In particular, it maintains the choice approach where the addictive option may be completely known in its consequences.

The further issue that emerges from all the preceding ones regards the welfare benchmark, because this is different in behavioural economics and in Scitovsky's analysis. The welfare benchmark is usually given by the rational choice model in behavioural economics, whilst Scitovsky tentatively advances a more ambitious benchmark: the optimal path of individuals' well-being where skill is developed through successful challenge and learning. However, when choices involve emotions, changing skills, and uncertainty, also the rational choice model is not particularly well established, as Kahneman's book recognises. In this case, Scitovsky's analysis may become of interest for further research.

The paper is organised into two main sections after this Introduction. Section 2 reformulates Scitovsky's analysis (Subsection 2.1), investigates the main contrasts with behavioural economics (Subsection 2.2), and shows how Kahneman's (2011) idea of the two-systems of thought and judgment can reconcile Scitovsky and behavioural economics along an interesting line of inquiry (Subsection 2.3). Section 3 discusses the three specific issues on which Scitovsky and behavioural economics contribute from different perspectives: uncertainty and skill (Subsection 3.1), change of preferences (Subsection 3.2), and harmful addiction (Subsection 3.3). A brief conclusion ends the paper.

2 Understanding the Perspectives of Scitovsky, of Behavioural Economics and of Kahneman's Recent Book

2.1 Scitovsky's Analysis on Choice Options, Biases, and Well-Being

In his analysis of well-being, Scitovsky extended the field of economic investigation by drawing from motivational psychologists, such as Daniel Berlyne, Donald Hebb, and Edward Deci. According to Scitovsky, economics was mainly focused on the consumption of goods, and ignored another crucial source of satisfaction, which he called 'pleasure': the potential opportunity to challenge one's faculties, to feel a sense of mastery and understanding of things and people, thus acquiring new knowledge. Scitovsky thus distinguished within the consumer's option set between 'comfort', as achievable from some level of consumption of goods, and 'novelty', as a challenge to faculties that the consumer may experience. In this sense, 'novelty' only applies to the individual's experience; it need not be a new kind of situation for the economy as a whole. Consumption goods may even be unnecessary in the case of 'novelty', because the experience of the internal change may be due, e.g., only to social relationships. New consumption goods do not necessarily imply 'novelty' in Scitovsky's sense, because they may satisfy a need without any challenge for the consumer (Scitovsky 1992: Chs. 2–4; 1986: Chs. 10 and 14).

A special difference between the two options, comfort and novelty, concerns uncertainty. In the case of comfort, the Scitovskyian consumer is usually well-informed not only about the characteristics of the goods that s/he is going to consume, but also about her/his preferences for them. Some uncertainty may however arise, and it is undesired because it would threaten the expected level of comfort. Novelty, instead, involves special conditions of uncertainty in consumer choice. Two main sources of uncertainty can be distinguished in this case. The first source is the unknown component that typically characterises novelty, which may be not known in advance and which will be known when novelty is resolved. The importance of the unknown component may even change the 'state of nature' when novelty is resolved: that is, the states of nature may be partially endogenous. Therefore, uncertainty in the case of Scitovskyian novelty is 'very strong' because it is not limited to the subjective lack of knowledge about the probability

distributions of the (exogenous) states of nature, as in the case of ambiguity (see Subsection 3.1). The second main source of uncertainty regards some consumer's characteristics, synthetically called by Scitovsky 'consumption skill' (Scitovsky 1992: 225–228). Indeed, emotions characterise the consumer's experience before the resolution of novelty, and this reaction may be not completely known in advance. For example, anxiety or curiosity may typically arise while waiting for novelty resolution. Other cognitive and non-cognitive characteristics are required for successfully dealing with novelty at the time of its resolution and afterwards, especially on undertaking the search for another novelty. Uncertainty arises in the challenge of such skills.

The term 'consumption skill' may be somewhat misleading, because it recalls the skill of choosing among close alternative consumption goods. Scitovsky was instead referring to a generalist skill (Scitovsky 1992: 213), which may be defined as mastery over one's relationship with the social and natural environment – such as ability to avoid embarrassment in a new social situation, or to make sense of a new piece of music or work of art, or not be injured whilst climbing a mountain. Consumption skill can be developed from childhood through joyful exploration and learning (Scitovsky 1992: 227; 1996: 603; 2000), and then cultivated in adulthood through the acquisition of culture and knowledge (Scitovsky 1992: Ch. 11; 1986: 60). Differently from production skill, the orientation of which is mainly guided by the market, consumption skill is closely linked to consumer's talent. But talent may be not completely known before it has been discovered by direct experience, thus further substantiating the subjective source of uncertainty. In Scitovsky's analysis, therefore, uncertainty concerns the match between the characteristics of novelty and the characteristics of the consumer, neither of which are completely known. The consumer will thus search for novelty that is neither too stimulating, nor too little stimulating, but well-matched with hes/hir skill.[2] More sophisticated novelties can be best enjoyed by more sophisticated

[2] Scitovsky based this analysis on Berlyne's (1960) theory of arousal, where arousal is related to stimulation in a non-linear manner. However, Scitovsky used 'arousal' and 'stimulation' interchangeably for the sake of simplicity, and for lack of unambiguous empirical evidence (Scitovsky 1992: Ch. 3). Berlyne's theory of arousal has still been used in recent studies in consumer research (e.g. Steenkamp and Baumgartner 1992). However, it is dismissed in psychology (see Kubovy in Kahneman et al.'s 1999 book) and has been replaced with a theory of appraisal of novelty and of a person's ability to understand it (Silvia 2005).

consumers, and consumption skill can be seen as an access cost to appreciating novelty (Scitovsky 1986: 201, 123).

A consumer's pleasure arises from testing her/his abilities, while the learning aspect of the experience of novelty is rather an "internal economy" (Scitovsky 1995: 203–204), i.e. a positive internality. After this experience, the pleasure fades away and the consumer tends to habituate to her/his internal change, i.e. s/he 'adapts', and the next choice will be based on changed preferences (Scitovsky 1992: 39–40). Therefore, appreciating novelty is a self-reinforcing process, which is essentially due to the pleasure drawn from this process, rather than from future expected returns, as it is usually the case for the accumulation of human capital (Scitovsky 1992: 227; 1986: 51, 67, 123–124). This dynamic is similar to that generated by Becker's (1996) model of addiction, where the addictive good, which may be beneficial, enters both the utility function and the accumulation function as an investment (see Section also 3.2 below).

This analysis provides Scitovsky with the basis for claiming that consumers' choices tend to be biased towards comfort and against novelty by maximising satisfaction under the constraints of 'strong uncertainty' of novelty, and of limited consumption skill. In fact, – thus argued Scitovsky – economic growth and technological progress make the comfort option cheaper because it is intensive of market goods rather than the consumer's time, and attractive, i.e. user-friendly. Producers apply pressure on parents and children to buy their goods, while demanding for production skill in the labour market. Consumers are thus induced to prefer the comfort option, and to shift the accumulation of knowledge away from general purposes – with negative effects on consumption skill – towards specialised purposes for serving the market better (Scitovsky 1986: 53–60; 1986: 196). Lack of consumption skill, in its turn, discourages the experiencing of novelty, although opportunities for novelty become increasingly available with economic growth. The comfort option can be effective in providing satisfaction, but this is short-lived because of adaptation to the acquired level of comfort, and because of comparison with others' levels of comfort. Therefore, the bias in consumer choice does not concern the immediate reward, which can be earned as expected, but concerns the future streams of rewards ensuing from reduced increases or from decreases in consumption skill.

If the consumer radically loses the pleasure of novelty, thus living a boring and empty life, s/he may shift her/his choice in favour of comfort as a compensation,

and this may lead to forms of behaviour that are dysfunctional. For example, s/he may search for harmful addictive products, since these provide immediate reward, although at the cost of future pain (Scitovsky 1992: 127–130; 1999; 2000). Scitovsky recognised that addictive consumption may also be regarded as novelty because the aspect of experience appears salient, and because love of uncertainty may arise, as in behavioural types of addiction like gambling. However, on closer inspection, addictive consumption is only a peculiar type of novelty that Scitovsky called "malign" because of its destructive consequences (Scitovsky 1992: 293). The experience of addictive consumption appears attractive because of the immediate and certain effect to reduce boredom through the simple rise of arousal, rather than because of the expected challenge to one's faculties. But the possible uncertainty in the activities like gambling is of the usual weak type, while Scitovskyian uncertainty may be attractive despite its chance component, as mentioned above.

Scitovsky's analysis has sometimes been regarded as limited because it concentrated on affluent people who, having satisfied their need for comfort, would incur the problem of escaping from boredom during their leisure time (e.g. Benedikt 1996). However, in his later works, Scitovsky acknowledged that poor people may suffer not only from unemployment but also from boredom, which may even be chronic because of a lack of consumption skill. These conditions would induce them to engage in behaviours destructive for themselves and for others (Scitovsky 1992: Appendix; 1996; 2000). By contrast, his examples of artists' and entrepreneurs' urges to action, which were borrowed from Keynes and Schumpeter, show that "the desire to be creative" is not confined to affluent people but is the best form of human need for skilled people to be active (Scitovsky 1986: Ch.14).[3]

[3] Better understanding of how novelty concerns choices by all people can be gained by considering G.L.S. Shackle's work. According to Shackle (1988), novelty is involved in every human choice, because choice is inherently originative of possibilities, thus making choice conditions uncertain in a very strong way.

2.2 The Contrast with Behavioural Economics

Behavioural economics, as it developed in the late 1970s through the works of Daniel Kahneman and Amos Tversky, has also been called 'Psychology and economics' (Rabin 1998; Della Vigna 2009), so as to underline how this subfield is characterised. However, behavioural economics seems to follow a line of inquiry different from, and in particular more conservative than, that of Scitovsky. According to Kahneman (2003: 1469), "Theories in behavioral economics have generally retained the basic architecture of the rational model, adding assumptions about cognitive limitations designed to account for specific anomalies." The 'rational model' essentially means expected utility maximization and Bayesian probability judgments. It has been recognised by behavioural economists as "useful because it provides economists with a theoretical framework that can be applied to almost any form of economic (and even non-economic) behavior, and it makes refutable predictions" (Camerer and Loewenstein 2004: 3). As has been observed, however, "there is nothing inherent in behavioral economics that requires one to embrace the neoclassical economic model" (Camerer and Loewenstein 2004: 5), and this encourages comparison between behavioural economics and Scitovsky's analysis.

In order to increase the realism of the rational model, psychology has been used in behavioural economics as an important source of both assumptions for economic theorising and hypotheses for economic research. The usual method has been to modify one assumption of the rational model at a time, and to study the consequences of doing so. A number of authoritative surveys describe how the assumptions have been modified and what results have been obtained (Rabin 1998; Della Vigna 2009). Behavioural economics, therefore, does not emerge as a unitary theory (Fudenberg 2006), but rather as a set of formulations complementary to the rational model, mainly with interpretative purposes, while the rational model is maintained as the welfare benchmark.

The research perspectives of behavioural economics and of Scitovsky therefore appear to point in rather different directions. Behavioural economics aims to understand how individuals tend to choose within a given option set, at a given moment of time and in certain given conditions. The analysis concentrates on the manipulation of these givens, possibly allowing for the collection of information to form beliefs when conditions are (weakly) uncertain. Research seeks to show

deviation from the benchmark of rational choice, where the size of the deviation measures the loss of utility. The success of behavioural economics has been due to the fact that some deviations have been ascertained as systematic and widespread in the population, while the formal link with the rational model has been directly maintained.

By contrast, Scitovsky sought to understand people's well-being by studying how they differ in their tendential choices of novelty, depending on the skill that they have acquired in the past from successful experiences of novelty. The option set consists of two alternative subsets, called 'comfort' and 'novelty'. But 'novelty' is not a pre-defined subset, because the successful experience of some novelty may open new options that would have remained unknown. Given the information available, people can maximise their well-being at a given moment of time: for example, by choosing a relatively large amount of comfort, which yields an immediate satisfaction. However, preferences unexpectedly change over time, so that well-being may not change in an optimal way. Optimal well-being may be defined as a distinctive path over time whereby individuals successfully challenge their skill with novelties.[4] This path is not predictable because it is highly uncertain, and it depends on the impact of the shocks on the accumulation of skill, i.e. it is path-dependent. The learning process may continue indefinitely, but this is the main part of well-being.[5]

Consequently, policy implications are also different. The main recommendation proposed in behavioural economics is to manipulate the reference points of the individual's decision-making so as to bring her/him towards her/his optimum position (e.g., Thaler and Sunstein 2003). The main recommendation proposed by Scitovsky is instead to invest in the formation of the individual's consumption skill, so as to enable her/him to improve her/his ability to select adequate goals, and to pursue them (e.g., Schubert 2012).

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4 The psychologist Csikszentmihalyi (1990) has aptly described this path as a 'flow', although he refers to optimal experiences that are relatively brief, such as climbing mountains or composing music.

5 Scitovsky in fact invoked a "higher" type of rationality to achieve welfare; one that would take account of internalities and externalities (Scitovsky 1992: 247).

2.3 Scitovsky and Kahneman's Two-Systems of Thought and Judgment

Recently, Kahneman (2003; 2011) has proposed a unitary theoretical framework able to include both behavioural anomalies and rational choice. The purpose is rather different from that of Scitovsky because it refers to decision-making within local settings, while Scitovsky was concerned to interpret historical changes in people's choices. Nevertheless, Kahneman's recent framework is useful to gain better understanding of common features that emerge from the dynamics involved in the persistence or in the correction of biases in choices.

Kahneman's proposal is a reformulation of an idea developed in psychology of the brain and decision-making which claims that people have two distinct and interconnected systems of thought and judgment. System 1 draws basic impressions of experiences – on positive/negative affective bases – from ongoing perception and memory. This system is fast, automatic, and effortless, and it works through intuition, i.e. through an associative way to give meaning to ongoing experiences, and to resolve uncertainty about their unknown aspects. Reference dependence thus emerges clearly in perception (Kahneman 2003: 1454). This straightforward procedure – called 'heuristic' – is effective, and it is normally used by people. However, it may be a poor procedure when it excessively simplifies matters: for example, by substituting statistical association with causation, or difficult questions with easier but improper ones. This is the case when questions appear rather difficult but urgent; or simply when someone is in a bad mood (see Kahneman 2011: 69). System 1 is imperfect – according to Kahneman – by construction of humans' perception and memory.

System 2 monitors system 1, and it intervenes when questions are difficult but not urgent by elaborating more accurate judgments through reasoning. It works on the basis of the impressions provided by system 1, and when it intervenes, it usually takes the final decision. This system is slow, intentional, effortful, and correlated with intelligence. However, also system 2 is imperfect because of limits to its computational resources. The imperfections of both systems cannot be completely overcome by economic incentives.

The anomalies studied in behavioural economics emerge as choices that follow system 1 and that system 2 is unable to correct with respect to the theoretical choice that system 2 would make if not impeded by inputs from system 1 and/or

by its own computational limitations. The studies in behavioural economics usually focus on those cases where system 1 combined with system 2 tends to fail, such as when imperfect perception or remembrance provides imperfect information to system 2.

This theoretical framework becomes especially interesting for Scitovsky's analysis when Kahneman (2011: 234–244) advances the following argument: that system 1 can acquire, through practice and in conditions of a sufficiently regular environment, the skill of choosing what system 2 would have chosen, thus possibly eliminating the heuristics. Furthermore, intuition may become so skilled that it can even create new better options, as Kahneman's example of the chess player makes clear. Since system 1 is effortless and system 2 is effortful, acquiring such skill makes people very effective – at least in some selected fields – and even creative.

Reformulating the rational-behavioural dichotomy as emerges from behavioural economics into the two-systems framework allows one to see the dynamics of Scitovsky's analysis with more modern eyes, and, at the same time, to find what still remains to be explored of his perspective. Indeed, the two-systems framework takes an important step forward in understanding how people choose in everyday life, because it is also able to give account, on recent empirical bases, of how people can acquire the skill to choose. Scitovsky's analysis of this important aspect was vaguer, and he preferred to address the related issue of early and general education.[6] Kahneman's framework thus seems to agree with Scitovsky's in considering choice to be a dynamic process where people may become more effective and even creative, or persist in biased choices. However, the following key aspects remain unclear and should be investigated more closely.

First, uncertainty cannot remain only of the weaker type in the two-systems framework, as it usually does in behavioural economics, and the hint on creativity should be developed. Scitovsky's very strong type of uncertainty should thus be considered, because new options and endogenous states of nature may condition choice.

Second, according to Kahneman, skill is specialised and individuals can become experts in some fields, so that uncertainty on both the external states of

6 But see his discussion on how people "reduce […] novelty by incorporating it into the already familiar" (Scitovsky 1992: 54).

nature and individuals' levels of skill can be minimised. Scitovsky instead stressed the generalist character of consumption skill, by referring to the great educational power of humanities and liberal arts in enabling individuals to understand the environment, themselves, and other people. He recognised that specific training is necessary to develop the skill to appreciate novelties, and even to create them. But he also observed that such training should be intrinsically motivated, rather than being governed by monetary incentives, in order to be effective in achieving and maintaining well-being. The issue of how the proper skill is acquired is thus crucial for making experts reliable, as stressed by Kahneman (2011: 12), and for people's well-being, as stressed by Scitovksy. However, more research on the definition and role of such skill is needed.

Third, Kahneman, too, has discussed the issue of well-being when he considers 'experienced life satisfaction'. He basically maintains that this is "largely determined by the genetics of the temperament" (Kahneman 2011: 401), so that skill would appear unable permanently to improve experienced life satisfaction, which is mostly emotionally laden (Kahneman and Deaton 2010). This is consistent with Kahneman and Tversky's (1979) Prospect Theory, where valuing options takes a reference point which is dynamically stable because "organisms habituate to steady states" (Tversky and Kahneman 1991: 1057).[7] By contrast, according to Scitovsky, well-being can be improved by learning consumption skill because this will induce people to prefer novelty to comfort. He acknowledged the psychological mechanism of 'adaptation' of well-being (Scitovsky 1992: 40), i.e. of habituation to experienced conditions, thus sharing with Kahneman the idea of the reference point in decision-making. However, learning novelty – in Scitovsky's analysis – tends to counteract adaptation with favourable effects on well-being, thus making the perspectives of the two authors opposite to each other. Nevertheless, Kahneman has recently acknowledged that he has changed his mind by stressing the importance for life satisfaction of setting and achieving goals over the life cycle (Kahneman 2011: 402). He also acknowledges that 'optimistic bias', which is due to a predisposition in System 1, may have positive consequences in

[7] Note that when Kahneman (2011: 405) recognises that "depression involves a self-reinforcing cycle of miserable thought", he does not refer to a reduced skill, but to the failure of adaptation to the standard level of life satisfaction as fixed by genetics.

the cases of entrepreneurs and inventors (Kahneman 2011: 402). Thus further scope for research on how to reconcile the two perspectives is created.

The final and ultimate aspect that should be better investigated concerns the welfare benchmark against which to define and measure the anomalies. The two-systems framework seems to provide a more elaborate, but not essentially different, benchmark than behavioural economics does. Rational choice appears to belong to an "ideal" system 2, where computing abilities are not limited. But since system 1 works efficiently most of the time, in the sense that it chooses what the "ideal" rational choice would have done if system 2 had intervened, then system 2 works satisfactorily as a monitor. The anomalies thus appear to arise from system 1 and are then insufficiently corrected by system 2, to which system 1 provides the primary information. In Scitovsky, the welfare benchmark may be defined as the temporal path of well-being whereby individuals successfully challenge their skill with novelties, so that system 1 becomes more and more skilled. Suboptimal paths arise when individuals do not sufficiently appreciate novelty and prefer comfort because they are insufficiently endowed with consumption skill. In this case, choices appear rational only at a given moment of time. In fact, individuals with undeveloped consumption skill will tend to exhibit an undeveloped system 1 because of a lack of challenging experiences and learning. But individuals with an undeveloped system 1 are prone to increase conformism and comparison with others' comfort, thus using system 2 in substitution.

This latter possibility casts doubt on the robustness of the welfare benchmark of rational choice. Indeed, system 2 may worsen the outcomes if it intervenes in decision-making without using information that system 1 has drawn from perception and memory but remains inaccessible because it is undeveloped. For example, some psychological studies have found that verbalisation and rationalisation may disrupt insight solutions with preferable outcomes (Schooler et. al. 1993; Wilson et al. 1993). Kahneman (2011: 209–233) recognises this possibility when he refers to the case in which skill has not properly developed because of too irregular an environment, but system 2 still intervenes to decide. In an early writing, Kahneman (1994), by anticipating individual's complexity in decision-making with the notion of multiple selves, even wondered "which of these selves should be granted authority over outcomes in the future". This question has been recently taken up by Gul and Pesendorfer (2007), who conclude

that more research is needed to determine with behavioural and neurological methods what "true utility" is, so as to have a firm welfare benchmark.

3 On Three Issues Common to Both Scitovsky and Behavioural Economics

3.1 Uncertainty and Skill

In Scitovsky's analysis, consumption skill makes people uncertainty-seeker, since they would be induced to prefer novelty, which involves a 'very strong' type of uncertainty (see Subsection 2.1). In behavioural economics a strong type of uncertainty that has been considered is 'ambiguity' (Ellsberg 1961), where the probabilities of the outcomes are not known but could be known in advance (Camerer and Weber 1992). It has been found that individuals are not indifferent between weak uncertainty, which has well-known probability distributions, and ambiguity, as predicted by the expected utility theory. Individuals tend, rather, to be ambiguity-averse (Camerer and Weber 1992). Therefore, Scitovsky and behavioural economics appear to go in opposite directions.

However, some studies in behavioural economics acknowledge the importance of individuals' skill in decision-making under uncertainty conditions, although the notion of uncertainty is different. Specifically, Heath and Tversky (1991) allow reconciliation between ambiguity-aversion and ambiguity-seeking by putting forward the 'competence hypothesis', where competence includes individuals' skill and knowledge. According to this hypothesis, "holding judged probability constant – people prefer to bet in context where they consider themselves competent than in a context where they feel ignorant" (Heath and Tversky 1991: 7). By means of experiments, the authors are able to show a positive relationship between judged probability, which would generally entail the individual's level of knowledge about the questions at hand, and the percentage of choices that favour betting on personal judgment, which is relatively ambiguous, in a chance lottery

(e.g., poker chips).[8] The expected utility theory would have predicted indifference between the two kinds of choices for any judged probability, i.e. 50% in any case. The standard ambiguity-aversion hypothesis would have predicted a smaller percentage of choices in favour of judgment bets, and unrelated to judged probability.

Interestingly, the authors comment thus: "[p]erhaps the major reason for the competence hypothesis is motivational rather than cognitive. We propose that the consequences of each bet include, besides monetary pay-offs, the credit or blame associated with the outcome. Psychic payoffs of satisfaction or embarrassment can result from self-evaluation or from an evaluation by others" (Heath and Tversky 1991: 7). These comments give credit to Scitovsky on both the importance of the motivational basis that underlies the choice of novelty and the specific motivation, since this refers to the emotional motivation to challenge the individual's skill. The underlying notion of uncertainty, however, is different because the outcomes of player's choices are completely known.

Indeed, the challenge of the individual's skill is the primary motivation underlying the novelty option, while the chance component of ambiguity is not interesting, according to Scitovsky. An attempt to distinguish between the challenge and the chance components in ambiguous choices has been made by Klein et al. (2010). They find that people prefer options where they can challenge their skill to options that are chance-based, even when ambiguity is present in both cases. Therefore, the label 'ambiguity-seeking' may be misleading insofar as it evokes a preference for chance.

Another set of studies is useful for understanding how uncertainty may be desired by people. The aspect examined pertains to 'enjoyment by anticipation'[9] as a positive emotion, which is included in Scitovsky's idea that "in man's striving for his various goals in life, being on the way to those goals and struggling to achieve them are more satisfying than is the actual attainment of the goals" (Scitovsky 1992: 62).

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8 A chance lottery is designed to have the same probability of winning as the probability of having chosen the correct answer that the interviewee indicated when s/he previously answered the knowledge questions, such as questions on politics and football.

9 This concept has been better defined in Shackle's (1952) analysis of choice, where options are evaluated by individuals on the basis on feeling and imagination of their consequences.

Pope (1983) introduced into algebraic decision modelling the pre-resolution period with its duration being a key factor in determining people's anticipated utility from an act. She furnished examples of this impact on utility by how longer delays before an outcome is fully resolved alter the amount of hope and fear experienced during it, generate worse planning difficulties, and leave a person deprived of access to property for a longer time. In a similar vein Pope and Selten (2010/2011) introduce the pre-resolution period into the individual's preferences. They justify this assumption by observing that "[m]any people would like to know as soon as possible whether they have passed an exam […]. Many people would not like to know the exact day of their death years in advance." Pope and Selten (2010/2011) also recognise that emotions, such as "curiosity, hope, or fear", are typically involved in the pre-resolution period, and that "in suitable dosages, such emotions enhance decision making", thus also citing Damasio (1994). Finally, they refer to Scitovsky (1976) by recognising that "[t]hose taking choices yielding too little in the way of thrills and hope for the brain's needed stimulation often compensate with other choices that involve socially and personally destructive behaviour such as juvenile delinquency and gambling."

Pope et al. (2009) report some experimental results in support of the importance of the pre-resolution period in decision making under uncertainty conditions. A costly insurance was offered as a protection against an attack which with some levels of probability would later wipe out a sum made available to the participants in the experiments. The participants also provided explanations as why they had chosen either to protect or not to protect themselves against the risk of an attack by considering, respectively, worry or excitement in waiting for the outcome.

The main result was that the majority of participants reported either the secondary dissatisfaction of worry or the secondary satisfaction of enjoyable excitement as the motivators of their choices whether or not to protect themselves. The majority of them cited worry or excitement as their sole motivators. A small minority were found to be not influenced by secondary (dis)satisfaction, as captured by the worry/excitement questions as well as others. The authors regard this minority as those who followed the prescription of the expected utility theory, so that all the others appeared to make biased choices because they were affected by emotional reactions. The authors further observe that neither is Tversky and

Kahneman's (1992) Cumulative Prospect Theory confirmed, mainly because also this theory neglects the pre-resolution period.[10]

The crucial role of the pre-resolution period in decision making under uncertainty has been examined at the theoretical level by Pope and Selten (2010/2011). They show that when atemporal expected utility theory is extended to include the length of the pre-resolution period, with for axiomatised expected utility theory a natural limit property, the individual's preferences are unaffected by the length of the resolution time. This result casts doubt on the normative validity of expected utility theory, because a longer delay in learning the final outcome may have planning disadvantages, and different emotional consequences. Pope and Selten (2010/2011) also bring an interesting criticism against a more conventional study which takes into account the pre-resolution period. This is Caplin and Leahy's (2001) study, which attempts to find a consistent generalisation of the axiomatised expected utility theory. To this end, Caplin and Leahy (2001) attach the emotions involved in the pre-resolution period to the outcome through a stable function, and consider the anticipation of these emotions in decision making under the ordinary uncertainty conditions. Pope and Selten (2010/2011) find that this attempt increases the epistemic inconsistency of the expected utility theory, because Caplin and Leahy employ in their axiomatisation a substitution axiom in which learning of the result of two successive stages of a compound gamble are modeled as if learned simultaneously. How these authors consider the emotions appear to be implausible because they assume that preferences over distributions of emotional futures follow rational rules.

To conclude, Pope and Selten focus on the emotional aspects of waiting for an uncertain event, and this contributes to explaining why uncertainty may be pleasurable. Scitovsky's analysis is wider in scope because uncertainty includes the possibility of new options that may need something more than waiting for an event, i.e. preparation and incubation, while even novelty resolution may require time for testing and application. Analogously, pleasure will arise from feeling able to manage these activities successfully. This would increase the scope for further research.

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[10] Specific questions addressing rules typical of rank-dependent theories, Kahneman and Tversky's, were included in the questionnaire given to the participants in the experiment.

3.2 Change of Preferences

"[T]astes are […] constantly changed by the accumulation of experience", Scitovsky (1992: 5) stated in his book. However, as observed by Loewenstein and Angner (2003: 353), "[t]o date, very little research has sought to understand the factors that cause people to indulge, deny, or seek to change their own preferences."

Scitovsky's analysis of the dynamics of consumption skill and preference for novelty can be interpreted in light of Gary Becker's claim that preferences depend on the consumer's past experience, thus making them "endogenous" (Becker 1996: 4). This idea is innovative, as Becker himself clearly says: "[t]he direct linkage between present and future utilities – not whether the utility functions are considered stable or unstable – is what distinguishes this analysis from the more conventional one" (Becker 1996: 6).

Behavioural economics is in a good position to develop the idea of endogenous preferences because Prospect Theory is based on reference-dependent preferences, which are also implicit in the choice of novelty in Scitovsky. This line of inquiry has only recently been begun in behavioural economics, especially by exploring the link between utility and recent changes in rational beliefs about present and future consumption (e.g., Koszegy and Rabin 2006). A focus closer to Scitovsky's perspective, however, is the difficulty of predicting changes in preferences.

Behavioural economics has investigated the aspect of changes in preferences, claiming that people's choices are biased in this case. Specifically, Loewenstein et al. (2003) argue, on the basis of empirical evidence, that people predict future utility with a 'projection bias'. Their model includes a conditioning subjective state in individual's preferences for any future period, but it does not necessarily posit a linkage between present and future, and it ignores uncertainty. It thus appears focused on one specific aspect of Scitovsky's analysis, i.e. the influence of changing subjective states on preferences. Loewenstein et al. (2003) thus call 'projection bias' the systematic error in predicting preferences on consumption, subject to changing subjective states over the future periods. The bias is in the direction of understatement, i.e. people would regard future preferences in between the current ones and the preferences conditioned by future subjective states.

Loewenstein et al. (2003: 25) also argue that the projection bias can provide the basis for an explanation of over-consumption and over-work that they see as

"parallel" to Scitovsky' arguments. They first assume that the option set consists of consumption and leisure, where only consumption is subject to adaptation to a past reference level of consumption captured by changed subjective states. If the consumer underpredicts her/his adaptation, s/he also underestimates the extent to which increasing her/his current consumption will reduce her/his future well-being. Consequently, s/he over-consumes and over-works.

Loewenstein et al.'s (2003) 'projection bias' captures some important aspects of Scitovsky's analysis, and provides some supporting evidence, but it does not capture the core of his analysis. In Loewenstein et al.'s (2003), people find it hard to foresee the effects of subjective states on their preferences, but they correctly predict their future subjective states, because they have had similar experience in the past. In Scitovsky, people find it hard to foresee their future subjective states because these differ from one experience to the next, and change endogenously because of the accumulation of consumption skill. Furthermore, when Loewenstein et al. (2003) apply the 'projection bias', they obtain the result of over-consumption because the bias has been applied to people's adaptation to past levels of consumption (while there is no adaptation to past levels of leisure). A *negative* internality would thus emerge. In Scitovsky, people mispredict the consequences of novelty on their consumption skill, which thus emerge as a *positive* internality if the experience has been successful. Therefore, several aspects can be investigated further in light of Scitovsky's analysis.

3.3 Harmful Addiction

Scitovsky was the first to introduce into economics the 'opponent process theory' of addiction from psychology which gives account of how a pleasant experience becomes a harmful one (Scitovsky 1992: 127–231). His analysis of individuals' preference for comfort and against novelty puts forward a complementary explanation, since it concerns why people choose that experience, although they may know the harmful consequences. Various authors of behavioural economics have developed some of these insights, but other insights of Scitovsky remain unexplored.

In the introductory part of *The Joyless Economy*, Scitovsky reported Solomon and Corbit's (1974) 'opponent-process theory' of addiction. This article was

published in a psychology journal, but it was republished in 1978 in the *American Economic Review* with an enthusiastic preface by Scitovsky.

The 'opponent-process theory', which has a physiological substrate, generally refers to emotions, and argues that the individual has two opposite reactions to a stimulus: a quick, intense, temporary and, possibly, pleasurable reaction, and a reaction which is opposite in hedonic value, and which takes more time to build up and more time to decay. The repetition of the stimulus, typically due to substance ingestion, reduces the positive reaction, and increases the negative reaction. This theory would explain tolerance and withdrawal, and, on this basis, subsequent craving, dependence, desire to quit, and possible relapse. The main treatments implied are detoxification and abstinence.

Loewenstein (1999) has developed this theory by positing that people's choices, as based on stable or slowly changing preferences, are influenced by 'visceral factors', such as hunger, thirst, pain, or even curiosity, which fluctuate according to external stimulations or deprivations. Since people's attention is directed to current cues by visceral factors, they experience craving, which biases their rational choice and possibly triggers addictive consumption. The focus in explaining dependence and relapse is thus shifted from withdrawal to craving, which would better accord with the facts, according to Loewenstein (1999). In this way, addiction plays a role in people's choices through craving as a powerful anticipatory emotion, while the anticipation of withdrawal would be a less vivid emotion (see also Loewenstein et al. 2001). The main treatment suggested is the prescription of antidepressants in order to mitigate craving (Loewenstein 1999).

Empirical support for this approach is provided by the research of the psychologist Zuckerman (1994), who has found positive relations between risky behaviour and sensation-seeking, and between this personality trait and some biological traits. However, Zuckerman (1994) has also found that sensation-seeking has a social conditioning, which is downplayed by Loewenstein (1999). Furthermore, the approach of 'visceral factors' to addiction has been criticised by the psychiatrists Waal and Mørland (1999) for overrating accidental cues, which are too generic, and underrating people's choice, which instead appears to be guided by their "addictive personality" (Loewenstein 1999: 251).

The hyperbolic discounting approach, which is typical of behavioural economics, gives choice a more central role in explaining harmful addiction, although it maintains the 'anomalous' aspect of the desire to quit. Hyperbolic

discounting refers to the tendency of people increasingly to choose a smaller-and-sooner reward over a larger-and-later one as the delay occurs sooner rather than later in time. For example, overweight people may recurrently succumb to the temptation to eat a chocolate cake as an immediate reward, although after eating the cake, they intend to follow a diet in the future, thus reversing their preferences. This approach can be applied to both substance and behavioural addictions. Falling into addiction seems to be especially due to the typical problems of youth concerning identity formation and sensation seeking (Ainslie and Monterosso 2003; O'Donoghue and Rabin 2001).

Also this approach is subject to the criticism that addictive products give rise to quite different patterns of behaviours in people which cannot be accounted for by such a general approach. Furthermore, contrary to the visceral approach, people's knowledge and ability to compute the alternative rewards appear to be excessive requirements, especially if people commit themselves to rationally managing preference reversals (Waal and Mørland 1999). [11]

Scitovsky contributed to better understanding of addictive behaviours by adding an important variety, i.e. "people's addiction to their status" (Scitovsky 1992: 130), but he did not develop the opponent process theory. Rather, his main contribution was to give an account of how people fall into addiction, without referring to personality factors but maintaining complementarity with the other behavioural approaches, and avoiding some of their weaknesses.

It can be observed that Scitovsky's approach to addiction exhibits an aspect in common with Becker and Murphy's (1988) model: the rise of the marginal utility curve of the addictive option through its consumption over time. However, the addictive option – according to Scitovsky – is 'novelty', while the alternative options, such as 'comfort' and risky behaviours, are substitutable. If people have been frustrated in experiencing inadequate novelty, possibly since childhood, so that developing the skill to appreciate novelty has been discouraged, they may experience boredom, and start to prefer the alternative options. Risky behaviours

11 See, e.g., Bernheim and Rangel's (2007) theory of rational addiction, which assumes that individuals' preferences are extended so that their "lifetime state-contingent consumption paths remain[…] constant across time and states of nature", and can be ranked (Bernheim and Rangel 2007: 10). Individuals would experience addiction as a systematic alternation of hot/cold mental states.

appear especially substitutable because they share some pleasure of stimulation with 'novelty' (Scitovsky 1992: 291–300; 1999; 2000).

This approach is complementary to the behavioural ones because it is able to account for how harmful substance or behavioural addiction is triggered, but not how it develops. Scitovsky's approach is a choice approach where cues can play a role. However, it does not require either full knowledge and high computation of the rewards from the options, since 'novelty' is strongly uncertain, or limited knowledge of the harmful consequences of addiction. Scitovsky also suggested remedies that can be seen as complementary to the more usual ones. Indeed, in order to reduce the risk of falling into harmful addiction, he recommended making the alternative options attractive by enhancing consumption skill through, for example, investment in early education, humanistic studies, and "benign" stimulating activities for youths.

Some authors in behavioural economics have captured the aspect of Scitovsky's analyses concerning people's limited knowledge about the future negative consequences on their choices through change in their skill.[12] Namely, Herrnstein and Prelec (1992) propose the 'melioration theory' of addiction, according to which people become addicted through a series of incremental meliorating decisions to consume the addictive products. However, people do not perceive the harmful consequences of such products until it is too late. This theory appears naïve because the negative effects of addiction are generally well-known, while Scitovsky's approach has no such weakness.

To conclude, Scitovsky's approach to addiction emerges as a theoretical advance that behavioural economics appears to have explored only partially. For example, under encouragement by psychology research (Heyman 2009; LePera 2011 and the literature cited therein), more detailed study could be made of the conditions for the emergence of boredom, the link between boredom and risky behaviours, and whether the high discount rates of addicted individuals are an effect rather than a cause of falling into addiction (Ainslie and Monterosso 2003).

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12 Thus wrote Scitovsky (1992: 73): people, who "were gradually lured into a new way of life by their love of comfort, unaware at first of the costs involved and finding themselves fully accustomed to their new ways by time they realize the extent of the loss of pleasure suffered."

4 Conclusions

Behavioural economics is a young subfield where psychology helps economic analysis to interpret how people tend to make choices not necessarily optimal for them. In the 1970s, Kahneman and Tversky's work gave impetus to the development of behavioural economics as an extension of the conventional theory of rational choice. In his very recent book, Kahneman has advanced a theoretical framework in which behavioural and rational choice can be accommodated in new and dynamic manner.

Scitovsky may appear to be a simple forerunner of behavioural economics mainly because he drew heavily on psychology when he wrote *The Joyless Economy* (Angner and Loewenstein 2012). However, the present paper has shown that Scitovsky's analysis is interesting also for another reason: because it advances more ambitious lines of inquiry that are only partially explored. Research in behavioural economics and other economic subfields can thus benefit from Scitovsky's work if the relevant issues are properly formulated and focused. To this end, the present paper has first reformulated Scitovsky's late analysis on welfare in terms of a model of choice, although unformalised (Subsection 2.1).[13] Then, the discussion has been organised around the issues of uncertainty and individual 'competence' (3.1), on change of preferences (3.2), and on harmful addiction (3.3). It emerges that each issue has been anticipated by Scitovsky and then developed by behavioural economics, but also that their perspectives are different (2.2), while a suggestion on how to reconcile them may be found in Kahneman's recent book on the two-systems of thought (2.3).

The contrasts and similarities thus found can suggest interesting lines of inquiry. The more basic and general one conceives choices as dynamic learning processes where emotion and uncertainty play a positive role for people's well-being. Interdisciplinary research is thus needed, because dynamic analysis of choice and, in particular, the psychology of personality should find a place in the same framework, as recent attempts make evident (Almlund et al. 2011; Ferguson et al. 2011).

13 See Pugno (2013) for a formalisation.

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