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Happiness, Social Preferences and Economic Policy

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If you search for wealth, you will not find happiness.
If you search for happiness, you will not find wealth
(popular saying from the Salento)

Abstract - Two recent research branches have called into question the hypothesis that the economic subject is rational and egoist, that is to say, that his/her sole objective is to maximize his/her own personal material interests. In the first place, the literature on the so-called happiness paradox has seriously put in question the given, widely diffused not only in the doctrine but also in the common perception, that a higher level of material welfare necessarily leads to a greater level of personal well being or happiness, on an individual level but even more so on a collective one. In the second place, experimental economics has produced a wealth of results that, vice versa, confirm something that the common sense and the personal observation of many had already suspected: economic subjects do not all and not always pursue exclusively the maximization of their own personal interests. This work critically discusses these two approaches and analyzes their interesting implications in economic policy.

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1 Introduction

A great part of traditional economic theory is based on the hypothesis that the economic subject, whose behavior is under study, is rational and egoistical, that is to say, that his/her sole objective is to maximize his/her personal material interest. The strength and the appeal of this theory lies in the corollary of the "invisible hand", which assures that the maximization of individual interest guarantees, under certain conditions, also the efficiency, in a Paretian sense, of collective interest. Implicit as well is the hypothesis that the maximization of material interests necessarily causes the subject to obtain a greater level of personal happiness or well being.

Two separate and independent research branches have recently brought to light certain empiric and experimental results that constitute a serious critique of the traditional position. In the first place, the literature on the so-called happiness paradox has seriously called into question the given, widely diffused non only in doctrine but also in the common perception, that a higher level of material welfare necessarily leads to a greater level of personal happiness or well being, on an individual level but even more so on a collective one. In second place, a branch of experimental economics has produced a mass of results that, vice versa, confirm something that the common sense and the personal observation of many had already suspected: economic subjects do not all and not always pursue exclusively the maximization of their own personal interests.

These two approaches have remained distinct up to now, aside from very rare exceptions. However, the links between the two lines of investigation are evident and each one could be seen as supporting and complementing the other. The main connection derives from the fact that both lines, even if often unconsciously, take off from the same starting point: markets are incomplete and there are certain goods that intrinsically evade the commercial transaction and that, instead, profoundly influence individual well-being; money, therefore, intended as the numeraire good, is not capable of allowing us to acquire all those goods, both material and non, that we desire and that determine our degree of happiness and well being. Sometimes, moreover, the pursuit of material interests can occur only at the price of relinquishing at least some of those goods that money cannot buy. If this is true, then on the one side we can understand why not always that action is chosen, which guarantees the greatest material return possible (the experimental results on social preferences), and on the other side we find the explanation as to why an increase in collective material wealth does not necessarily lead to the subjective perception of a greater level of happiness (the happiness paradox).

The other aspect for which the two lines of research are worth being considered jointly is the significant effect that they have, or should have, on economic policy: both in terms of objectives and of tools of economic policy. In the traditional view, the objective of economic policy could not but coincide with the maximization of quantitative aggregates, for example, the GDP. Implicitly, it was taken for granted that it was neither possible nor necessary to quantify individual well being or personal happiness, since the availability of material goods is a more than adequate proxy for individual well being. If, on the other hand, it is possible to monitor subjective personal well being or individual happiness, then it would be theoretically possible to revert to the objective of economic policy as it had been identified by classical economists, that is, the maximization of collective happiness.

These two branches of the literature set forth the suggestion that public choices can no longer be ranked by taking into account only their effects on the national product, without considering other indices also of a quantitative nature, starting from the sample surveys on the level of happiness perceived by citizens. The two approaches mentioned above, however, obviously suggest also a redefinition of the tools and of the intermediate objectives of economic policy. On the one hand, the incompleteness of markets and the dependence of individual well being on a series of goods that would have once been defined as non-economic, such as affective relationships and relational goods, determines the necessity of a profound rethinking of the traditional tools of

economic policy. On the other hand, the coexistence of subjects endowed with social preferences alongside subjects traditionally endowed with egoistical preferences proposes completely new policy tools that may be capable of allowing the emergence, defense and diffusion of a system of social preferences.

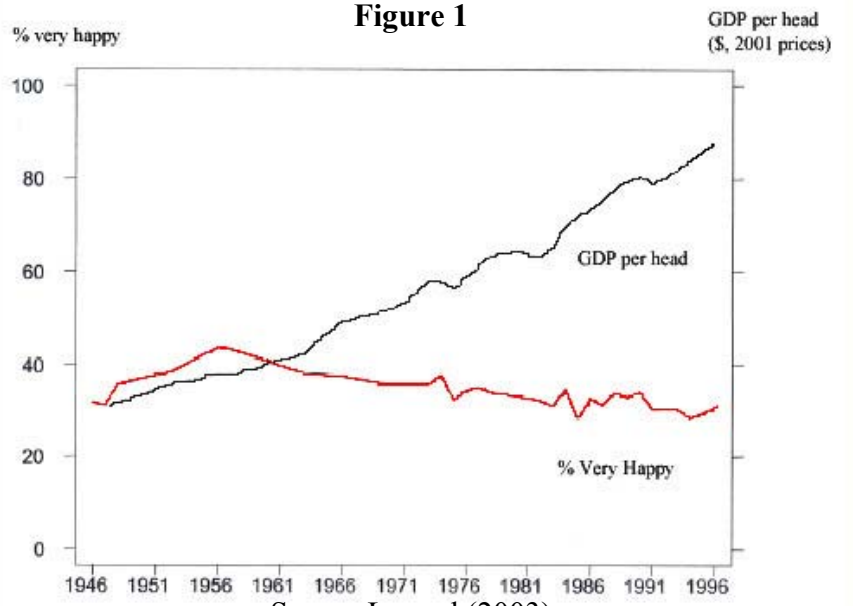
The work has been organized as follows. Firstly, the two research branches are analyzed separately, obviously without the pretense of being exhaustive, but rather with the desire of enucleating those aspects that appear more interesting for the purposes of our argumentation. Successively, the main and most interesting implications of economic policy will be discussed.

2 The happiness paradox

From a scientific viewpoint, the "happiness paradox" is as simple as it is fascinating[1]. A by now significant amount of empirical studies, which begin with the pioneering work of Easterlin (1974), show that the sensation of well being subjectively perceived by individuals in developed countries has not increased in the post-war era, even though the real per capita income, that is to say, the average availability of material goods, augmented dramatically in the same period (Benchflower and Oswald, 2000, Diener and Oishi, 2000 and Easterlin 1995).

Happiness, as is obvious, cannot be objectively observed. Equally indisputably, however, it is subjectively perceived by individuals as a feeling of well being (*subjective well being,* SWB): the indicator that is employed in these studies is based, in fact, on the results of interviews in which subjects were requested to evaluate their well being. Figure 1 (taken from Layard, 2003) shows the series regarding per capita income in the USA, along with the percentage of the interviewees that declared themselves as very happy; while income shows a more or less constant growth trend, the percentage of those who define themselves as very happy declines throughout the Sixties, remaining practically constant after then.

Figure 1



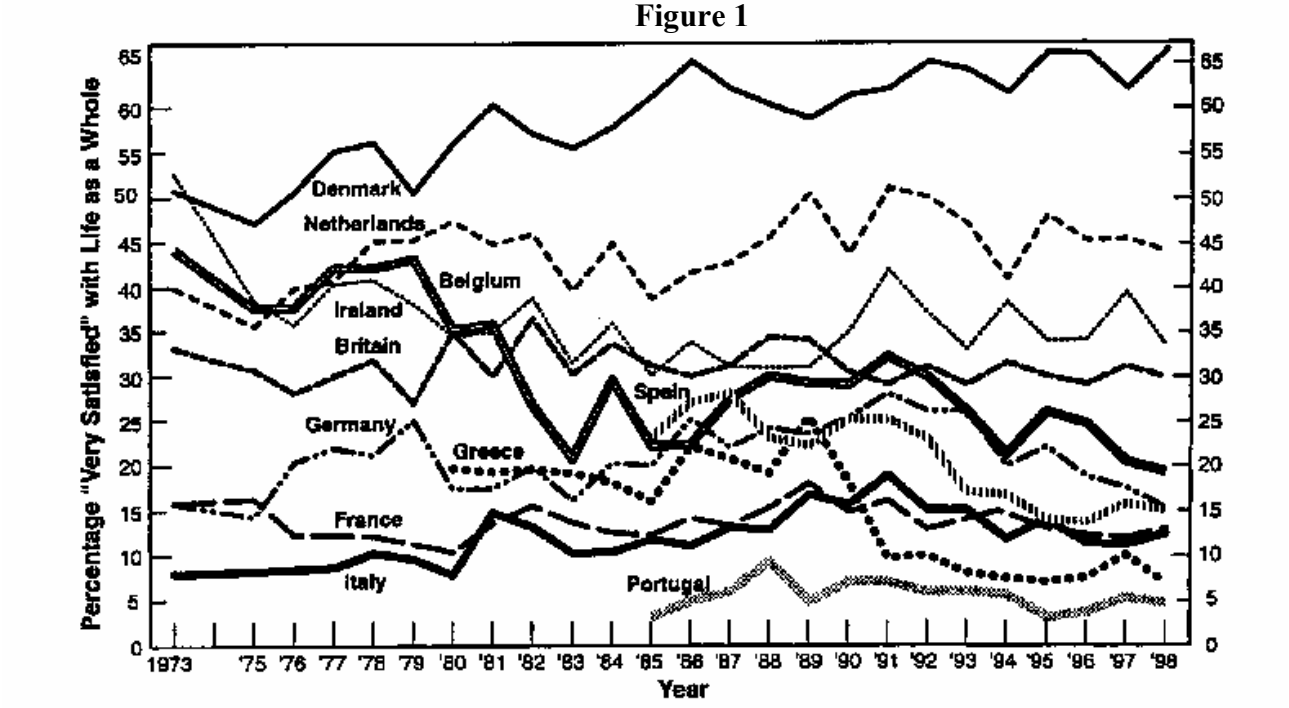
Source Layard (2003)

The phenomenon, obviously, is not only American and analogous relationships have been obtained also for other countries. Figure 2 (taken from Frey and Stutzler, 2002) shows the trend in time of the percentage of those that declare themselves as very satisfied with their life in some

[1] The reader can find a systematic treatment of the literature we refer to by consulting the book by Frey and Stuzer (2002) or the essay by Layard (2203).

major European countries; excepting some countries which demonstrate a slight counter-trend (for example, Italy, Germany, Denmark), the consistency or the slight decline of SWB in Europe is similar to the American situation[2].

Figure 1



Source Inglehart and Klingemann (2000)

It would seem, therefore, that the increase in material wealth did not bring with it the rise in individual satisfaction and happiness forecast by the economic theory that is taught in basis economics courses.

This result is, under closer consideration, even more intriguing when we note that these same inquiries produce different, and in some ways closer to those expected, results, if a given country is analyzed during a given time interval. In this case, there is a clear positive relationship between individual income and subjectively perceived well being: wealthier people report, on average, a greater SWB (Benchflower and Oswald, 2000, Easterlin, 2001, Di Tella, MacCulloch and Oswald, 2001). Table 1 shows the SWB of Europeans in the various income quartiles.

Table 1

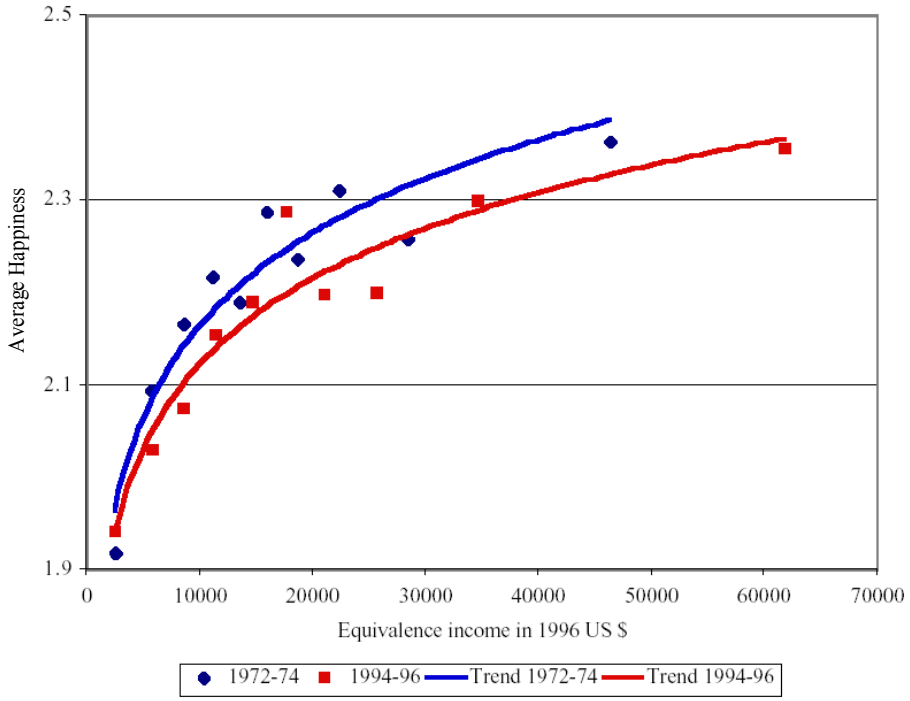
	Income			
	I quartile	II quartile	III quartile	IV quartile
Very satisfied	22.80	24.98	28.07	33.07
Rather satisfied	50.43	54.25	55.66	54.38
Not very satisfied	18.86	15.65	12.66	9.82
Not at all satisfied	7.92	5.11	3.61	2.73

Source: Di Tella, MacCulloch, Oswald, 2001

[2] For confirmation of the strength of the results, it is necessary to note that the question on the level of happiness placed to the European interviewees (Eurobarometer inquiry) is different (degree of satisfaction) and probably more realistic and less metaphysical than the US question.

The relationship between income and happiness, however, appears non-linear and a decreasing marginal utility with respect to income is highlighted, as emerges when we look at Figure 3, which shows the relationship between average happiness and per capita income in America in two periods: the early Sixties and the early Nineties. It also appears evident that the trend of the relationship tends to diminish with the passing of time, a confirmation of the results analyzed previously. Furthermore, the degree of correlation between income and SWB appears mostly moderate in rich countries and more significant in poor ones (for example, 0.13 for the United States and 0.46 for Calcutta, Diener and Seligman, 2004)[3].

Figure 3



Source:: Frey and Stutzer (2002)

Popular wisdom often suggests that wealth does not guarantee happiness; econometric studies, which estimate the influence of various variables on SWB, support this common sense, showing how income is able to explain only a modest part of individual happiness, since there are other factors that detect why some subjects are happier than others. The results are obtained through what are called *regressions of happiness*, acquired by estimating a function of the following type (Blanchflower and Oswald, 2004a):

$$F = h[u(Y,OD,t)] + et$$

where F is the self-reported number or level of happiness, u[..] is the, not directly discernible, "real" function of well being, Y is income and OD is the vector of the other determinants of happiness; lastly, h is a function that associates a value or a level of happiness reported by the subject to each

[3] It is, furthermore, opportune to note that at least a part of the correlation between income and SWB could be determined by the fact that it is the latter to have a positive influence on income and not vice versa, in other words, happy individuals tend to earn more than unhappier ones. For example, Diener et al. (2002) show that the degree of self-rated cheerfulness of 19 year old college students correlates positively with their personal income twenty years later, while Graham et al. (2004) find that subjects with higher residual happiness (that is to say, the happiness that cannot be explained by the usual determinants of well being) prove to be richer and in better health five years later.

"real" level of happiness and et is the error term[4]. Among the various repressors analyzed (see among others Blanchflower and Oswald, 1999, Blanchflower and Oswald, 2004a, Di Tella et al., 2004 and Helliwell, 2002), we cite working conditions (unemployment has a negative influence on happiness as does also the sense of insecurity for one's job), marital status (being married or living with someone has a positive effect on personal well being, while a separation, a divorce and the death of one's spouse affect it negatively)[5], the state of one's health, as popular wisdom had always indicated, religious faith (those who indicate that God is important in their lives increase their happiness by two points, on a decimal scale[6]), the political environment, the macroeconomic variables.

The joint observation of these two aspects, therefore, would seem to inspire the suggestive thesis that even though an individually higher income guarantees a greater degree of individual well being, this result disappears at a collective level when the income of all individuals increases. While a given individual who becomes richer also becomes happier, when a society as a whole becomes richer, this does not automatically increase collective happiness. Before we discuss the possible causes for this paradoxical result, let us briefly consider its strength.

The first and most classic objection possible is that the paradox is nothing more than an optical illusion; subjects are actually happier, but due to the difficulty of (self) measuring a variable tricky enough to be evaluated quantitatively, such as happiness and well being, they do not show it. They could, for example, have simply raised the standard of well being that identifies the term "very happy". On the other hand, happiness could be totally independent, at least in the long term, from contingent variables and be determined by characteristic traits of the personality of a probable genetic matrix (Lykken and Tellegen, 1996, Costa at al. 1996). Exogenous shocks, such as, for example, a variation in income, can cause a shift in perceived well being in the short term, but, successively, a psychological mechanism of adaptation would bring it back to the levels of the long term. In this case, it would be of scarce interest to study the relationship between income and happiness and the latter could exit the domain of the economist[7].

Numerous considerations, however, bring us to the conclusion that the happiness paradox is much more than an optical illusion. In the first place, there is a literature in psychology that testifies to the reliability and the coherence of the measurement of the well being of individuals through sample surveys that report SWB (for example, Argyle, 1989, and Pavot, and Diener, 1993) [8]. Moreover, though the proposed works use subjectively perceived and manifested well being as a variable, the recent development of the science that studies the workings of the human brain has permitted to put into relation the sentiments and the emotions reported by subjects with measurable modifications of brain activity [9] (Davidson, 2000).

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[4] For obvious reasons, the function h is assumed to be stepwise monotone (Blanchflower and Oswald, 2004a). Given this characteristic of the dependent variable, the literature uses logit and probit models.

[5] Also the quantitative importance of the marital status should not come as a surprise because we can see it, obviously on an average, as a *proxy*, probably imperfect, of the wealth of the human relationships of the individual. In this sense, more recent studies underline also the important role of sexual activity (Blanchflower and Oswald, 2004b).

[6] As confirmation that what counts is the strength of one's religious faith, attendance in a place of worship is relatively less important.

[7] One cannot but agree with Layard (2004) when he notes that also in this case, however, one could determine a role of economic policy. Some somatic traits, such as, for example, height, have a significant genetic explanation; nevertheless, economic improvements have had a fundamental impact on raising average height.

[8] For example, Konow and Early, 1999 use a variety of different measurements of SWB and find a high degree of correlation between them.

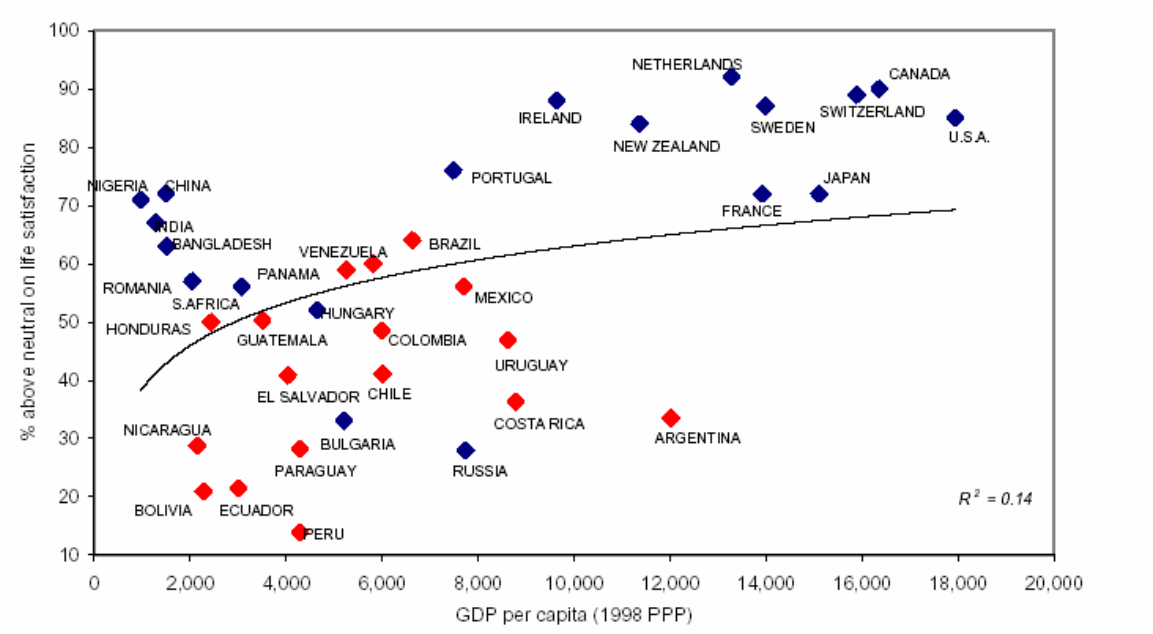
[9] The study of the workings of the human brain in relation to the decisional process typical of economic science has recently given life to a research branch called neuro-economics, see Camerer et al. forthcoming.

Furthermore, the psychological mechanism of adaptation, when it exists, is slow and far from being complete (Easterling, 2004, Diener and Seligman 2004).

On the other hand, there are other signals (detected in a completely independent fashion) of a worsening of social well being that have emerged clearly and distinctly in the last decades and that appear totally compatible with a decline in SWB. There has been a drastic increase in behavioral pathologies connected with the *difficulty of living:* clinical depressions, alcoholism, drug dependence, suicides. It is unquestionable that clinically ascertained depressions have increased, despite the presence of an undoubted rise in the standard of life, since the end of the Second World War, as has also the degree of diffuse anxiety (Twenge, 2000); similar data is available for suicides (Lane,200). Of particular interest is the trend in the consumption of alcohol: it diminished in many countries in the first quarter of the past century, remaining constant in the following twenty five years. In the post-war era, instead, the consumption of alcohol and alcoholism increased significantly almost everywhere (Silbereisen et al., 1995). The data on the diffusion of criminal activity, even if of a more difficult interpretation, also show the same growing trend.

The cross-sectional analysis of various countries also substantiates the idea that further increments in income do not have an effect on happiness, at least above a certain value. Figure 4 illustrates the percentage of those individuals, in the various countries considered, who report themselves as happy or satisfied on the vertical axis and the level of per capita income, expressed in US dollars, on the horizontal axis. When per capita income is low, close to subsistence levels, then its increase has positive effects on subjectively perceived well being; when per capita income exceeds a certain threshold, approximately 15,000 dollars, then further increments in income have scarce effect on happiness. This result is completely compatible with the cited paradox[10].

Figure 4



Source: Grahan and Pettinato, 2002

Lastly, it is opportune to bear in mind the (neo) classic argument that, towards the end of the past century, rendered obsolete the thesis of cardinal utility/happiness: its basic redundancy. The problems tied to the measurability of utility have already been surmounted with the introduction of the concept of ordinal utility and with the tool of revealed preferences. For the neo-classic theory, in fact, it is not necessary to know the purpose of human behavior, that is, to know, define or even

[10] It is interesting to note that the concept of happiness seems equally familiar to all cultures: individuals in all countries always seem to find it rather easy to answer questions on happiness.

measure that which the subject wants to obtain. It is sufficient to observe the individual choices of the subject: if subjects are coherent, what they choose permits us to trace back to their preference set, in other words, to reconstruct the order of preference with which they have structured available alternatives. The argument, however, works only if one assumes that market are complete; if markets are not complete, then certain alternatives, even though plausibly found among all those taken into consideration, are not available to the consumers when they make their choices. In this case, it is not always possible to retrace the preferences of the subjects simply by observing their choices. It is precisely the incompleteness of markets which makes it useful, if not necessary, to search for an alternative and more direct path for measuring the well being of individuals.

From the arguments put forth, it appears more than evident that the happiness paradox, far from being an optical illusion or an intellectual curiosity, is actually a phenomenon waiting for an explanation.

2.1 Explanations of the happiness paradox

An exhaustive explanation of the paradox should be able to clarify why individuals who are richer, that is to say, who boast greater material well being, tend to declare a higher level of individual happiness, while when collective material well being, the per capita income, increases, this seems to have no or even a negative effect on the average SWB of the collectivity. The nature itself of the phenomenon, as we have described it, seems to suggest that the explanation lies in the interaction between individual choices and collective ones and between current choices and future ones.

A widely diffused theory explains the failure as caused by the tensions between aspirations and their fulfillment. For example, Easterin, (2001) assumes that SWB depends positively on current income and negatively on aspirations over future income, and that the latter are based in great part on past income. The positive effect of current income on perceived well being is counterbalanced by the fact that aspirations have grown and this can explain the steadiness of SWB in time. In other words, when income rises, aspirations also increase and this has a depressive effect on the evaluation of one's personal situation. While this argumentation surely seems to contain some elements with which one can agree, on the one hand, it does not seem sufficient as the sole explanation of the phenomenon, unless linked to other factors (Layard, 2003); on the other hand, it appears conceptually weak because it requires a theoretical justification of the fact that subjects are systematically fooled by their inspirations and do not learn to adjust their aspirations.

A further explanation of the paradox is the one based on the consumption of positional and status goods (Cooper et al., 2001 and Frank, 1985, among others). While non-positional goods are acquired for their intrinsic capacity to satisfy a need, positional goods are acquired for their capacity to say something about the person that buys them. These goods, therefore, represent one manner in which the subject signals his or her social status with respect to people who do not possess them[11]. It is obvious that the satisfaction procured by the consumption of such goods is closely tied to the dissatisfaction of another individual and, therefore, the aggregate increase in the availability of these goods does not imply any rise in aggregate SWB. The positional or relative consumption of each person has, in fact, a negative externality on the utility of the next individual. Man, by his nature, places himself in a situation of rivalry with regards to others, obtaining well being not only, or not just, from his absolute material situation as much as from the relative situation. In the extreme case in which sole objective of subjects would be their relative consumption and not their absolute consumption, we would obtain the paradoxical results that

11 Economics does not differentiate between purchase and consumption. If, however, we accept the proposed approach, the difference between purchasing and consuming is manifest: it is, in fact, purchasing and taking possession of the good to be important and to signal our status. In some cases, the actual consumption, the fruition of the good, is secondary and marginal; maybe for this reason our homes are full of consumer goods that have been purchased but not or only partially used.

economic growth would have no effect whatsoever on collective well being. Nowadays, the most relevant positional good is probably income per se, since high income is associated with high status.

The effect of the externality induced by positional consumption is strengthened by the fact that not all goods have the same capacity to signal status. There are, in fact, some goods that are not capable of indicating status or that, indeed, transmit negative signals. Actually, it is relatively easy to become aware of the fact that, for example, the good "time spent with one's family" has generally no signaling effect or is, indeed, endowed with a negative signaling effect[12]. This is so because the price of leisure time is simply its opportunity cost: whoever consumes much leisure time could be doing so because it has a low opportunity cost, thus signaling the fact that the market puts a low value on the productive labor factor that the individual is willing to sell and that this individual occupies, therefore, an inferior position in social ranking[13]. The result is that the social optimum (which does not take in account externality) and the private optimum do not coincide: people work more and have less leisure time than would be optimal, in other words, than they would have in absence of the external effect. Attention to consumption and relative income is capable of explaining the phenomena recalled above. Indeed, the subjective well being reported by a person with a higher income will be, ceteris paribus, greater than the subjective well being of a person with a lower income, while the effects of the aggregate growth in income will be marginal because the relative income of individuals does not change.

However the external effect produced by *rival consumption* is not the only externality that can explain the happiness paradox. If the growth process in real income and in the availability of material goods has negative effects on the consumption of other goods, this could have negative effects on personal well being.

If we turn back for a moment to the happiness regression seen previously, we could synthesize it into the formula F=(Y, OD) where Y is income and OD are the other determinants of SWB. If markets were complete and, therefore, all goods could be purchased, then the role of OD would be marginal: maximizing income would automatically lead to the maximization of happiness[14]. If, on the contrary, not all good can be purchased, it is no longer correct to maintain that the maximization of income automatically leads to happiness. If these goods could not be purchased but were totally exogenous and independent of the choices of the subject, probably because genetically determined (beauty, health, a predisposition for happiness or depression, etc.), then the maximization of individual income would still be capable of maximizing well being. If these goods could not be purchased on the market and if the derivative $\frac{\partial OD}{\partial Y}$ were negative, that is to say, if the pursuit of a higher income would lead to a diminution of the others factors that determine happiness then we would have another externality capable of explaining the happiness paradox.

What could these goods be? An obvious category to be considered is that of public goods: these goods have no market and, furthermore, it goes without saying that the availability of most of them is negatively effected by economic growth (we are thinking of environmental public goods, seas, rivers and clean air, compromised by industrial production or by the consumption of certain private goods, private transport, domestic heating, etc). Furthermore, the fact that individual subjects can rationally respond to the disappearance or at least to the reduction of these goods (most of which were once free) by increasing the consumption of private goods may strengthen the externality effect (see Bartolini, *forthcoming* and the works cited therein).

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12 Not all leisure time is necessarily without signaling effects on status: attending opening night at the Scala, for example, and occupying one of the VIP seats at the sports stadium are some examples to the contrary.

13 It is interesting to note the difference with the past, and not even a remote past, when the maximum expression of opulence was represented by the fact of occupying one's entire day with leisure time.

14 In this case, the happiness function would be F=[Y,OD(Y)].

Recently, a group of economists has underscored the importance of so called *relational goods* (Uhlaner, 1989 and Gui, 2000): these goods are intangible products of a communicative and affective nature and they are necessarily produced through the interaction between individuals or between an individual and a group. The productive process of such goods requires a combination of different inputs, both of a material and an immaterial nature, all specific, nevertheless, to the interaction that lies at the base of the productive process. They are local public goods in the sense that they are not rivals and not excludable for the subjects involved, but they differentiate themselves from these because in the case of relational goods, production and consumption necessarily coincide[15]. Furthermore, the production and consumption of these goods requires the mutual agreement of at least two individuals: relational goods cannot be purchased and, least of all, imposed. The necessary convergence of more wills in the joint production of relational goods determines also the chancy and uncertain nature of these goods. An individual may have the resources in terms of time and all other factors required to establish an affective relationship of any kind with another subject, but he/she may never be certain that the other subject has the same intensions.

The empirical results analyzed previously highlight how SWB depends in a crucial manner on variables of a relational and affective nature (see among others Blanchflower and Oswald, 1999, Blanchflower and Oswald, 2004a). We have already seen how marital status influences the perception of subjective well being[16]: the feeling of well being diminishes in people who are separated, divorced or widowed (Helliwell, 2002)[17]. More recently, Blanchflower, and Oswald (2004b), show how sexual activity has a positive, relevant and monotone effect on subjective well being[18].

While the results on the positive effects of marriage on well being were widely known in the fields of psychology and sociology (see for example, Waite and Gallagher 2000), another results appears even more interesting (Helliwell, 2003): people who affirm that they trust their fellow person declare higher levels of SWB, just as the perception of SWB increases if one supposes that the climate of trust is diffuse in the environment where the subject lives[19]. As confirmation of the positive role that moral values play both on an individual as on a collective level, it has been verified (Helliwell, 2003) that personal well being increases not only if the subject thinks that evading taxes is morally reprehensible, but also if this individual lives in a context in which this sentiment is widely shared in society [20].

It thus appears more then evident that individual well being depends on variables of an extra-mercantile type, which cannot be purchased using income. What remains to be explained is why, since income is only a marginal determinant of individual happiness, individuals do not dedicate more time to the consumption of immaterial and relational goods that bring happiness instead of dedicating so many efforts to accumulating money, which is not capable of buying happiness? It is thus necessary to hypothesize that there are certain failures in rationality that

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[15] Since no individual can enjoy these goods without participating in their production, the problem of free riding is not relevant for these goods.

[16] In this as in the other cases, there exists a serious problem in identifying the direction in the causality nexus: it may even be that it is unhappy people who have a lesser probability of getting married or a greater probability of divorcing (Frey and Stutzer, 2004)

[17] The most relevant effect is found in the case of a separation, sustaining the thesis that there exists also a factor of gradual adaptation to the different situations in life.

[18] They also show how sexual activity is greater in married subjects and how income, contrary to what we could provocatively expect, is not positively correlated neither to sexual activity nor to the number of partners. Also in this case, however, the impossibility of clearly identifying the direction of the causality nexus invites one to caution when interpreting the results.

[19] We are obviously faced here as well with a problem of identifying the direction of the causality nexus.

[20] This result confirms, if there were such a need, the ties of this literature with that on social capital (Putnam, 2000).

systematically lead the subjects to take the non-optimal decision. The explanations based on the importance of rival consumption or on the existence of externalities of the growth process do not require, instead, any failure of rationality. Subjects are perfectly rational and always reach the optimal decision from an individual viewpoint: due to the external effect of their actions, however, the results are not optimal at a social level. There is, in this case, a failure in coordination. From the viewpoint of economic theory, an explanation of the happiness paradox different from that of rival consumption and externality in the growth process must begin precisely from the explicit treatment of the failure of rationality.

An in depth treatment of the theme of the failure of rationality is outside of the aims of this work[21]. We shall limit ourselves to furnishing some possible explanations of the reasons for which there may have been, in the last decades, a redistribution of consumer choices from relational goods to goods of private consumption, capable of participating in the explanation of the happiness paradox.

What distinguishes relational goods from the greater part of normal consumer goods is that the former necessarily entail a greater degree of uncertainty and that they are, for the most part, ineffectual in signaling one's status. If one desires a new model of cellular phone and one possesses the necessary sum, it is sufficient to enter the nearest store to ensure that one's wish will be realized. If one wants to use the brand new cellular phone to invite the pretty sales woman of the store to dinner, one cannot be certain that one's wish will be realized. To this we can add that relational goods are mostly lacking in status effect: precisely because consumption and production are joined and the time factor is fundamental, they risk signaling, on the contrary, a low opportunity cost of time and, therefore, a low social value of the individual. If the value of a person coincides with the price of one's leisure time, then the signal sent by whoever spends time consuming these goods is that this person is not worth much.

In the post war era, industrialized societies have become more and more fragmented at the social level: the dimension of the family nucleus has been reduced, due both to the lower birth rate as well as to changed life styles and a greater geographical mobility. There has been a significant urbanization process that has rarified and rendered more difficult extra-familiar relationships. The increasingly atomistic character of our societies has made interpersonal relationships more and more uncertain and superficial, rendering increasingly risky "*the investment in emotional relationships"*[22]. On the other hand, the same phenomenon of social fragmentation and greater geographical and social mobility has given a more important role to the signaling trait of individual choices. In an environment where I am not known, I can communicate my traits and my social role in a simple e direct manner through my consumption choices: the house I own, the car I drive, etc[23].

Thus the following thesis seems sufficiently plausible: in the last decades there has been a partial substitution of relational goods, which are uncertain and deficient in signaling one's status, with material goods, which are certain and endowed one with status, with negative consequences on the level of SWB.

Some empirical evidence can be brought forth at least as a partial confirmation of this thesis. There is some pretty strong data, for example, on the fact that the degree of materialism diffused in the culture of our society has been increasing. For materialism we intend a system of individual and collective values which gives a key importance to income, wealth and the possession of material

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[21] Few works explicitly treat this aspect; an interesting exception is represented by the model of Pugno (2004), who proposes a psycho-economic foundation for the failure of rationality.

[22] This phenomenon appears completely evident in the relationship between genders; the ever more precarious nature of conjugal or extra-conjugal unions makes it more and more risky to subtract resources and time from the accumulation of material goods in favor of the relationship.

[23] In a society divided into closed classes, one's identity and social placement was exogenous and well known; in an atomistic and socially more mobile society, membership in a social status can be conquered through the consumption of goods that are externally apparent.

goods (Kasser and Kaneer, 2004). For example, it has been seen that the percentage of US college students who think that being very well off is very important passes from 40% in the Sixties to 75% in the Nineties (Lane, 2000).

More recently, Nickerson et al. (2003) have shown how there is a relationship between the degree of materialism and SWB. They analyze materialism as a goal and not as a personality trait. The most interesting result is that the greater the importance that the individual places on the attainment of financial objectives (that is to say the greater are his/her materialistic aims), the lesser is his/her personal well being. It is even more intriguing to note that when personal well being is disaggregated in order to consider it in certain particular spheres, the major negative effect takes place in the sphere of family and friends. This would seem to be a confirmation of the fact that the effort to accumulate material wealth occurs, at least partially, at the price of the loss of the riches of one's affections

When we discuss the increasingly greater materialism found in our contemporary societies, we cannot but think that an important role is also played by advertising. One of the major differences between developed societies of fifty years ago and current ones lies, among other things, in the much greater significant weight of the advertisement barrage to which the individual is exposed since a tender age. The advertising message has not only increased drastically in quantitative terms, but it has been radically modified from the qualitative viewpoint. On the one side, it has made extraordinary gains in its efficacy thanks to the communicative power of television, which gathers the greatest part of the advertising expenditure of companies; on the other, is has become more and more pervasive in social life thanks to the complex systems of communication and marketing of companies, which tend to render increasingly dilute the distinction between information, (or indeed education) and advertisement.

The effect of advertising is obviously that of increasing rival and status consumption because it presents and generalizes elevated standards of life and consumption[24]. But there is a more subtle and interesting effect of advertising. In the first place, since it is totally aimed at providing incentives for the consumption of material goods, it can distort individual choices by increasing the consumption of material goods and diminishing the consumption of relational goods; in second place, by often conveying the message through emotional mechanisms, for the greater part unconscious, it creates the felling that some relational goods can be substituted with material goods or that they can be obtained thanks to the consumption of material goods [25].

3 Social preferences and reciprocity

Whoever teaches microeconomics to students with no knowledge of economics cannot but perceive the difficulty these students feel in jointly accepting two ideas that are almost immediately proposed to them: the idea that the economic method can be extended to any problem involving a rational choice in conditions of scarcity and the idea that all subjects under all conditions act so as to maximize their own individual interest. On the contrary, their experience, which is easily generalizable, is that individuals do not all and not always act egoistically and that not everyone pursues solely individualistic objectives all the time. Otherwise they would not be able to find an explanation for why some individuals do charity work, pay higher prices for goods produced under fair trade conditions, sort their garbage for separate collection, go to vote, donate blood, etc. [26].

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[24] However, advertising increases also the difference between aspirations and their fulfillment, rendering quickly inadequate that which one has just obtained.

[25] A serene and happy family is a good that is not, alas for us, purchasable in the market: an advertising message that works can transmit the idea that by buying such a product one can, in part, acquire also a serene and happy family.

[26] Not only *positive* behavior is difficult to explain in the hypothesis of egoistical behavior; *negative* behavior is also not easily explained. How does one otherwise explain, for example, the destructive and sabotage-inclined behavior of an employee towards the company that fired him/her. Such behavior is not in

For the past couple of decades, a significant amount of experimental results has been accumulating, justifying the perplexities of students; this literature highlights that one cannot uncritically accept the thesis according to which economic subjects can be considered as mere maximizing agents of individual interests, without the risk of losing a good share of the explicative capacity of the economic model. The experimental evidence suggests that individual behavior cannot be completely understood without imagining that individuals possess social preferences, that is to say, that they also take into account the well being of others when they order possible alternatives[27]. We do not want to propose here a complete review of the by now vast literature on social preferences, or of the experimental results or of the theories that attempt to explain them[28].

3.1 The experimental results

The experiment that gave life to this literature is the ultimatum game (UG), proposed in the work of Guth, Schmittberger and Schwarze (1982)[29]. In the standard version, two players take part in this game: one player (proposer) can advance only a single proposal regarding the subdivision of a set sum of money between him/herself and the other player (responder). If the latter accepts, each of the players pockets the sum that the proposer has established; if, on the contrary, the responder does not accept, both players obtain a zero payoff. If the players are rational and perfectly informed, and if both are solely interested in material well being, then the solution is immediate. The responder will accept any positive sum (which is always greater than the nothing he/she would otherwise obtain); the proposer will anticipate this behavior and offer to the other the minimum amount possible[30].

The experimental evidence is, indeed, very different (Camerer, 2003, Tables 2.2 and 2.3). Proposers offer on average sums encompassed between 30% and 40% of the initial amount (and a not unimportant percentage even offer just half); responders refuse proposals that are less than 20% in approximately 50% of the cases. These results have shown themselves to be extraordinarily strong despite variations in geographic latitudes[31], in the population of experimental subjects involved and in the size of the initial amount to be divided[32]. Particularly interesting is the result of the ambitious research that saw the involvement of both economists and anthropologists (Henrich et al. 2002). They repeated the ultimatum game (and other similar games) in fifteen small societies, scattered over four continents, with extremely diverse ethnic and cultural backgrounds (from the Machiguenga population in Peru to the Torgund in Mongolia). The study shows that indeed some populations do exist, which behave as forecast by *main stream* theory, just as there are some ultra-fair populations where the proposer offers more than half of the initial sum. Interestingly enough, two variables seem to explain fairly well the variability of the offers of the proposers: the amount of

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the material interest of the fired employee: it requires time, it is not remunerated, exposes one to penal risks. Sobel (2004) builds his review on interdependent preferences and reciprocity on this example.

[27] A self-interested or egoistical individual, on the other hand, will not assign any importance to the results of other individuals.

[28] For a broader and more articulated treatment of this literature see Sobel (2004), Camerer (2003) and Camerer and Fehr (2004).

[29] "In 1982, Guth, Schmittberger and Schwarz reported the kind of empirical finding that surprises only economists". This is the ironic as much as symptomatic incipit of Camerer (2003).

[30] The proposer who offers the minimum and the responder who accepts it constitute the only *perfect Nash equilibrium sub-game* of this sequential game.

[31] Some studies have highlighted certain differences among developed countries (Roth et al., 1991), which, however, do not call into question the general result.

[32] In developed countries experimental subjects are recruited almost exclusively among university students, whereas in some developing countries it was possible to repeat the experiment using sums with a much greater purchasing power (up to several months of wages) with only modest effects on the rate of refusal of the responder and with nearly imperceptible effects on the average offer of the proposer (see, for example, Cameron, 1999).

collaborative activities or economies of scale in production (for example, group hunting systems) and the degree of market integration[33]. The first element is rather predictable and understandable: in societies where, for example, hunting is a necessarily collective and collaborative activity, social norms developed that discouraged less than fair proposals. The second element is, instead, much more intriguing; with the rise of the degree of market integration there is an increase in the offers of the proponents. This warns us that the relationship between market and self-interested behavior is much more complex than the *main stream* approach in economics seems to suggest (Bowles, 1998). This result could not be understood, I believe, if we did not take into account that for these populations market means mainly personal and individual relationships of exchange and, therefore, that along with the exchange of goods and services there is also a relational and affective exchange that stimulates social preferences, contrary to what we could assume.

An offer of the proposer that is noticeably greater than one foreseen by standard theory can be due to altruism or to a preference for fairness, or simply to strategic behavior. Even the most self-interested proposer would offer a larger sum than the minimum, if he/she would expect that the responder would refuse proposals that are too low. In order to differentiate between strategic behavior and altruism, there is another interesting game called the *dictator game*, which does not foresee the possibility that the responder can refuse the offer. In practice, it is solely the proposer who divides the initial sum between him/herself and the other player. Obviously, a self-interested proposer would not give anything to the responder. The results of the experiments show how, in this case, the proposer offers a sum comprised between 10% and 25%, which is noticeably less than in the ultimatum game but nevertheless positive (the results of various experiments of the *dictator game* are summarized by Camerer, 2003 table 2.4.). This means that the strategic behavior of the proposer is not the only explanation for the high offers of the ultimatum game, since there is also a component of pure altruism. It is necessary to note that the results, in this case, are not as strong when some elements of the game are changed. If, for example, one introduces double anonymity (both in regards to the other player and to those conducting the experiments) then the sum left by the proposer diminishes in a tangible manner[34]. If anonymity is not bidirectional but the responder is identified while the proposer remains anonymous, it is interesting to note how the average offer remains constant but the number of proposers who offer zero diminishes (it is probably morally more costly to give nothing to a real person than to a virtual one), while the average sum left by the proposer increases noticeably if the proposer is asked to provide a brief presentation of him/herself (Bohnet and Frey, 1999), something that immediately creates a relationship between the two subjects [35]. This variability is often interpreted by experimental economists as a weakness of the results and of the approach used, whereas, on the contrary, it is extraordinarily interesting and significant because it simply demonstrates how the "*exchange"* which occurs in the dictator game is strictly influenced by the relational component of the exchange itself, a component that must be considered if the results are to be completely understood.

Whereas the behavior of the proposer can be explained either by resorting to strategic behavior or to the presence of social preferences, altruism, or, much more credibly, to both, the behavior of the responder is difficult to explain seen in a logic of mere material egoism. The responder who refuses a positive proposal, in fact, spends resources without obtaining any material good. It is obvious, therefore, that he/she must not only have at heart the material payoff, as

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[33] The degree of market integration is obtained by calculating an index that combines the existence of a national language, the presence of a salaried labor market and the existence of an agriculture oriented towards monetary exchange.

[34] For example, in Hofman et al. (1994), 70% of the subjects do not give anything and the remainder offers a sum comprised between 10% and 20%.

[35] More than understandably, when the responder is not a physical person but a charitable body worthy of a donation, for example, the Red Cross, the sum given by the proposer is noticeably higher (Eckel and Grossman, 1996).

traditional game theory has always assumed, but that his/her preferences must extend into other domains. Furthermore, it is interesting to note how the behavior of the responder is influenced not only by the size of the offer, as we have seen, but also by how this offer was determined and, therefore, by the behavior of the proposer.

Various theories have been recently proposed to explain this behavior: they can be organized into two large groups. The first group contains those theories that simply substitute some function of social utility in the place of material payoff. In this case, it is assumed that preferences are interdependent and that utility depends also on the payoff of others. Classic examples are models that theorize an aversion towards inequality (Bolton and Ockenfels 2000, and Fehr and Schmidt, 1999). Preferences of this type render agents willing to sacrifice some resources in order to increase the material payoff of other agents if their payoff is at less than an equitable level, just as they are willing to diminish the payoff of other agents if the payoff of the latter is judged to be at a greater than "equitable" level.

A second group of models advances the hypothesis that subjects possess a preference for reciprocity, that is to say, that they demonstrate a reciprocative behavior (Rabin, 1993, Falk and Fischerback, under print, and Dufwenberg and Kirchsteigher, 2204). An individual is reciprocative if he/she reacts in a positive manner to friendly and supportive behavior and in a hostile fashion to antagonistic behavior, and the perception concerning the friendly or hostile nature of the action of other subjects will depend on both the fairness of the distribution of the payoffs resulting from these actions as also on the intentions of the other subjects. In many, but not in all, experimental contexts, subjects who are adverse to iniquity and reciprocative subjects are statistically indistinguishable, presenting similar behavior. From the theoretical viewpoint, instead, the hypotheses are rather different: in the case of aversion to inequality preferences are independent of the context in which the subject finds him/herself operating, whereas in the case of reciprocative behavior the analysis of the context in which the actions take place is fundamental for understanding the intentions of other subjects. For this reason, the first models are much more parsimonious and easy to manage than the second kind, whereas the latter, in my estimation, are much more interesting.

The experimental evidence, moreover, seems more favorable to the second type of theory. In particular, it has been demonstrated that the intentions of the proposer are relevant for the decisions of the responder; Falk, Fehr, and Fischbacher (2003), analyze a reduced ultimatum game in which the proposer has only two choices at his/her disposal regarding the allotment of ten experimental coins. If we confront two situations, the first in which the choice is restricted between an inequitable allocation in one's favor (8,2) and an equitable one (5,5), and another in which the first option (8,2) contends with another inequitable allocation against one's advantage (2,8), the rate of non-acceptance of the first situation is noticeably less than the second case. This unquestionably signals the fact that the responder takes into consideration not only the distribution of the material payoffs but also the quality of the action of the proposer. Assigning to the responder a minimum quota of the initial amount is judged in a significantly more negative manner if the proposer had the capacity to offer the equitable choice. It appears evident, also in this case, that the game cannot be completely understood without taking into account the relational component of the exchange.

While in the ultimatum game the responder can punish a behavior of the proposer judged as hostile, in the gift exchange game (GEG), instead, he/she has the possibility of rewarding behavior judged as just or generous[36]. In the GEG, the proposer offers a sum w to the responder; the latter, if he/she accepts, must decide a level of effort e. The engagement lavished has a cost to the responder according to a generally convex function c(e). The monetary payoff of the proposer will be equal to $\pi^P = v\ e - w$ where v is the marginal value of the effort of the responder for the proposer; while the payoff of the responder will be simply $\pi^R = w - c(e)$. If the responder were exclusively self-interested, he/she should choose the lesser effort possible and accept any level of w. The responder who rationally anticipates this fact could but only propose the minimum payment and obtain the

[36] This game was introduced by Fehr et al. 1993

minimum effort. The experimental results (Camerer, 2003) suggest, to the contrary, that average engagement is positively correlated to the payment offered by the proposer, signaling a reciprocative behavior of the responder who reacts with generous efforts to generous remuneration[37].

The interesting aspect of the game is based on the fact that it captures a classic principal-agent relationship with contractual incompleteness (payment cannot be rendered contingent on the effort provided). A field of relevance is the labor market (see Fehr and Yachter, 2000), also due to the evident similarities with some theories aimed at explaining wages that are higher than the levels of competitive equilibrium, such as, for example, the theory of *efficiency wages*. But more in general, this experimental context can explain how considerations based on social preferences and on reciprocative behavior can have an effect on the contractual choices of subjects in a regime of informational asymmetry. Fehr et al, (2004), for example, show how considerations based on fairness in relationships can function better than monetary incentives as mechanism of *enforcement* in an incomplete contract.

Another interesting experimental context is furnished by the *public good game* (PGG); this game generally employs an n number of subjects who must decide how much of an initial endowment (y) should be destined to the production of the public good (g). The payoff of the n^{th} player will be $\pi_i = y_i - g_i + m\sum_{i=1}^{n} g_i$ where n is the number of players and m ($1/n < m < 1$) is the unitary monetary value of the public good for each player. The hypothesis $m < 1$ guarantees that each contributor does not have any personal incentive to contribute to the public good; $mn > 1$, assures, instead, that the aggregate payoff is maximized when all contribute. In presence of supremely egoistical preferences, the optimal strategy is that of not contributing: it is the behavior known as *free riding*. One avoids sharing in the expense in the hope that others will provide: since everyone reasons the same way, the public good is not produced[38].

The experimental results branch out in a different direction also in this case (Ledyard, 1995 and Sally, 1995). When the game is played for only one period, the average contribution goes from 40% to 60%; furthermore, it is interesting to note how the distribution of the contributions has a clearly bimodal form, testifying that there are people who act in an egoistical manner by not contributing anything and subjects who, instead, tend to give all. Even more interesting is the observation of how a communication that precedes the game, which should have no influence according to the standard theory, has a clearly positive effect on the average level of contribution.

Even more intriguing are the results when the game is repeated more times. In this case, subjects begin to contribute as in the case of the game of *one shot*, but the average contribution tends to decline in time and, in the last periods, 75% of the subjects do not contribute anything at all, while the others contribute only marginally[39]. The decline of the rate of contribution, however, is not to be ascribed to the reemergence of egoistical behavior, after a first learning phase during which some subjects behave in a naive manner contributing much. In support of this, one can cite two experimental results worthy of note. Fischbacher, Gächter and Fehr, (2001) show how subjects exhibit a reciprocative behavior (they are conditional cooperators) in the sense that they contribute more when they expect that others will do so as well.

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[37] Obviously, proposer and responder are never called to play the game together more than once and, therefore, the result is not influenced by behavior based on reputation mechanisms.

[38] The game has a structure of incentives wholly similar to the dilemma of prisoner: here as well we find a superior Pareto result, the contribution of all, which is not, however, a Nash equilibrium of the game. As for the dilemma of the prisoner, it is capable of describing situations in which *externalities*, both positive and negative, are to be found.

[39] The results are similar both in the case in which the group of contributors remains always the same and also when subjects are randomly mixed every time.

Even more interesting is the work of Fehr and Gächter (2000); they introduce the possibility that subjects can punish free riders at their expense. The game is articulated in two stages: in the first, a normal PGG is played; in the second, the subjects, after having been informed of the contributions of the others, can assign punishment points to each of the other players (the punishment mechanism is such that the cost which the sanctioned individual must pay is greater than the cost borne by the individual who sanctions). The result is important: on the one side, subjects have access to the possibility of sanctioning free riders [40] and, moreover, this is sufficient to guarantee elevated levels of contribution also in the final phases of the game[41]. The interpretation of this result is, in my estimation, as simple as it is illuminating. The possibility of explicitly sanctioning free riders has merely substituted the implicit sanction represented by the progressive diminution of voluntary contribution. In a standard PGG, the contributor has only one way to "punish" the free rider and respond to his/her hostile behavior: that to stop contributing in turn. In the version of Fehr and Gächter (2000), instead, the subject is furnished with a different and more effective mechanism of reaction: the direct punishment of the free rider. It is stimulating to observe that, ceteris paribus, a sole institutional change, represented by the introduction of the possibility of punishment, has dramatically modified individual behavior and has altered even more the way in which subjects interact. While the first institutional context (the standard PGG) has compressed and inhibited social preferences, the second (PGG with punishment) has exalted them, allowing the achievement of a superior Pareto result. The relationship between social preferences, individual behavior and institutional mechanisms is of extraordinary interest but it has still been treated with the due attention by the literature.

3.2 Neuro-evidence

Neuroscience utilizes the study of images of the brain and other techniques to obtain information on the operation of the human brain. The new discipline of neuro-economics applies this methodology to the study of subjects engaged in decisions of an economic type, in other words it attempts to found the decision-making process of an economic type on the bio-physical workings of the human brain (Camerer et al. forthcoming).

One of the most interesting studies, and one that is also nearest to the argument of this work, is that of Safley et al. (2003). They monitor the cerebral activity of subjects involved in an ultimatum game; they use functional magnetic resonance, which studies the blood streams in the various areas of the brain, thus creating a map of the regions of the brain subjected to a greater activity. By confronting the cerebral activity of subjects to whom a strongly inequitable proposal (1 or 2 dollars on 10) was made with the cerebral activity of subjects who received a fair proposal (4 or 5 dollars on 10), they highlight how an unjust proposal sets in function three different cerebral regions. The first (DLPFC) is the area that is judged to be assigned to planning and computation; the second (Insula) is the area that is known to be activated while one experiences negative emotions such as pain and disgust; the third (ACC) presides over executive activities and when it receives stimuli from various cerebral regions it is called to settle possible conflicts among them. It is as if the final decision were the result of the resolution of the conflict between the desire to accept a monetary reward and the sense of aversion for the unjust treatment to which a subject believes he/she has been subjected.

Of equal interest is the contribution of de Quervain et al. (2204), who monitor (using positron emission tomography) the cerebral activity of subjects engaged in a trust game [42] to which

[40] And this is interesting in itself: seen that there is no individual advantage in sanctioning a free rider, a self-interested subject should never sanction.

[41] It is interesting to note how low the level of sanctions is in the last periods: it is the sole threat of sanctions, wielded in the preceding periods, to exert a positive effect on the rate of cooperation.

[42] The trust game is similar to the GEG. In the work under consideration there are two players, A and B; each player receives ten experimental coins. Player A, who makes the first move, can decide to give part of his/her

is added the possibility of punishing a subject who has shown him/herself as non-cooperative and who has not repaid a part of the sum obtained thanks to the initial amount given by the first player. The punishment can be both symbolic (lacking in effects on the material well being of B) and effective (capable of reducing the monetary payoff of B). Both free (for A) forms of punishment and costly forms of sanctions are considered. Since the game is played in perfect anonymity and the players are randomly associated, the punishment is a completely altruistic action, given that the individual who punishes does not obtain any monetary return, neither in the present or in the future, from the punishment. An interesting result is achieved: an effective punishment, if confronted with a symbolic one, activates the dorsal stratum of the brain, an area which is associated by neuro-scientific literature to the achievement of a reward as a result of a premeditated action. In other words, player A obtains satisfaction when he/she punishes the deviant behavior of B. Moreover, he/she is willing to pay a price in monetary terms in order to obtain this satisfaction: researchers have observed, in fact, that subjects with a greater activation of the dorsal stratum are more willing to pay a higher price to punish deviant behavior.

As appears evident, these results do not contradict the preceding reasoning; on the one side, they can easily be interpreted as a *bio-foundation* of the existence of preferences that are not merely aimed at the maximization of the monetary payoff. On the other side, they provide an organistic justification to the hypothesis aired often in this as in other forums: when subjects make their decisions they do not consider only the results of actions but also the actions themselves. It is the act itself of punishing the free rider which provides satisfaction and pleasure and not that which is obtained by punishing the same. This observation allows us to understand, for example, why unemployed subjects report an inferior subjective well being with respect to employed subjects, even in presence of a total monetary compensation of the lost wages; what is lacking, in this case, is the pleasure, the satisfaction, that is obtained by feeling occupied and socially integrated.

3.3 Social preferences and individual behavior

The analysis of the experimental literature prompts a first important result: it displays in a fairly incontrovertible manner that the subjects who are being analyzed are heterogeneous. While it confirms the existence of subjects (and not just a slight minority) who behave in terms that are very close to those forecast by standard economic theory, it also shows that there is a significant component of subjects that behave in a manner which does not conform to the hypothesis of the maximization of personal material well being and renders manifest, therefore, the existence of social preferences.

This result is strengthened even more by the observation, also consolidated by now, that this is not due to the naïve behavior of the subjects or to their erroneous understanding of the situation in which they find themselves acting. Two very simple arguments can be brought forth in support of this statement. In the first place, the extraordinary simplicity of many, if not of all, experimental situations that we have analyzed makes it very difficult to maintain that there are serious learning problems. In the second place, the results of other experiments, for example those based on the simulation of competitive markets, that attest how subjects act in a manner that is efficient and which conforms to standard theory in other situations in which social preferences are not relevant.

Furthermore, not even all subjects who reveal social preferences are completely homogeneous: some, probably a minority, are simply endowed with exquisitely altruistic preferences, that is to say, when they make a decision they also take into account the well being of

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payoff to player B; the experimenter quadruplicates the sum. Now B must decide how much to give back to A. The name of the game derives from the fact that A must base his/her choices on the behavior of B and must rely on the spirit of cooperation and fairness of this individual. Informed of the behavior of B, A can decide to punish the behavior of B by assigning monetary punishment points; the punishment can be both symbolic (that is to say lacking in material effects on the payoff of B) and effective and can be either free or costly for A.

others. Others, probably the majority, display reciprocative behavior, that is to say, they reply in a friendly and good-natured manner to good-natured behavior and respond in a negative manner to egoistical behavior.

Another very interesting and strong result is the one that shows how subjects do not take into account only the results, material but also non-material, of their actions and of those of the subjects with which they interact, but how they assign a non-marginal importance also to the way in which these results were shaped. Subjects weigh the actions of the subjects with which they interact and tend to behave in a different manner according to their evaluation of the behavior of others. In other terms, the arguments of the function of utility of the subjects do not encompass only the outcomes of the actions, but also the actions themselves, be they their own or those of others.

Lastly, we cannot conceal an important limit of the experimental approach: economics is not and will never be an experimental science, as are chemistry and physics. In these disciplines, in fact, it is possible to frame an experiment in which the object of study is analyzed by eliminating all external influences except, obviously, those controlled by the experimenters. In economics this is not possible because in this case the object of study is a person whose characteristics, culture, past experiences, etc., can never be perfectly controlled. If one wants to observe the motion of a ball in a void, given the chemical and physical characteristics of the material of which the ball is made, one ball is perfectly replaceable with another of identical characteristics; a person can never be perfectly substituted with another, because each individual carries his/her own personal characteristics and personal history into the laboratory. On the other hand, it remains a fact that a world reconstructed in a laboratory is a mere over-simplified caricature of the real world. Experimental literature, therefore, stands at a crossroads: a greater contextualization of the experiments would permit a more realistic and detailed representation of the real world, but it would increase the influences not controlled by experimenters, jeopardizing the generality of the results. However, given the impossibility of eliminating the influence of external elements, the only reasonable path is to introduce a controlled contextualization of the experiments[43].

4 Happiness, social preferences and economic policy

The economic policy implications of these results are interesting and, to some degree, explosive.

The first and most evident implication concerns the goals of economic policy: if it possible to obtain reliable measurements of the level of individual well being of people, we return to the idea of classical economists that it is possible to target social choices towards the maximization of the happiness of individuals. In this perspective, the maximization of the material product of human utility, the GDP, can no longer be considered neither as the sole but not even as the most important indicator of the economic progress of a collectivity. The literature on happiness has in fact shown how personal well being depends significantly on variables that are not available in the market, whereas experimental literature tells us that very often the way in which the outcome is obtained matters as much, or maybe even more, than the outcome itself.

The exclusive attention paid to national income had already been subjected to criticism, especially from the environmental point of view, and various alternative and environmental methodologies of accounting had been proposed. Now it is clear that the criticism of the centrality of GDP acquires greater strength and generality: criticism of GDP does not stem exclusively because it underestimates the environmental costs of industrial development, but because it constitutes only one, and not even the most important one, of the determinants of personal well being in developed societies. Moreover, the approach based on happiness economics makes it possible to calculate the costs and benefits of various activities in a different fashion: one can assign

[43] In my opinion a total de-contextualization, which certain experimentalists would seem to hope for if not propose, is not only impossible, but even if it were, it would betray the prime motive in the interest of th experimental approach.

a value in monetary terms also to things that are intangible and lacking in, one would have thought, an explicit economic worth, such as marriage and divorce, health, equality or inequality, pollution of a river[44]. In this manner, certain trade-offs, typical of many social decisions, can be tackled with greater cognitive tools.

The happiness literature has shown, in first instance, how the loss of one's job is a very significant determinant of personal well being, and this fact is verified in any country taken into consideration. It represents a truly disastrous event in one's life, similar to a divorce or to the loss of a dear one. The effect of losing one's job does not appear to be even marginally compensated by the increase in the consumption of leisure time, as would have suggested by a mostly academic economic approach. If the loss of one's job has such forceful effects on individual well being, it should not come as a surprise that the level of job security also constitutes an important determinant of well being.

Two considerations appear interesting. The first is of a purely cultural nature: the flexibility of the labor market and of the workplace is seen more and more, both in economic literature and in current publications, as a value in itself, ignoring or underestimating its price. The happiness literature highlights, on the contrary, that flexibility has a significant cost in terms of the diminution of personal well being. One could object that in times of global competition some kind of trade-off can emerge between the level of employment and job stability, or perhaps between job stability and remuneration. The second aspect worthy of interest is that this trade-off cannot be solved at an individual level: in a world where information is imperfect and asymmetrical and where the effort of the single worker cannot be monitored with effectiveness, an employee who would volunteer to work at a lower wage in exchange for greater job stability, would simply risk signaling a lesser competence or desire to work. It stands to reason, therefore, that this trade-off can be considered and managed only at a collective level.

A wholly similar analysis can be conducted concerning work rhythms. Excessively high work rhythms induce a reduction in personal well being, a trivial observation confirmed by research; but it is equally easy to observe how it is very difficult for a person to choose an optimal work rhythm due to the problems of informational asymmetry seen previously.

An interesting corollary of the previous analysis is that new frontiers are opened for public intervention based on completely different predicates from those that have been advanced in the past. Only a collective effort managed and protected by a specifically created policy can allow an individual to reach a level of well being to which he/she could not singly aspire. In times in which it is believed that the only defensible economic policy is one aimed at reducing as much as possible the intervention of the state in economic affairs, this literature proposes an example that goes against the trend: superior results in terms of personal well being can be obtained only by acting collectively. It appears clear, therefore, that one of the messages of the literature analyzed is that there still exists an entirely unexplored region for an economic policy with the objective of increasing individual well being alongside with material wealth. On the other hand, equally granted is that this literature not only requires interventions in economic policy that are utterly innovative, regarding both goals as well as tools, but that is also furnishes a new and more powerful justification for measures of economic policy of a more traditional flavor. For example, the progressive taxation of income finds its justification no longer based on purely ethical considerations, as much as on economic ones: if we have a situation of relative consumption and if also income in itself has become a positional good per se, then progressive taxation serves simply to partially correct the inefficiency determined by the externality of relative consumption. Another example is the institution of the collective labor contract so diffuse in Europe and never more than today subject to strong criticism, especially by economists. Only a coordinated and collective

[44] One can easily foresee a rapid use of civil law in settlement claim lawsuits of this literature, at least in countries following Anglo-Saxon law.

bargaining for wages and working conditions is capable of managing the process of economic globalization without involving enormous costs in terms of happiness and personal well being.

On the other hand, the results of the literature analyzed previously seem to suggest the necessity of finding innovative measures of economic policy capable of stimulating personal happiness. The first and most important element of a policy favoring happiness seems to be an operation of cultural policy. One of the most important aspects of current culture is that the materialistic and consumer message is increasingly diffuse at a social level and more and more pervasive in social life from earliest childhood on. It is almost impossible to escape the continuous messages that suggest that a life full of meaning and happiness can be mainly, if not exclusively, obtained thanks to the accumulation of wealth and the possession of goods aimed mostly at conquering the right outward image and a high status. Still, empirical research has demonstrated that this recipe is not capable of providing well being and happiness, neither at an individual level nor at a collective one: on the contrary, it shows how the more importance people assign to materialistic goals and objectives, the less they are apt to be happy in their personal life and how much greater the probabilities lie that they will act against the social interest or the environment (Kasser, 2002).

In this view, an economic policy aimed at contrasting the diffusion of materialism does not respond exclusively to a need of a moral type, which would not be defensible, at least using economic argumentations, but it can easily be justified employing argumentations based on the efficiency and maximization of collective happiness. This is not the forum in which to analyze in detail what forms this policy should assume, apart from the obvious consideration that whatever it may be, it may not damage the unassailable freedom of each individual to discover his own road to happiness [45]. We cannot, however, avoid mentioning the problem of the increasingly marked and diffuse role of the advertising message in everyday life. Two measures of economic policy could be considered. The first measure is to create *advertisement-free* areas where the advertising message is not allowed, neither in a direct nor indirect form: schools, broadcasts and publications for children and adolescents, universities. And, anyhow, it would seem opportune to employ all possible measures to always clearly separate information (and obviously, education) and advertising, by removing the incentives found in all those grey areas in which the line between the two is so thin that it risks not being perceived, at least by the weakest subjects. Furthermore, all newspaper publications and all broadcasts and/or television networks without, or with limited, advertising should be supported through opportune forms of economic incentives[46].

The second measure is the classic one of imposing taxes on advertising, capable of internalizing at least in part the external effects of advertisement on collective happiness; the goal would be both to reduce the production and consumption of the advertisement product and to provide resources to finance *advertisement-free o advertisement-light* projects.

The economic policy implications of the literature mentioned above, however, suggest also a profound modification of the modalities of economic policy. On the one hand, the analysis of this literature cannot but involve a rethinking of the relationship that exists between institutions and individual behavior. When analyzing the role of institutional mechanisms, economists have always imagined that an institutional context could modify individual behavior if, and only if, it modified

[45] The danger of flowing over into a moralistic and paternalistic sense of the implications of economic policy in this literature is evident and must be recognized, also because the fact that, on average, materialism does not lead to happiness, does neither eliminate the possibility that for someone happiness does coincide with materialism, nor can it come to deny the right of each individual to freely choose his/her own destiny.

[46] In many European countries, we are witnessing a radical transformation of the television sector with the proliferation of digital technology, both through satellite and terrestrial reception. It is sad to observe that in the debate on the new legislative collocation of the sector, no attention has been placed at all on legislation covering advertising.

the relationship between actions and the results of these actions[47]. The results discussed above have underscored that subjects are heterogeneous and that they take into account the manner in which their results are obtained; this, on the contrary, seems to suggest that institutional contexts and, therefore, measures of economic policy are capable of acting also on individual preferences, succeeding in orienting and modifying them. Thus emerges another fashion of understanding economic policy: one based on the study of an institutional design that is more capable of exploiting in a pro-social manner the heterogeneity of individual preferences and the capacity of individual preferences of being strongly influenced by the surrounding environment. Among all social scientists, the economist is the only one, aside from certain praiseworthy exceptions (Bowles, 1998), who still assumes that individual preferences are totally exogenous and that they are not and cannot be influenced by the institutional context or by the choices of other economic subjects, companies or consumers[48].

On the other hand, it is interesting to observe that it is already possible to plan tools that are capable of integrating social preferences in the market mechanism. A first and trivial example is that based on the diffusion of social and environmental certifications of goods. Up to now, certifications have mostly been an answer to a request of information on the quality of the product; they came to partially heal, therefore, the imperfection that had been determined by the informational asymmetry between producers and consumers on the quality of the product and thus on its actual capacity to satisfy the need for which the good had been bought[49]. The existence of social preferences explains the reason for the diffusion of certifications of an altruistic type, such as environmental and social certifications of certain products and services. These certifications, just as some specific sales channels (such as the circuit of fair trade stores), are a guarantee to the consumer that certain principles, aimed either at protecting the environmental equilibrium or at guaranteeing the respect of some basic human and social rights, have been respected during production. Such certifications do not provide information on the nature of the product, that is to say, they do not inform on the result of the act of buying (for example, by increasing the probability of being satisfied by the fruition of the good or service if a superior quality is certified), but they furnish information, to which the single consumer does not have access, on the way the goods and services have been produced. In a *main stream* view, this information is irrelevant since it does not modify the nature of the product and, therefore, the result of the choice; the literature analyzed in this paper demonstrates, instead, that, at least for a part of the subjects under examination, the modality with which one arrives at a certain results matters and influences the judgment of the subjects concerning the payoff of their actions. The presence of these certifications in the market and the fact that there are subjects willing to pay a higher price for a good that is identical but provided with a social certification shows that this result is not only experimental but that it exists also outside of the laboratory.

5 Conclusions

This work wanted to take into consideration two branches of the recent literature that have advanced serious criticisms to the main assumption that is at the base of traditional economic theory: that which defines the economic subject as an individual with the exclusive goal of maximizing his/her individual material interest and its corollary, which suggests that this is the road for reaching the maximum possible level of happiness.

[47] An indirect tax, for example, can reduce the demand for a good because it increases the price of the good for the consumer, that is to say, it reduces the quantity of the good that can be purchased with a given amount of resources.

[48] That this hypothesis is totally counterfactual is witnessed, if by nothing else, by the size of the investment of companies in marketing and advertisement with the main goal of modifying the preferences of consumers to their advantage.

[49] It is, therefore, completely compatible with a shrewd but egoistical consumer.

This work started from a critical analysis of the existing literature regarding the economics of happiness and of social preferences, two separate but strongly interconnected branches of analysis.

From the critical considerations on these two branches of literature, we successively moved on to discussing the most interesting economic policy implications.

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